31/1/94

THE

MANITOBA

University Calendar.

For the Year 1893.

WINNIPEG:
PRINTED FOR THE UNIVERSITY BY THE FREE PRESS.
1893.

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THE

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University Calendar.

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UNIVERSITY ALMANAC.

1893.

Aug. 31.—Last Thursday of the month.—Registrar to be notified on or before this date of appointments of Representatives to the Council and to the Board of Studies.

Sept. 7.—First Thursday.—Statutory meeting of the University Council at 3 p.m.

Election of Vice-Chancellor and of representatives of the Council to the Board of Studies. Appointment of Auditors and Finance Committee. Bursar's Statement of Accounts.

Sept. 8.—Last day for receiving applications for Supplemental and for Medical Entrance Examinations.

Sept. 20.—Medical Fntrance and Supplemental Examinations begin.

Oct. 2.—First meeting of the Board of Studies at 4 p.m., to be called by the Registrar. Election of Officers.

Oct. 4.—Regular meeting of the Board of Studies at 4.15 p.m.

Nov. 29.—Regular meeting of the Board of Studies at 4.15 p.m.

Dec. 7.—First Thursday.—Statutory meeting of the Council at 3 p.m. Election of Registrar.

Dec. 13.—Second Wednesday. Payment of the first moiety of scholarships.

1894.

Feb. 21.—Regular meeting of the Board of Studies at 4.15 p.m.

Mar. 1.—First Thursday.—Statutory meeting of the Council at 3 p.m. Appointment of University Examiners.

Mar. 10.—Announcement in the papers by the Registrar of the examinations in Medicine.

Mar. 21.—Last day for receiving applications for Examination in Medicine and for License.

April 9.—Announcement of May Examinations in the papers if not already announced.

April 10.—Examinations in Medicine begin. (Subject to change.)

April 24.—Last day for receiving applications for Examination in Arts, Law and Medical Entrance.

May 14—Examination in Arts, Law and Medical Entrance begin.

May 9.—Second Wednesday.—Payment of second moiety of scholarships. (Except Jr. B.A. Scholarships and Intermediate Scholarships in Medicine.)

May 23.—Last day for sending in to the Registrar application for M.A. and *ad eundem* Degrees. All Graduation Fees must be paid on or before this date.

May 30.—Regular meeting of the Board of Studies at 4.15 p.m.

June 7.—First Thursday.—Statutory meeting of the Council at 3 p.m. Payment of second moiety of Jr. B.A. and Intermediate Scholarships.

June 8.—CONFERRING OF DEGREES, 2.30 p.m. Annual meeting of Convocation at 4.30 p.m. Nomination of representatives.

July 14.—Opening of ballot papers and declaring of election of the seven Representatives of Convocation to the Council.

Aug. 29.—Regular meeting of the Board of Studies.

Aug. 30.—Last Thursday.—Registrar to be notified on or before this date of appointments of Representatives to the Council and to the Board of Studies.

VISITOR:

HIS HONOR THE LIEUTENANT-GOVERNOR.

THE COUNCIL 1893-94.

Chancellor—His Lordship the Bishop of Rupert's Land, D.D., LL.D.
Vice-Chancellor—Hon. Joseph Dubuc, B.C.L.
Registrar—Daniel McIntyre, M.A.
Bursar—J. A. M. Aikins, M.A.
Auditors—I. Pitblado, M.A., LL.B.
James E. P. Prendergast, LL.B.

ST. BONIFACE COLLEGE REPRESENTATIVES.

Rev. Father Drummond, S. J.
Rev. A. A. Cherrier, Pte.
Rev. G. Cloutier, Pte.
Hon. Jos. Dubuc.
Hon. Mr. J. Prendergast, LL.B.
G. F. Brophy, Esq., B.A.
J. K. Barrett, Esq., LL.B.

ST. JOHN'S COLLEGE REPRESENTATIVES.

Very Rev. Dean Grisdale, D.D.
Rev. Canon O'Meara, M.A.
Ven. Archd. Fortin, B.A.
Rev. Canon Matheson, B.D.
Rev. Canon Coombes, M.A.
Prof. E. B. Kenrick, B.A.
H. Archibald, B.A.

MANITOBA COLLEGE REPRESENTATIVES.

Rev. J. M. King, D.D.
Rev. Prof. Bryce, M.A., LL.D.
Rev. Prof. Hart, M.A., B.D.
Rev. A. B. Baird, M.A., B.D.
Rev. F. B. Duval, D.D.
Hon. Chief Justice Taylor.
James Fisher, Esq., M.P.P.

WESLEY COLLEGE REPRESENTATIVES.

Rev. J. W. Sparling, D.D.
Rev. A. Stewart, B.D.
J. B. Somerset, Esq.
J. A. M. Aikins, M.A.
Prof. G. J. Laird, M.A., Ph. D.
Prof. R. R. Cochrane, M.A.
J. H. Ashdown, Esq.

MANITOBA MEDICAL COLLEGE REPRESENTATIVES.

J. W. Good, M.D.
A. McDiarmid, M.D.
A. H. Ferguson, M.D.

COLLEGE OF PHYSICIANS AND SURGEONS.

N. B. Gillies, M.D.
J. R. Jones, M.D.
S. C. Corbett, M.D.
J. S. Gray, M.D.

GRADUATES REPRESENTATIVES.

F. C. Wade, B.A.
J. G. Harvey, LL.B.
E. W. Montgomery, M.D.
J. A. Machray, B.A.
Rev. J. W. Matheson, B.A.
I. Pitblado, B.A., LL.B.
R. M. Simpson, M.D.

CONVOCATION CONSISTS OF:

(1) Graduates in Manitoba, registered in 1877;
(2) Members of University Council (see list above);
(3) Graduates received "ad eundem gradum";
(4) Graduates by examination.

ORIGINAL MEMBERS (1877):

Most Rev. R. Machray, D.D., LL.D.
Hon. Joseph Royal, D.C.L.
Hon. Joseph Dubuc, B.C.L.
Rt. Rev. J. McLean, D.D. (d)
S. C. Biggs, B.A.
Rev. Prof. Bryce, M.A., LL.B.
Alfred Codd, M.D.
J. A. N. Provencher, D.C.L. (d).
C. F. deCazes, B.A.
Rice M. Howard, B.C.L. (d).
J. H. O'Donnell, M.D.
W. B. Thibaudeau, M.A.
George Roy, B.A.
John O'Reilly, B.A.
A. G. Jackes, M.D. (d).
Rev. Prof. Hart, M.A., B.D.
Rev. Canon O'Meara, M.A.
Rev. O. Fortin, B.A.
Rev. R. Young, M.A.
Hon. John F. Bain, B.A.
Hon. A. Morris, D.C.L. (d).
W. J. James, B.A.
E. Benson, M.D.
Rev. John F. German, M.A.
Rev. T. E. Morden, B.A.
Rev. H. J. Borthwick, M.A.
Hon. John C. Schultz, M.D.
W. Cowan, M.D.
David Young, M.D.
Sam. J. McKee, M.D.

AD EUNDEM GRADUM.

1881.

A. C. Killam, B.A.
Robert Bourne, M.A.
A. W. Ross, B.A.
H. Archibald, B.A.
W. H. Culver, B.A.
N. Agnew, M.D.
T. S. Kennedy, M.A.
W. R. Sutherland, M.D.
P. A. McDonald, B.A.
J. A. M. Aikins, M.A.
A. M. Sutherland, B.A. (d).

1882.

Thos. C. L. Armstrong, M.A.
Paul Chenard, B.A.
Jean F. Landry, B.A., M.D.
George G. Mills, B.A.
Rev. H. T. Leslie, B.A.
Richmond Shafner, B.A.
Jacques Bureau, LL.B.
Ed. L. Byington, M.A., (d).
Alex. Dawson, M.A.
C. Sifton, B.A.
J. E. P. Prendergast, LL.B., B.A.

1883.

Rev. A. L. Parker, M.A.
F. L. Shafner, B.A., M.D.
Rev. Canon Machray, B.A.

1884.

George Patterson, M.A.
Rev. Canon Coombes, M.A.
Rev. J. M. Wellwood, B.A., M.A. (d).

1885.

A. Bowerman, M.A.
Dr. A. H. Ferguson, M.D.
Dr. A. McDiarmid, M.D.
J. T. Martell, LL.B. (d).
Geo. E. Fortin, LL.B.
N. Beck, LL.B.
A. McLeod, B.A.
W. R. Mulock, B.A.
J. H. Munson, B.A.
H. Nason, B.A.
F. S. Nugent, B.A.
Rev. H. Pedley, B.A.
A. V. McCleneghan, LL.B.

1886.

Jas. A. Miller, D.C.L. (d).
J. Henri Pillet, LL.B.
E. S. Popham, M.A.
G. H. West, B.A.
Oct. Lambert, M.D.

1887.

J. R. Jones, M.D.
J. W. Whiteford, M.D.

1888.

John Russell, B.A.
N. H. Russell, B.A.
Rev. D. Stalker, B.A.
W. H. Turner, B.A.
F. C. Wade, B.A.
L. J. Clarke, B.A.
Rev. R. Nairn, B.A.
Rev. A. B. Baird, M.A.
Jas. Fisher, M.A.
J. B. McLaren, M.A.
C. Stewart, M.A.
D. McLeod, M.D., C.M.
M. Macklin, M.D.
Jas. Patterson, C.M.
A. J. Macdonnell, B.A.
E. B. O'Reilly, C.M.
H. A. Higginson, C.M.
J. A. McArthur, C.M.
James W. Good, M.D.
Robert J. Blanchard, M.D.
A. F. Dawe, M.D.
B. E. Chaffey. B.A.
H. H. Chown, B.A.
G. W. Allan, B.A.
J. D. Cameron, B.A.
O. H. Clark, B.A.
H. E. Crawford, B.A.
T. D. Cumberland B.A.
J. H. Brown, B.A.
H. A. Drummond, B.A.
J. Davis, B.A.
J. A. Elliott, B.A.
T. H. Gilmour, B.A.
Rev. A. McD. Haig, B.A.
R. W. Jameson, B.A.
E. B. Kenrick, B.A.

1889.

Rev. W. T. Mitton, M.A.
T. A. Patrick, M.D.

1890.

C. E. Bastin, B.A.
W. McBride, M.A.

1891.

R. W. Dodge, B.A.
A. L. Langford, B.A.
F. H. Schofield, B.A.
Rev. J. K. Unsworth, B.A.
J. B. Wilson, B.A.

1892.

A. E. Slater, LL.B.
Alfred Versailles, B.A.
J. A. H. Deschambault, M.D.

1893.

W. P. N. J. Whaeton, M.A.

GRADUATES OF MANITOBA UNIVERSITY.

ST. BONIFACE COLLEGE.

B.A.,	1881 }	(3b)	Haverty, P. (d)
M.A.,	1884 }		
B.A.,	1881 }	(3,5)	Betournay, Napoleon.
M.A.,	1884 }		
B.A.,	1882 }	(3)	Betournay, Albert.
M.A.,	1885 }		
B.A.,	1886 }	(3,6)	LaRiviere, Alphonse.
M.A.,	1889 }		
B.A.,	1886 }	(3,7)	Rocan, Elie.
M.A.,	1889 }		
B.A.,	1887—	(3,6)	DeLaronde, A.
B.A.,	1887 }	(3,7)	Gauthier, E. Landreville.
M.A.,	1890 }		
B.A.,	1888 }	(3,7)	Royal, Henri.
M.A.,	1891 }		
B.A.,	1888—	(3,5)	Brisebois, D.
B.A.,	1890—	(3,6)	Beliveau, B. A.
B.A.,	1891—	(3,6)	Goulet, R.
B.A.,	1891—	(3,7)	Jubinville, W. J.
B.A.,	1891—	(3b)	Samson, J. M.
B.A.,	1892—	(3,7)	Dubuc, A. Joseph H.
B.A.,	1892—	(3,6)	Jean, Gustave L.
B.A.,	1892—	(3)	LaRiviere, Alex. C.
B.A.,	1893—	(3,6)	Bernier, Joseph.
B.A.,	1893—	(3)	Buron, Edmund.
B.A.,	1893—	(3,6)	Dubuc, Gustave.
B.A.,	1893—	(3)	Letourneau, Fortunat.

ST. JOHN'S COLLEGE.

D.D.,	—	Most Rev. R. Machray.
D.D.,	—	Right Rev. J. McLean (d).
D.D.,	—	Right Rev. R. Young.
D.D.,	1887—	Right Rev. Cyprian Pinkham.
D.D.,	—	Ven. A. Cowley (d).
D.D.,	—	Ven. R. McDonald.
D.D.,	1887—	Very Rev. Dean Grisdale.
D.D.,	1887—	Ven. J. A. Mackay.
B.D.,	1882—	Flett, J.
B.D.,	1884—	Burman, W. A.
B.D.,	1882—	McKay, G.
B.A.,	1881 }	
B.D.,	1884 }	(1,6) McLennan, R.

B.D.,	1885—		Goulding, A. W.
B.D.,	1886		Fortin, J. C.
B.A.,	1884		
B.D.,	1886—		Bunn, T. W.
B.D.,	1887—		Pentreath, Rev. E. S. W.
B.A.,	1884		
B.D.,	1885	(1)	Coggs, T. C.
M.A.,	1887		
B.A.,	1884		
B.D.	1885	(1b)	Jeffrey, C. N.
M.A.,	1887		
B.D.,	1887—		Littler, Rev. C. R.
B.A.,	1884—	(1,2b)	Kennedy, W. T. B.
B.A.,	1884—	(1a)	Beddome, W. E.
B.A.,	1882—	(1,5)	McKay, James.
B.A.,	1882—	(1,4)	Flett, A. J.
B.A.,	1884—		Kirby, D.
B.A.,	1882—	(1a)	Tait, T. J.
B.A.,	1882—	(1)	Warburton, T.
B.A.,	1883—	(1,5)	Bird, J. R.
B.A.,	1886—	(1)	Black, J. H.
B.A.,	1886—	(2,7)	Anderson, J. G.
B.A.,	1884—	(1)	Machray, J. A.
B.A.,	1885—	(2,6)	McIntyre, W. A.
B.A.,	1885		
M.A.,	1888	(1,7)	Cook, A.
B.A.,	1885		
M.A.,	1891		Nichols, Rev. W.
B.A.,	1886—	(1)	Herchmer, H. W.
B.A.,	1887		
M.A.,	1892	(8,7)	Barber, W. D.
B.A.,	1887—	(4a)	Cook, H. G.
B.A.,	1887		
M.A.,	1890	(2b)	Doupe, J. L.
B.A.,	1887—	(3,7)	Drummond, H. M.
B.A.,	1887		
M.A.,	1890		Goggin, D. J.
B.A.,	1887		
M.A.,	1890	(1)	Ross, W. R.
B.A.,	1888—	(1)	Fisher, H. S.
B.A.,	1888		
M.A.,	1892	(4)	Girdlestone, C. W.
B.A.,	1888		
M.A.,	1881	(1,6)	Matheson, Rev. J. W.

B.A.,	1888 }		
M.A.,	1891 }	(1,7)	Page, Rev. J. W. B.
B.A.,	1888 }		
M.A.,	1891 }	(1)	Wrigley, J. H.
B.A.,	1889—	(1,6)	Phair, E. E.
B.A.,	1889—	(1)	Camsell, G.
B.A.,	1889—	(8,8)	Gill, E. A. W.
B.A.,	1889 }		
M.A.,	1892 }	(1)	Pritchard, T. H.
B.A.,	1889 }		
M.A.,	1892 }	(4,6)	Smith, W. H.
B.A.,	1888 }		
M.A.,	1893 }	(2b)	Stevenson, R. G.
B.A.,	1890—	(3,6)	Corbett, W. A.
"	1890—	(1b)	Cram, A.
"	1890—	(1,6)	Cunningham, C.
B.A.,	1890 }		
M.A.,	1893 }	(3a)	Hewitt, N.
B.A.,	1890—	(2,5)	Page, Joseph.
"	1890—	(4a)	Walter, T. H. J.
"	1890—		Chapman, F. S.
"	1891—	(6)	Aikins, H. B.
"	1891—	1,6)	Girling, R. H. L.
"	1891—	(8a)	King, H. J.
"	1891—		Mercer, F.
"	1891—	(4)	Rounthwaite, F. S.
"	1892—	(4a)	Brand, William.
"	1892 —	(3a)	Clarke, Waddington.
"	1892—	(1,7)	Hobbes, William Ernest.
"	1892—		Kimberly, James Ellis.
"	1892—	(3a)	Stoldart, Daniel Andrew Bell.
"	1893—	(1a)	Norquay, A. T.
"	1893—	(9)	White, A. de Silva.

MANITOBA COLLEGE.

B.A.,	1880—	(4,5)	Gunn, William Reginald.
B.A.,	1881 }		
M.A.,	1892 }	(4,8)	Polworth, J. Bruce.
B.A.,	1881—		Munroe, George F.
B.A.,	1882 }		
M.A.,	1885 }	(3,6)	Campbell, Alexander M.
B.A.,	1882 }		
M.A.,	1885 }	(1,7)	Macbeth, Roderick George, Rev.
B.A.,	1882—	(2a, 3a)	McCallum, Neil.

B.A., 1882 M.A., 1885		Sutherland, Roderick Ross.
B.A., 1883—	(1a,7)	Brown, Frank A.
B.A., 1883—	(1)	Anderson, David.
B.A., 1883—		Code, John B. D. (d).
B.A., 1883 M.A., 1886		Omand, William McKay.
B.A., 1883 M.A., 1886		Maclaren, Archibald.
B.A., 1884—	(4,5)	McVicar, Donald H.
B.A., 1884—		McPherson, D. S.
B.A., 1884 M.A., 1887		Mulvey, John H.
B.A., 1885 M.A., 1888 LL.B., 1888	(1,5)	Huggard, John Thompson.
B.A., 1885—	(4,5)	McPherson, Alexander Nugent.
B.A., 1885—	(3)	McLean, Andrew.
B.A., 1885—	(4)	Anderson, Freeman B.
B.A., 1885 M.A., 1888	(4,7)	Stewart, H. A.
B.A., 1885 LL.B., 1887 M.A., 1888		Thompson, A. W. (d).
B.A., 1886 LL.B., 1889 M.A., 1893	(1,6)	Pitblado, Isaac W.
B.A., 1886—	(4,5)	Montgomery, Edward W.
B.A., 1886—	(4)	Quigley, J. Harry W. (d)
B.A., 1886 LL.B., 1888 M.A., 1893	(4a)	Thomson, Robert M.
B.A., 1886—	(4,7)	Fraser, Frank Leonard.
B.A., 1887—	(4b)	McPhillips, François Xavier.
B.A., 1886 M.A., 1889	(4b)	McIvor, George Munroe.
B.A., 1886 M.A., 1890	(3,6)	Taylor, Thomas Wardlaw.
B.A., 1886—	(3,7)	Davis, John E.
B.A., 1886 M.A., 1890	(3a)	Bowman, James A.
B.A., 1886—	(3a)	Gordon, Malcolm Ronald.
B.A., 1886 M.A., 1893		McIntyre, Daniel.

B.A.,	1887—	(1,7)	Davis, F. L.
B.A.,	1887		
C.M.,	1890		Fraser, M. S.
M.D.,			
B.A.,	1887		
LL.B.,	1890	(1,6)	Harvey, J. G.
B.A.,	1887—	(3,5)	McGillivray, J. K.
B.A.,	1887—	(4a)	McLeod, A. N.
B.A.,	1887		
M.A.,	1890	(8a)	McKerchar, D. W.
B.A.,	1887		
M.A.,	1891	(8,6)	Saul, J. C.
B.A.,	1887		
M.A.,	1891	(3a)	Smith, R. M.
B.A.,	1887—	(4,7)	Yeomans, J. A.
B.A.,	1887		
M.A.,	1890	(4,6)	Wesbrook, F. F.
B.A.,	1888—	(3,6)	Argue, W. P.
"	1888—	(3,7)	Campbell, D.
"	1888—	(4b)	Campbell, R. D.
"	1888—	(4b)	Calder, J. A.
"	1888—	(3a)	McGregor, M. P.
"	1888—	(1)	McCrossan, T. J.
"	1888—	(4,7)	Milligan, R. H.
"	1889—	(3,7)	Beveridge, T.
"	1889—	(3a)	Driscoll, A. E.
"	1889—	(3b)	Elkin, W. B.
"	1889—	(3a)	Graham, W. C.
"	1889		
M.A.,	1892	(8a)	Holmes, Miss J. L.
B.A.,	1889		
M.A.,	1892	(4,5)	Leech, J. H.
LL.B.,	1893		
B.A.,	1889		
M.A.,	1893	(8)	Lockhart, T. E.
B.A.,	1889—	(3a)	McKay, D. D.
"	1889—	(1)	McEwan, M. B.
"	1889—	(8,6)	Munro, J. E.
"	1889—	(3a)	Mulvey, F.
"	1889—	(1,7)	Russell, F. H.
"	1889—	(4)	Rutherford, W. G.
"	1889		
M.A.,	1892	(3)	Sharpe, Frederick James.
B.A.,	1889	(3,6)	Urquhart, D. H.

B.A.,	1890—	(3)	Campbell, J. A.
B.A., M.A.,	1890 } 1893 }	(3b)	Connery, D. G. S.
"	1890—	(4,7)	Cowan, S.
"	1890—	(3a)	Cumming, W. B.
"	1890—	(8,6)	Hooper, Miss I.
"	1890—	(3,7)	Maughan, A.
B.A., M.A.,	1890 } 1893 }		McLean, J. N.
B.A.,	1890—		Mitchell, F. H.
"	1890—		Odell, M. B.
"	1890—	(1,7)	Paterson, R.
"	1890—	(8,7)	Robeson, W.
"	1890—	(2,7)	Saunderson, H.
"	1890—	(4,6)	Wolf, C. G. L.
"	1890—	(1b)	Knowles, R. E.
"	1891—	(2b)	Braithwaite, C.
"	1891—	(3,7)	Butchart, J. C.
"	1891—	(2)	Conklin, J. S.
"	1891—	(3a)	Doolittle, T.
"	1891—	(3,6)	Forrester, D.
"	1891—	(1a)	Hogg, J.
"	1891—	(3a)	Irvine, W. F.
"	1891—	(3)	Lang, S. E.
"	1891—	(3)	McGillivray, A. J.
"	1891—	(3a)	McDiarmid, C.
"	1891—	(8)	McDonald, J.
"	1891—	(3b)	McIntyre, D.
"	1891—	(8,5)	McPherson, J.
"	1891—	(8a)	Sharpe, E. E.
"	1891—	(8a)	Williams, Miss A.
"	1892—	(1,6)	Clark, Frederick William.
"	1892—		Fisher, J. Frank.
"	1892—	(3)	Hamilton, John Stobs.
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"	1892—	(3a)	Laing, James.
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"	1892—	(3a)	Moore, Allan.
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Rev. John M. King, D.D., Lecturer on Mental and Moral Philosophy and in German.

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Mr. J. S. Scott, B.A., Assistant Lecturer in Mental and Moral Philosophy and Resident Tutor.

Mr. H. H. Saunderson, B.A., Tutor and Lecturer in Mathematics.

THEOLOGICAL DEPARTMENT.

Session, April 3 to August 31—Staff for 1894.

Rev. John M. King, D.D., Principal of Manitoba College, Old and New Testament Exegesis and Biblical Theology.

Rev. A. B. Baird, B.D., Professor in Manitoba College, Hebrew, Introduction and Church History.

Rev. Wm. McLaren, D.D., Knox College, Toronto, Systematic Theology.

Rev. R. Y. Thomson, B.D., Knox College, Toronto, Apologetics.

Rev. Principal Caven, D.D., Knox College, Toronto, will Lecture on New Testament Exegesis, should circumstances permit.

Rev. D. J. Macdonnell, B.D., will give a course of lectures on "The Minister and his Work."

REPRESENTATIVES ON UNIVERSITY COUNCIL.

Dr. King, Dr. Bryce, Prof. Hart, B.D., Rev. A. B. Baird, B.D., Dr. DuVal, Hon. Chief Justice Taylor, James Fisher, M. P. P.

REPRESENTATIVES ON UNIVERSITY BOARD OF STUDIES.

Rev. Prof. Hart and Rev. Dr. Bryce.

SCHOLARSHIPS AND PRIZES.

The following are open for competition in the

THEOLOGICAL COURSE.

First Year.

1. Campbell-Woods Scholarship,	$50	for general proficiency.		
2. John Black	"	40	"	"
3. Ruth Russell Winchester	"	40	"	"
4. Memorial Scholarship (St. James Square.)		30	"	"

Second Year.

1. John Ralph King Scholarship,	$60	for general proficiency.		
2. Robert Crawford	"	50	"	"
3. Mary Perine Wallace	"	40	"	"

Third Year.

1. Robt. Anderson Scholarship, $50
1. " " 1st prize 30 " "
3. " " 2nd prize 20 " "

To attain these Scholarships the student must reach the first class in the examinations on the work of the year, taken in the aggregate.

GRADUATES OF THE UNIVERSITY OF MANITOBA FROM MANITOBA COLLEGE.

M. A.

1885—A. M. Campbell, B.A.
R. G. McBeth, B.A.
R. R. Sutherland, B.A.
1886—W. M. Omand, B.A.
A. Maclaren, B.A.
1887—J. H. Mulvey, B.A.
1888—J. T. Huggard, B.A.
H. A. Stewart, B.A.
A. W. Thompson, B.A.
1889—G. McIvor, B.A.
A. Bowman.
1891—J. C. Saul, B.A.
R. M. Smith, B.A.
1893—I. Pitblado.
R. Thomson.
D. G. S. Connery.
Daniel McIntyre.

B. A.

1880—W. R. Gunn.
1881—G. F. Munroe.
J. B. Polworth.
1882—A. M. Campbell.
R. G. McBeth.
R. R. Sutherland.
N. McCallum.
1883—W. McK. Omand.
F. A. Brown.
A. Maclaren.
J. B. D. Code [dec'd].
1884—J. H. Mulvey.
W. B. Elkin.
W. C. Graham.
Miss J. L. Holmes.
J. H. Leech.
T. E. Lockhart.
D. D. McKay.
M. B. McEwen.
J. E. Munro.
F. Mulvey.
F. H. Russell.
W. G. Rutherford.
F. J. Sharpe.

D. H. McVicar.
D. S. McPherson.
1885—J. T. Huggard.
A. N. McPherson.
F. B. Anderson.
H. A. Stewart.
A. W. Thomson.
A. McLean.
1886—I. Pitblado.
E. W. Montgomery.
J. H. W. Quigley.
R. M. Thompson.
F. S. Fraser.
F. X. McPhillips.
G. M. McIvor.
T. W. Taylor.
J. E. Davis.
J. A. Bowman.
M. R. Gordon.
D. McIntyre.
1887—F. L. Davis.
M. S. Fraser.
J. G. Harvey.
J. K. McGillivray.
A. N. McLeod.
D. W. McKercher.
J. C. Saul.
R. M. Smith.
J. A. Yeomans.
F. F. Wesbrook.
1888—W. P. Argue.
D. Campbell.
M. P. McGregor.
R. H. Milligan.
J. A. Calder.
R. D. Campbell.
T. G. McCrossan.
1889—T. Beveridge.
A. E. Driscoll.
D. H. Urquhart.
1890—J. A. Campbell.
D. G. S. Connery.
S. Cowan.
W. B. Cumming.
Miss I. Hooper.
A. Maughan.
J. N. McLean.
F. H. Mitchell.
M. B. O'Dell.
R. Patterson.
W. Robeson.
H. Saunderson.
C. G. L. Wolf.
1891—C. Braithwaite.
J. C. Butchart.
J. S. Conklin.
T. Doolittle.
D. Forrester.
L. Hogg.
W. F. Irvine.
S. E. Lang.
A. J. McGillivray.
C. McDiarmid.
J. McDonald.
D. McIntyre.
J. McPherson.
E. E. Sharpe.
Miss A. M. Williams.
1892—F. W. Clarke.
J. Frank Fisher.
J. S. Hamilton.
Miss Maggie Johnson.
James Laing.
John R. MacArthur.
Allan Moore.
F. J. Scott.
Simon W. Thomson.
Herbert E. Wise.

ALUMNI IN THEOLOGY.

1878—James Duncan.
Samuel Polson.
1880—Dugald McGregor.
1892—Kenneth A. Gollan.
A. C. Manson.
Samuel Polson.

1884—Duncan Munroe.
James Todd.
John Kelly.
1885—David Henderson, B.A.
W. McK. Omand, B.A.
1886—John M. Simpson.
1887—A. McLean, B.A.
H. W. Fraser.
D. H. McVicar, B.A.
A. B. Winchester.
G. A. Laird, B.A.
1888—T. Collins Court.
Angus McLeod.
1889—W. J. Hall.
Isaac McDonald.
1890—Walter Beattie.
Arthur Bowman, B.A.
Roderick G. McBeth, M.A
Norman H. Russell, B.A.
1891—Jas. Buckanan.
Duncan Campbell, B.A.
Peter Fisher.
Robert E. Knowles.
Jas. Lockhart.
D. D. Mackay, B.A.
Charles McKerchar.
Jas. E. Munro, B.A.
Hope F. Ross.
1892—Thos. Beveridge, B.A.
William Chestnut.
A. E. Driscoll, B.A.
Richard Weir.
1893—A. B. Alexander, B.A.
A. W. Argue, B.A.
J. Brown, B.A.
A. M. Brown, B.A.
P. C. Cameron, B.A.
A. E. Camp, B.A.
R. D. Campbell, M.D.
Isabella Conklin, B.A.
Samuel Cowan, M.D.
Hugh Cowan, B.A.
J. R. Davidson, B.A.
Alex. J. Douglas, B.A.
William N. Finlay, B.A.
J. S. Hall, B.A.
Alice W. Ham, B.A.
H. R Hooper, B.A.
J. C. Hossack, B.A.
M. Bruce Jackson, B.A.
A. Kemlo, B.A.
John H. Leech, LL.B.
Alex. N. McLeod, M.D.
D. Chas. MacArthur, B.A.
R. A. Mitchell, B.A.
E. Guthrie Perry, B.A.
Isaac Pitblado, M.A.
Lillian K. Ponton.
James Pullar, B.A.
John L. Small, B.A.
J. A. Urquhart, B.A.

THEOLOGICAL STUDENTS IN ATTENDANCE DURING SESSION 1894.

Third Year.

Maxwell, John.
Macleod, T. H.
Paterson, Robt., B.A.
Russell, Francis, B.A.

Second Year.

Arnet, D.
Chisholm, Andrew.
Innis, Bryce.
Ledingham, A. P.
McDiarmid, Christie, B.A.
McIntyre, Dugald L., B.A.
McLellan, Hugh.
Scott, J. S., B.A.

Third Year.

Cameron, J. C.
Dobbin, J. S.
Ferguson, J. B.
Graham, William.
Guthrie, J. N.
Hall, W. T.
Kemlo, Alex., B.A.
Laing, James, B.A.
McKibben, Crawford.
McRae, W. W.
Mitchell, R. A., B.A.
Moore, Allan, B.A.
Richmond, E. M.
Taylor, James.
Thomson, S. W., B.A.

STUDENTS IN ARTS IN ATTENDANCE DURING SESSION 1892-3.

Post Graduates.

Clark, Fred, B.A.
McArthur, John, B.A.
Scott, Fred, B.A.

Senior B.A. Year.

Alexander, A. B.
Argue, A. W.
Brown, John.
Cameron, P. C.
Camp, A. E.
Chisholm, And.
Conklin, Isabella D.
Cowan, Hugh.
Davidson, John R.
Douglas, Alex. J.
Ferguson, J. B.
Findlay, W. N.
Hall, A. J.
Ham, Alice M.
Hooper, H. R.
Hossack, J. J.
Jackson, Bruce.
Kemlo, Alex.
McArthur, D. Charles.
Perry, E. Guthrie.
Ponton, Lilian.
Small, John L.
Urquhart, J. A.
Pullar, James.
Vance, W. A. (since deceased).

Junior B.A. Year.

Archeson, T. D.
Ball, Augustus H.
Beveridge, Ebenezer.
Bruce, Geo.
Cowan, H. J.
Fleming, James.
Gun, H. J.
Hartley, Fenton.
Lawson, John.
Marshall, Thomas.
Matheson, Duncan.
McKibbin, C.
McLeod, A. D.
McMunn, R. S.
McRae, W. W.
Murray, Anna.
Ponton, Thomas R.
Robinson, A. T.
Sharpe, Charles.
Small, W. J.
Smith, Edwin.
Sutherland, Edith A.
Sweet, H. C.
Taylor, Jennie.
Urquhart, Ida.
Wark, Joseph.

Previous.

Affleck, Geo.
Byrnes, Frances.
Conklin, Roscoe.
Creighton, John A.
Dempster, W. J.
Dunn, A.
Gillies, Alexander.
Hart, Ethel.
Harrison, George.
King, R. A.
Manahan, Wm.
McArthur, A. G.
McNabb, I. Willard.
Ross, D. G.
Stirling, H. J.
Strachan, Andrew.
Watt, Walter.

Wesley College.

(Affiliated in 1888.)

THE COLLEGE BOARD.

Retire in September, 1893.

H. H. Chown, B.A., M.D.
J. H. Ashdown, Esq.
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J. H. Housser, Esq.
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T. J. McBride, Esq.

Retire in September, 1894.

J. A. M. Aikins, M.A., Q.C.
Rev. James Woodsworth.
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Rev. James Woodsworth.
Prof. Cochrane, B.A.
A. M. Peterson, B.A.
Thos. Nixon, Sr., Esq.
J. H. Ashdown, Esq.
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G. H. Campbell, Esq.
Rev. Prof. Stewart, B.D.
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REPRESENTATIVES ON THE UNIVERSITY COUNCIL

For 1891–92.

Rev. Principal Sparling. J. H. Ashdown, Esq.
Prof. Laird. Prof. Cochrane.
J. B. Somerset, Esq. J. A. M. Aikins, M.A., Q.C.
Rev. Prof. Stewart, B.D.

REPRESENTATIVES ON THE UNIVERSITY BOARD OF STUDIES.

Professors Cochrane and Laird.

FACULTY OF ARTS.

Rev. J. W. Sparling, M.A., D.D., Principal, Professor of Mental and Moral Philosophy.
R. R. Cochrane, B.A. (Tor.), Professor of Pure and Applied Mathematics.
G. J. Laird, B.A., Ph. D. (Bresl.), Professor of Chemistry and Experimental Physics.
Professor Cochrane, Lecturer on English.
Dr. Laird, Lecturer on French and German.
Rev. Prof. Stewart, B.D., Lecturer on English and History.
J. H. Riddell, B.A., B.D., Tutor in Classics.

FACULTY OF THEOLOGY.

Rev. J. W. Sparling, M.A., D.D., Principal, Professor of Homiletics, Pastoral Theology and Church History.
Rev. A. Stewart, B.D., Professor of Hebrew, Systematic Theology and Old Testament Exegesis.

GRADUATES IN ARTS

Of the University of Manitoba from Wesley College.

B. A.

Miss Berte Earle, 1890 ..... Winnipeg
J. D. Hunt, 1890 ..... Brandon
W. T. Shipley, 1891, Silver Medallist in Nat. Science. Wavy Bank
E. A. Garratt, 1891, Bronze Medallist in Nat. Science. Winnipeg
A. J. Tufts, 1891 ..... Bradwardine
J. H. Burrow, 1892, Governor-General's Medallist in the General B.A. ..... Wolseley
W. A. Cooke, 1892, Bronze Medallist in Mental and Moral Science ..... Prince Albert

S. E. Clement, 1892 ..... Winnipeg
R. A. Clement, 1892 ..... Winnipeg
W. A. Lewis, 1892 ..... Napinka
W. W. Abbott, 1893 ..... Boharm
M. M. Bennett, 1893 ..... Carnduff
Jas. Endicott, 1893, Governor-General's Medallist in Mental and Moral Science ..... China
A. E. Hetherington, 1893, Silver Medallist in the General B.A. Course ..... Daly
J. K. Sparling, 1893, Bronze Medallist in Classics ... Winnipeg
H. W. Whitla, 1893 ..... Winnipeg

UNDERGRADUATES OF THE UNIVERSITY OF MANITOBA,

In attendance at Wesley College.

Senior B.A.

A. R. Aldridge ..... Winnipeg
T. E. Argue ..... Neepawa
W. L. Armstrong ..... Winnipeg
E. J. Chegwin ..... Winnipeg
J. P. Clinton ..... Winnipeg
R. J. Cook ..... Boissevain
W. S. A. Crux ..... Winnipeg
Miss M. K. Edmison ..... Keewatin
H. J. Graham ..... Paisley, Ont
Jasper Halpenny ..... Neepawa
Jos. Little ..... Neepawa
Arthur Martin ..... Rapid City
W. R. Sparling ..... McGregor

Junior B. A.

Ralph R. J. Brown ..... Winnipeg
Rev. T. C. Buchanan ..... Carberry
C. H. Cross ..... Winnipeg
Miss S. Good ..... Virden
H. A. Gordon ..... Portage la Prairie
Alfred Haw ..... Winnipeg
Jabez Hugg ..... Carman
Miss Kate Lane ..... Winnipeg
Edwin Loftus ..... Portage la Prairie
Miss M. McCrossan ..... Winnipeg
J. W. McKitrick ..... Paisley, Ont
C. H. Morgan ..... Winnipeg
John H. Soady ..... Pleasant Home
J. P. Wadge ..... Winnipeg
Jas. S. Woodsworth ..... Brandon

Previous.

G. P. L. Bray ..... Wolseley, N.W.T.
I. F. Brooks ..... Roland, Man
C. E. Coke ..... Walnut, Ont
Jas. Down ..... Winnipeg
H. V. Fieldhouse ..... Neepawa
Miss M. Irvine ..... Pilot Mound
R. M. Riddell ..... Napinka
Wm. Shaw ..... Winnipeg
T. E. Taylor ..... Winnipeg
H. W. Wadge ..... Winnipeg

Manitoba Medical College.

Established 1883. Affiliated 1884.

ORIGINAL INCORPORATORS.

Dr. J. Kerr.
Dr. J. R. Jones.
Dr. R. J. Blanchard.
Dr. R. G. Brett.
Dr. R. B. Fergusson.*
Dr. J. W. Good.
Dr. A. H. Ferguson.
Dr. J. W. Whiteford.*
Dr. J. Patterson.
Dr. W. R. D. Sutherland.
Dr. T. Fafard.*
Dr. A. McDiarmid.
Hon. Dr. Wilson.

*Deceased.

PROFESSORS AND LECTURERS.

J. Wilford Good, M.B., Tor.; L.R.C.P. Edin.; Member of the Medical Staff of the Winnipeg General Hospital; Ophthalmic and Aural Surgeon to St. Boniface Hospital; Dean of the Faculty. Cor. Lombard and Main Sts.
Professor of Clinical Surgery, and Lecturer on Ophthalmology and Otology.

A. H. Ferguson, M.D. Mch.; F.T.M.S. 240 Garry St., corner Graham. Surgeon in Chief to St. Boniface Hospital.
Professor of Surgery. Associate Professor of Clinical Surgery.
Treasurer of the Faculty.

A. McDiarmid, M.D., M.B., Toronto University; Fell. Trin. Med. Coll. Cor. St. Mary and Carlton Sts. Gynæcologist to St. Boniface Hospital.
Professor of Obstetrics and Diseases of Women and Children.

J. A. McArthur, M.D., C.M., McGill. 254 Carlton Street. Surgeon to St. Boniface Hospital.
Professor of Medical Jurisprudence and Toxicology.

R. M. Simpson, M.D., C.M., Univ. Man.; L.R.C.P. Edin.; L.R.C.S., Edin.; L.M., Edin.; L.F.P.& S., Glasgow; F.R.G.S., London.
Member of the Medical Staff, Winnipeg General Hospital.
Professor of Principles and Practice of Medicine.

H. H. Chown, B.A., M.D., Queen's Univ., L.R.C.P., London. Member of the Medical Staff of the Winnipeg General Hospital.
Associate Professor of Clinical Surgery. Professor of Surgery.

H. A. Higginson, M.D., C.M., McGill. Member of the Medical Staff of the Winnipeg General Hospital. 268 Donald St.
Demonstrator of Anatomy.

W. J. Neilson, M.D., C.M., McGill. Member of the Medical Staff of the Winnipeg General Hospital. 289 Main St.
Professor of Anatomy.

Æneas J. Macdonnell, B.A., M.D., C.M. McGill. 462 Main St. Member of the Medical Staff, Winnipeg General Hospital.
Professor of Clinical Medicine.

W. A. B. Hutton, M.D., C.M. Univ. Man. Honorary Member Pharmaceutical Association of Manitoba. 375 William St. Anæsthetizer to St. Boniface Ho pital.
Professor of Chemistry, General and Practical.
Registrar of the Faculty.

J. O. Todd, M.D., C.M. Man. Univ. 402 Jemima St. Surgeon to St. Boniface.
Professor of Surgical Anatomy. Demonstrator of Anatomy.

E. S. Popham, M.A., Victoria; M.D., C.M. Univ. Manitoba. 436 Main St. Physician to St. Boniface Hospital.
Professor of Physiology.

J. H. O'Donnell, M.D. Victoria; M.D.C.M. Trinity. Consulting Physician to the Winnipeg General Hospital. President of the Provincial Board of Health.
Professor of Sanitary Science.

E. W. Montgomery, B.A., M.D., C.M. Univ. Man.
Professor of Materia Medica and Therapeutics.

F. F. Wesbrook, B.A., M.D., C.M. Univ. Man.
Lecturer on Histology and Pathology.

Jno. F. Howard, M.O.C.P. President of the Manitoba Pharmaceutical Association.
Lecturer on Pharmacy.

REPRESENTATIVE ON UNIVERSITY COUNCIL.

Dr. McDiarmid.

LIST OF STUDENTS 1892-3.

Andrew, J. N.	Neepawa, Man.
Armstrong, J. W.	Hansport, N. S.
Andrews, A. T.	Winnipeg, Man.
Bird, G. H.	Qu'Appelle, N. W. T.
Brown, R. W.	Glenboro, Man.
Bell, J. C.	Ontario.
Brien, F. G.	Carlton Place, Ont.
Baird, A. R.	Alexander, Man.
Bottomly, E.	Birmingham, Eng.
Bunn, W. R	St. John's, Man.
Burridge, A. J.	Winnipeg "
Burnham, F. W. E.	West Superior, Wis. U.S.A.
Crokat, E. A	Glenboro, Man.
Cleghorn, T. M	Elkhorn "
Cowan, S. B.	Portage la Prairie, Man.
Conklin, T. S.	Winnipeg, Man.
Coulter, T. E.	" "
Chipperfield, G. E.	Brandon "
Curtis, G. E	St. John's "
Camsell, G.	Peace River, N.W.T.
Campbell, R. D.	Winnipeg, Man.
Crabbe, J. S.	Birmingham, Eng.
Davidson, C. L	Gaspean, N. S.
Davidson, D. C.	Winnipeg, Man.
Duncan, G. E.	Dublin, Ireland.
Elkin, S. J	Winnipeg, Man.
Elliott, G. E.	Carlton Place, Ont.
Findlay, E. K.	Dublin, Ireland.
Gahan, J	Glenboro, Man.
Gunne, J. R	Virden, "
Goodwin, R.	Winnipeg, "
Grant, T.	" "
Hargrave, H. P.	St. Laurent, Man.
Hepworth, W.	Winnipeg "
Hutchinson, N	" "
Hammon, A	Boissevain, "
Inglis, M. S.	Calgary, Alberta.
Lougheed, T. H	Selkirk, Manitoba.
Lines, T. W.	Boissevain, "
Lawther, A.	Russell, "
Morrison, R. L	Carman, "
Monro, A. S.	Winnipeg, "

Moody, A. W.	Virden,	"
McLeod, A. N.	Winnipeg,	"
McLennon, J. H.	"	"
McDonald, D.	Rossburn,	"
McGuire, J. A.	Meadow Lea,	"
McKay, H.	Winnipeg,	"
McQueen, D. D.	Melita,	"
Mutchmor, T. T.	Emerson,	"
McRae, J. R.	Winnipeg,	"
McCullock, F. W.	"	"
Norquay, H. C.	St. John's	"
Perry, H. H.	Winnipeg,	"
Parr, C. A.	"	"
Patello, R. S.	Bridgewater,	N. S.
Poole, J. J.	Balmoral,	Man.
Rolston, C. N.	Elkhorn,	"
Sloan, J. M.	Woodstock;	Ont.
Stevenson, W.	Winnipeg,	Man.
Scott, W. W.	Walhalla,	N. D., U.S.A.
Stewart, A. B.	Brandon,	Man.
Stewart, J. L.	Edinburgh,	Scotland.
Smith, C. T.	Winnipeg,	Man.
Storey, B.	"	"
Staples, G. W.	"	"
Shoultz, L.	"	"
Vanstone, C. M.	St. Jchns,	"
Versailles, A. E.	St. Boniface,	"
Webster, W.	Dominion City,	Man.
Williamson, G. W.	Winnipeg,	Man.
Watson, J. N.	Pilot Mound,	"
Watson, C. W.	"	"
Young, G.	Winnipeg,	"

Students Proceeding to the Degree of M.D. who have passed the Primary Examination of Manitoba University.

Andrews, Jared N.
Baird, A. R.
Bottomly, Ernest.
Conklin, J. S.
Coulter, J. E.
Chipperfield, G.
Hargrave, Percy H.
Hutcheson, J. N.
McGuire, J. A.
McKay, Hugh.
McQueen, D. D.
Perry, H. H.
Poole, Jessie J.
Rolston, C. M.
Smith, C. F.
Versailles, A. E.

Hamman, Alfred.
Lawther, Alfred.
Moody, Arthur W.
Williamson, G. W.
Watson, J. N.
Young, George.

Students Proceeding to the Degree of M.D. who have Passed the Intermediate Examination of Manitoba University.

Andrew, Jarned N.
Baird, A. R.
Brien, Frederick Graham
Burnham, Frederick.
Crokat, Edward A.
Cleghorn, J. M.
Conklin, J. S.
Camsell, George.
Elkin, J. S.
Gunne, J. R.
Goodwin, R.
Gahan, J.
Hepworth, W.
McLennan, John K.
McDonald, Donald.
Norquay, H. C.
Stevenson, W.
Scott, W. W.
Stewart, A. B.
Stewart, J. S.
Vanstone, C. M.
Versailles, A. E.

Students who Passed the Final Examination for the Degree of M.D. in 1893.

Armstrong, J. W.
Brown, R. W.
Cowan, Samuel B.
Campbell, Robt. Donald.
Duncan, Geo. Edward.
Findlay, Ephraim K.
Inglis, Maxwell S.
Lougheed, Thos. Hedly.
Morrison, Richard L.
McLeod, Alex. Neil.
Sloan, John McMichael.
Simpson, Aldfred Homes.

C.M. in 1893.

Armstrong, J. W.
Brown, R. W.
Cowan, S. B.
Campbell, Robt. Donald.
Duncan, Geo. Edward.
Findlay, Ephraim K.
Inglis, Maxwell S.
McLeod, Alex. Neil.
Sloan, John McMichael.
Simpson, Alfred Holmes.

Graduates in Medicine of Manitoba University are recognized by the

Faculty of Physicians and Surgeons, Glasgow.

The Royal College of Surgeons, Edinburgh.

The Royal College of Physicians, Edinburgh.

and for the Triple Qualification of the Royal Colleges of Physicians and Surgeons, Edinburgh, and the Faculty of Physicians and Surgeons, Glasgow.

LIST OF GRADUATES.

Name.	*Degree.*		*Residence.*
G. E. Dixon	M.D.,	1886,	St. Paul, Minn.
J. Fawcett, M.A.	M.D.,	1886,	St. John's, Dakota.
G. A. Lacombe	M.D.,	1886,	Montreal.
† H. L. McInnes	M.D., C.M.,	1886,	Edmonton, N.W.T.
†§A. Oliver	M.D.,	1886,	.....
J. R. Steep	M.D.,	1886,	Winnipeg.
J. A. Greig	M.D.,	1887,	Botineau, Dakota.
W. A. B. Hutton	M.D., C.M.,	1887,	Winnipeg.
R. M. Simpson	M.D., C.M.,	1887,	Winnipeg.
†*‡A. S. Thompson	M.D., C.M.,	1887,	Ottawa.
A. D. Carscallen	M.D.,	1888,	Morris, Man.
* J. E. Gemmel	M.D., C.M.,	1888,	St. Paul, Minn.
†‡C. J. Large	M.D., C.M.,	1888,	.....
V. E. Latimer	M.D., C.M.,	1888,	Birtle, Man.
J. P. McIntyre	M.D.,	1888,	.....
A. Sibbit	M.D.,	1888,	Neepawa, Man.
D. W. Cowan	M.D.,	1888,	Superior City, Minn
F. J. Goulding	M.D.,	1888,	Virden, Man.
E. A. Blakely	M.D.,	1889,	Winnipeg.
†‡J. Calder	M.D., C.M.,	1889,	Medicine Hat.
* T. J. Lamont	M.D., C.M.,	1889,	Treherne, Man.
§ R. Lipsett	M.D., C.M.,	1889,	.....
A. B. Stewart	M.D., C.M.,	1889,	Duck Lake, N.W.T
X. McPhillips, B.A.	M.D.,	1889,	Victoria, B.C.
† Gordon Bell	M.D., C.M.,	1890,	Brandon.
W. Braithwaite	M.D.,	1890,	Calgary.

	H. P. Byers.....	M.D.,	1890,	Melita, Man.
*	M. S. Fraser	M.D., C.M.,	1890,	Brandon.
*	J. O. Todd.....	M.D., C.M.,	1890,	Winnipeg.
	F. F. Wesbrook, B.A.	M.D., C.M.,	1890,	Winnipeg.
	R. J. Campbell	M.D., C.M.,	1891,	.....
	J. W. Cartmell	M.D., C.M.,	1891,	Glenboro.
†	E. S. Popham, M.A. .	M.D., C.M.,	1891,	Winnipeg.
†	H. W. Porter.....	M.D., C.M.,	1891,	Wpg Gen. Hospital.
	W. A. Sherrin.....	M.D.,	1891,	Minnedosa.
	J. H. Sparling.....	M.D., C.M.,	1891,	Pilot Mound, Man.
†	R. C. Boyle	M.D., C.M.,	1892,	Morden.
	Harry Cook, B.A....	M.D., C.M.,	1892,	Manitou, Man.
	J. B. Fergusson.....	M.D., C.M.,	1892,	Selkirk.
	Miss Hattie Foxton..	M.D., C.M.,	1892,	Detroit, Mich.
	Garner Gahan, M.A..	M.D., C.M.,	1892,	Deloraine, Man.
	R. G. Haworth	M.D., C.M.,	1892,	McGregor, Man.
	J. McInnis.....	M.D., C.M.,	1892,	Wpg Gen. Hospital.
	W. E. Metcalf	M.D., C.M.,	1892,	Portage la Prairie.
	†Montgomery, E.W, M.A.	M.D., C.M.,	1892,	Winnipeg.
	J. F. Pennefather...	M.D.,	1892,	.....
	J. W. Armstrong, B.A.	M.D., C.M.,	1893,	Gladstone, Man.
	R. W. Brown.....	M.D., C.M.,	1893,	.....
	S. B. Cowan, B.A....	M.D., C.M.,	1893,	Wpg Gen. Hospital.
	R. D. Campbell, B.A.	M.D., C.M.,	1893,	Brainard, Minn., U.S
	G. E. Duncan	M.D., C.M.,	1893,	Moose Jaw, N.W.T.
†	E. K. Findlay	M.D., C.M.,	1893,	Baldur, Man.
	M. S. Inglis.....	M.D., C.M.,	1893,	Winnipeg.
	T. H. Lougheed	M.D.,	1893,	Glenboro.
	R. L. Morrison	M.D.,	1893,	Carman.
	A. N. McLeod, B.A...	M.D., C.M.,	1893,	Stonewall.
†	J. McM. Sloan.....	M.D., C.M.,	1893,	London, Eng.
	A. H. Simpson	M.D., C.M.,	1893,	Winnipeg.

N. B.—Graduates are requested to notify the Registrar of any change in their addresses when such occur.

* Isbister Scholarship.

† Boyle Scholarship.

‡ Lafferty Medal.

§ Deceased.

University of Manitoba.

ORDER OF PROCEEDINGS.

CLASS AND HONOR LISTS, 1893.

1. Entrance of Council.
2. Address of the Chancellor.
3. Conferring of B.A.
   " " LL.B.
   " " M.D.
   " " C.M.
   " " M.A.
   " " Ad Eundem Gradum.
4. Presentation of Medals.
5. Presentation of Scholarships.
6. Address by the Visitor, His Honor Lieut.-Gov. Schultz.

Degrees.

B. A.

ST. BONIFACE COLLEGE.

J. Bernier, J. B. Buron, G. A. Dubuc, J. F. Letourneau.

ST. JOHN'S COLLEGE.

A. T. Norquay, A. S. White.

MANITOBA COLLEGE.

A. B. Alexander, A. W. Argue, J. Brown, A. M. Brown, P. C. Cameron, A. E. Camp, Miss I. Conklin, H. Cowan, J. R. Davidson, A. Douglas, W. A. Finlay, J. A. Hall, Miss A. M. Ham, H. R. Hooper, J. C. Hossack, M. B. Jackson, A. Kemlo, D. C. Macarthur, R. A. Mitchell, E. G. Perry, Miss L. K. Ponton, J. Pullar, J. L. Small, J. A. Urquhart.

WESLEY COLLEGE.

W. W. Abbott, M. M. Bennett, Jas. Endicot, A. E. Hetherington, J. K. Sparling, H. W. Whitla.

AD EUNDEM GRADUM.

A. J. Macdonnell.

L. L. B.

J. Hilyard Leech.

M. A.

D. G. S. Connery, N. Hewitt, T. E. Lockhart, Daniel McIntyre, J. N. McLean, I. Pitblado, R. G. Stephenson, R. Thompson.

AD EUNDEM GRADUM.

W. P. N. J. Wharton.

M. D.

J. W. Armstrong, R. W. Brown, Samuel B. Cowan, Robert Donald Campbell, George Edward Duncan, Ephraim K. Findlay, Maxwell S. Inglis, Thomas Hedley Lougheed, Richard L. Morrison, Alex. Neil McLeod, John McMichael Sloan, Alfred Holmes Simpson.

C. M.

J. W. Armstrong, R. W. Brown, Samuel B. Cowan, Robert Donald Campbell, George Edward Duncan, Ephraim K. Findlay, Maxwell S. Inglis, Alex. Neil McLeod, John McMichael Sloan, Alfred Holmes Simpson.

Medals.

Classics:

Silver Medal—E. G. Perry, Man. Coll.
Bronze Medal—J. K. Sparling, Wesley Coll.

Natural Science:

Silver Medal—D. C. McArthur, Man. Coll.
Bronze Medal—J. Brown, Man. Coll.

Mental and Moral Science (English):

Governor General's Silver Medal—James Endicot, Wesley Coll.
Governor General's Bronze Medal—Hugh Cowan, Man. Coll.

Mental and Moral Science (Latin):

Silver Medal—J. Bernier, St. B. Coll.
Silver Medal—G. A. Dubuc, St. B. Coll.

Languages:

Silver Medal—Miss A. M. Ham, Man. Coll.
Bronze Medal—Miss L. K. Ponton, Man. Coll.

General B. A.:

Silver Medal—A. E. Hetherington, Wesley Coll.
Bronze Medal—M. B. Jackson, Man. Coll.

Previous—General Proficiency:

Governor General's Bronze Medal—W. Manahan, Man. Coll.

Scholarships.

ARTS.

Classics:

Senior B.A.—E. G. Perry, $100.
J. K. Sparling, $60.
Junior B.A.—G. d'Easum, $200.
J. Wark, $120.

Mathematics:

Senior B.A.—Harry W. Whitla, Wes. Coll., $60,
Junior B.A.—F. Cross, St. J. Coll., $100.
W. R. Sparling, Wes. Coll., $120.

Natural Science:

Senior B.A.—D. C. McArthur, Man. Coll., $100.
J. Brown, Man. Coll., $60.
Junior B.A.—J. R. Cook, Wes. Coll., $160.
G. Bruce, Man. Coll., $160.

Mental and Moral Science (English):

Senior B.A.—Jas. Endicot, Wes. Coll., $80.
H. Cowan, Man. Coll., $80.
Junior B.A.—J. Lawler, St. J. Coll., $200.
H. C. Sweet, Man. Coll., $120.

Mental and Moral Science (English):

Senior B.A.—J. Bernier, $80.
G. A. Dubuc, $80.
Junior B.A.—J. Trudel, $200.

Modern Languages:

Senior B.A.—Miss A. M. Ham, Man. Coll., $100.
Junior B.A.—W. R. Tymmes, St. J. Coll., $200.
Miss J. C. Taylor, Man. Coll., $120.

General B.A.:

Senior B.A.—A. E. Hetherington, Wes. Coll., $100.
M. B. Jackson, Man. Coll., $60.
Junior B.A.—J. Lawson, Man. Coll., $200.

LAW.

Third Year—J. H. Leech, $100.

MEDICINE.

Final M.D.—1. J. Sloan.
2. Findlay.
Intermediate—1. J. S. Elkin.
2. J. R. Gunne.
Primary—1. A. Hammon.
2. Watson.

PREVIOUS SCHOLARSHIPS.

Latin, Mathematics and Chemistry:

1. W. Manahan, Man. Coll., $100.
2. W. Watt, Man. Coll., $100.
3. R. A. King, Man. Coll., $100.
4. W. J. Richardson, St. J. Coll., $60.
5. R. Conklin, Man. Coll., $60.

Previous English and History (for English students):

1. J. A. Richardson, St. J. Coll, $50.
2. Jas. Woodsworth, Wes. Coll., $15.
D. G. Ross Man. Coll., $15.

Previous French and History (French Students):

Joseph Desourdis, St. B. Coll., $50.

Greek:

Honorable Mention—W. Watt, Man. Coll.
{ McNabb, Man. Coll., $25.
{ C. H. Cross, Man. Coll., $25.
R. Manahan, Man. Coll.

German:

R. Magnussen, St. J. Coll., $30.

PRELIMINARY SCHOLARSHIPS.

Mathematics and Latin:

1. E. E. McDonald, St. J. Coll., $100.
2. G. H. Ross, Wp'g Collegiate Institute, $100.
3. W. F. Lathwell, Wp'g Collegiate Institute, $60.
4. F. W. Sparling, Wp'g Collegiate Institute, $60.

00.
, $60.
, $60.

Isbister Prizes.

Mathematics:

1.	Miss H. Mooney,	Winnipeg	Coll.	Inst.
2.	L. Rowe,	"	"	"
3.	Miss J. Beveridge,	"	"	"
	Miss M. E. J. Young,	"	"	"

CLASS LIST.

ADDITIONS AND CORRECTIONS.

HONOR CLASSICS.

A. W. Argue [Special Course] passed III. class in Cicero, I. class in Herodotus, II. class in St. Augustine, I. class in Latin Grammar, II. class in Latin Prose, I. class in Greek Prose, I. class in Plautus, I. class in Aristophanes, I. class in Unspecified Greek, I. class in Unspecified Latin, I. class in History, I. class in Total and I. class in standing for two years.

Norquay and Hooper were equal in II. class in Latin Prose.
Perry and Sparling should be bracketed in Unspecified Latin.
Hooper passed I. class in Unspecified Latin after Norquay.
Pinkham passed II. class in Cicero, Virgil and Herodotus.

MENTAL AND MORAL SCIENCE.

LATIN COURSE.

Standing for both years—Bernier, Dubuc, Letourneau, Buron, class I.

MODERN LANGUAGES—HONORS.

SENIOR B.A.

Miss Ponton's standing should be class I.

JUNIOR B. A.

Miss Simpson's name should not appear.
Seigmiller's name should not appear.
Miss Somerset passed I. class in German Composition and Literature.
J. R. McArthur passed II. class in German Composition and Literature.
J. R. McArthur passed I. class in Lamb and Macaulay, Wordsworth and Tennyson, and Craik and Taylor.
R. A. Mitchell passed in Chaucer and Spenser.

MATHEMATICAL HONORS.

SENIOR B. A.

Standing for both years—Whitla and Finlay, II. class.

GENERAL B. A. COURSE.

Martin passed I. class in English (bracketed with Aldridge.)
Aldridge and McFarlane passed III. in Statics, as did Middleton, Crux, Little and Hartley, whose names appear in second class.

B. A. PASS SUBJECTS.

Halpenny passed II. class in Trigonometry, after McFarlane.
Miss Murray passed III. class in Trigonometry, after Small.
Camsell passed III. class in Trigonometry, after d'Easum.
Wark passed III. class in Trigonometry, bracketed with Fleming.

PREVIOUS.

Ross, D. G., passed II. class in Latin, after Dunn.
Beacham passed III. class in Euclid, before Stirling,
Burke, Miss, passed III. class in Euclid, before Stirling.
Haffner passed III. class in Euclid, before Stirling.
Strachan passed III. class in Algebra, after Magnussen.
Creighton passed III. class in Algebra after Strachan.
Loftus passed I. class in German, after Magnussen.
Loftus passed I. class in French, after Bond.
Ross, J. passed III. class in French (bracketed with Morgan.)
Hartley passed III. class in French, after Morgan.

Faculty of Arts.

HONOR CLASSICS.

SENIOR B.A.

Candidates.		Cicero. Virgil.	Herodotus.	St. Augustine.	Greek Grammar	Latin Grammar	Latin Prose.	Greek Prose.	Plautus.	Aristophanes.	Unspec'd Greek.	Unspec'd Latin.	Greek & Roman History.	Total.	Total for both yrs.
Hooper, H. R., Manitoba College.	I.	Perry Sparling Norquay	Perry Sparling	Sparling Perry Norquay	Perry Sparling	Perry Sparling	Sparling Perry		Perry Sparling Norquay	Sparling Perry Hooper Norquay	Perry Sparling Hooper Norquay	Perry Perry Sparling Norquay	Perry Sparling Norquay Hooper	Perry Sparling	Perry Sparling
Norquay, A. T., St. John's College.	II.		Hooper Norquay	Hooper	Norquay			Sparling Perry	Hooper					Norquay Hooper	Norquay Hooper
Perry, E. G., Manitoba College.	III.	Hooper			Hooper	Norquay Hooper		Hooper Norquay							
Sparling, J. K., Wesley College.															

JUNIOR B.A.

Candidates.	Class.	Cicero & Virgil.	Herodotus.	St. Augustine, &c.	Greek Grammar and Prose Composition.	Latin Grammar and Prose Composition	Greek and Roman History.	Total.
G. C. d'Easum, St. John's Coll.	I.	d'Easum Wark	d'Easum Wark	d'Easum Pinkham	Wark d'Easum	d'Easum Wark	d'Easum Wark	d'Easum Wark
A. M. Pinkham, St. John's Coll.	II.			Wark			Pinkham	
J. Wark, Man. Coll.	III.				Pinkham	Pinkham		Pinkham

MATHEMATICAL HONORS.

SENIOR B.A.

Candidates.	Class.	Integral Calculus and Solid Geom.	Newton and Astronomy.	Dynamics and Hydrostatics.	Statics and Optics.	Differential Calculus.	Hydrostatics and Opti..s.	Total Standing.	Standing for both years.
Bennett, M. M., Wes. Coll. Finlay, W. N., Man. Coll. Whitla, H. W., Wes. Coll.	I.					Whitla			
	II.	Finlay Whitla	Whitla	Whitla	Whitla	Finlay	Whitla Findlay	Whitla Finlay	
	III.	Bennett	Finlay Bennett	Finlay Bennett	Finlay Bennett	Bennett	Bennett	Bennett	Whitla Finlay Bennett

JUNIOR B.A.

Candidates.	Class.	Arith., Algebra and Trigonom.	Geometry and Geom. Conics.	Statics and Dynamics.	Analytical Geometry.	Higher Algebra.	Pl. and Spherical Trigonometry.	Total Standing.	
Cross, J. F., St. John's Coll. Sparling, W. R., Wes. Coll.	I.	Cross Sparling	Cross Sparling	Cross Sparling	Cross Sparling	Cross Sparling	Cross Sparling	Cross Sparling	

Coleman, W. W., passed III. Class in Special Examination in Astronomy.

NATURAL SCIENCE HONORS.

SENIOR B. A.

NATURAL SCIENCE HONORS.

SENIOR B. A.

Candidates.		Qualitative Chemistry.	Thermal Chemistry I.	Qualitative Chemistry II.	Descriptive Mineralogy.	Determinative Mineralogy.	Principles of Geology.	Stratig. Geology.	Systematic Botany.	Miscrop. Botany.	Zoology.	Total.	Standing for both Years.
Alexander, A. B. Man. Coll.	I.	McArthur Alexander Pullar	McArthur Davidson Brown		Brown McArthur	Davidson	McArthur Brown Davidson Alexander Douglas	Brown McArthur Davidson Alexander Douglas	Brown McArthur Davidson Douglas	McArthur Brown Pullar Douglas Davidson	Douglas McArthur Brown Davidson	McArthur Brown Davidson	McArthur Brown Davidson
Brown, J. Man. Coll.													
Davidson, J. R. Man. Coll.													
Douglas, A. J. Man. Coll.	II.	Davidson Douglas Brown	Alexander	McArthur Davidson	Davidson Pullar Douglas	McArthur Brown	Pullar	Pullar	Alexander Pullar	Alexander	Alexander Pullar	Douglas Alexander Pullar	Alexander Douglas
McArthur, D. C. Man. Coll.													
Pullar, J. Man. Coll.	III.		Douglas Pullar	Brown Alexander	Alexander	Alexander Douglas Pullar							Pullar

JUNIOR B. A.

Candidates.		Qualitative Analysis.	Inorganic Chemistry I.	Inorganic Chemistry II.	Physics.	Physics II.	Crystallography.	Structural Botany.	Microscopic Botany.	Zoology.	Total.
Bruce, G., Manitoba College. Camsell, C., St. John's College. Cooke, R. J., Wesley College. Cowan, H., Manitoba College. Fleming, J., " " Graham, H. J., Wesley College. McLeod, A. D., Manitoba College Ponton, T. R., " " Roy, H. C. G., St. John's College Sharpe, C. F., Manitoba College.	I.	Roy Cooke Bruce Cowan Fleming			Graham Cooke Cowan	Cooke	Graham Cowan Sharpe Bruce McLeod	Bruce Roy Cooke Cowan McLeod Ponton Sharpe	Graham Roy Cam ell McLeod Bruce Cooke Sharpe	Bruce Cooke Roy	Cooke Bruce Roy
	II.	McLeod Ponton Graham	Roy Cowan Cooke	Roy McLeod	Ponton Bruce McLeod Roy	Bruce Graham	Roy Cooke Ponton Camsell Fleming	Graham Fleming Camsell	Fleming Ponton Cowan	Sharpe Graham Camsell Fleming McLeod Cowan Ponton	Cowan Graham McLeod Ponton Fleming Camsell Sharpe
	III.	Camsell Sharpe	Camsell Bruce Ponton Fleming McLeod Sharpe Graham	Cowan Bruce Graham Cooke Ponton	Fleming Sharpe Camsell	Cowan Ponton Roy Camsell Fleming Sharpe McLeod					

MENTAL AND MORAL SCIENCE.

ENGLISH COURSE.

SENIOR B. A.

MENTAL AND MORAL SCIENCE.

ENGLISH COURSE.

SENIOR B. A.

Candidates.	Class.	Calderwood.	Morell.	Schwegler.	Sedgwick.	Janet.	Walker and Bagehot.	Mill.	Stewart.	Total.	Standing for both years.
Abbott, W. W., Wesley College. Camp, A. E., Manitoba College. Cameron, P. C., " " Cowan, H., " " Endicott, J., Wesley College. Hall, J. A., Manitoba College. Hossack, J. G. " " Kemlo, A. " " Urquhart, J. A., " "	I.	Cowan Endicott Abbott	Cowan Endicott Abbott	Endicott Cowan Abbott	Endicott Cowan Abbott Cameron	Cowan Endicott Abbott	Abbot Endicott Cowan Hossack Cameron	Abbott Cowan Endicott	Endicott Cowan Cameron Abbott	Cowan, Endicott	Endicott Cowan Abbott
	II.	Camp Kemlo Urquhart Cameron, Hossack	Camp Cameron Hall	Cameron Hossack Camp	Camp	Cameron Camp Hossack	Kemlo Hall Urquart, Camp	Hossack Camp Cameron	Hossack Camp Kemlo	Cameron Camp Hossack	Camp Hossack
	III.	Hall	Kemlo Hossack Urquhart	Urquhart Kemlo Hall	Hossack. Kemlo Hall Urquhart	Urquhart Kemlo Hall		Hall Urquhart Kemlo	Hall Urquhart	Kemlo Urquhart, Hall	Hall Urquhart Camerom(Al)

JUNIOR B. A.

Argue, T. E., Wesley College. Clinton, J. P., " " Chegwin, E. J., " " Dove, A. J., St. John's College. Halpenny, J., Wesley College. Lawler, J., St. John's College. Matheson, D., Manitoba College. Marshall, T. M., " " McMunn, R. S., " " Robinson, A. T., " " Smith, E. " " Sweet, H. C. " "	I.	Argue, Sweet Lawler Robinson	Sweet Robinson Lawler	Lawler Dove, Robinson Sweet Matheson Clinton, Argue Halpenny	Sweet Robinson Lawler Argue Chegwin Halpenny	Lawler Robinson Sweet Dove McMunn Halpenny Matheson	Lawler Sweet Halpenny Argue Chegwin Robinson Matheson Clinton Dove	Lawler Halpenny Dove Matheson Argue, Chegwin Clinton	Sweet Halpenny Chegwin Lawler Robinson Matheson	* Lawler † Sweet Robinson Halpenny Matheson	
	II.	Dove Halpenny Chegwin Marshall McMunn Matheson Clinton Smith	Chegwin Halpenny Matheson	McMunn	Matheson Dove McMunn Smith Clinton, Marshall	Chegwin Clinton Smith	Marshall McMunn, Smith	Marshall Robinson McMunn Smith Chegwin Sweet	Argue Clinton Smith Marshall, McMunn	Chegwin Argue Dove Clinton McMunn	
	III.		McMunn Dove Clinton, Argue	Chegwin Marshall Smith		Marshall Argue			Dove	Marshall Smith	

* 1st scholarship. † 2nd scholarship.

MENTAL AND MORAL SCIENCE.

LATIN COURSE.

SENIOR B. A.

CANDIDATES.	Class	Ethica I.	Ethica II.	Ethica III.	Ethica IV.	His. de Phil I	His. de Ph. II	Political Economy I.	Political Economy II.	Total.	Standing for both Years.
Bernier, J. Buron, J. G. P. Dubuc, G. A. Letourneau, J. F.	I.	Bernier Letourneau Dubuc	Bernier Dubuc Letourneau Buron	Bernier Letourneau Dubuc	Dubuc Bernier Letourneau Buron	Bernier Dubuc Letourneru	Dubuc Bernier Letourneau Buron	Dubuc Bernier Letourneau Buron	Dubuc Letourneau Bernier	Bernier Dubuc Letourneau Buron	
	II.	Buron		Buron		Buron		Buron	Buron		

JUNIOR B. A.

Trudel, J.	I.	Trudel	Trudel		Trudel	Trudel	Trudel	Trudel	Trudel	Trudel,	
	II.			Trudel							

MODERN LANGUAGES HONORS.

SENIOR B. A.

MODERN LANGUAGES HONORS.

SENIOR B. A.

Candidates.	Class	Words-worth and Tennyson.	Lamb and MacAulay.	Craik and Taylor.	Chantrel.	Boileau.	Bossuet.	Goethe.	Composition and Literature.	Total.	Standing for both years.
Miss J. D. Conklin, Manitoba College. Miss A. M. Ham, " " L. K. Ponton, " "	I.	Ham Conklin Ponton	Ham Conklin	Ham	Ham Conklin Ponton	Ponton Ham Conklin	Ponton Ham Conklin	Ponton Ham		Ham	Ham
	II.		Ponton	Conklin Ponton				Cohklin		Ponton Conklin	Ponton Conklin
	III.								Ham Ponton Conklin		

JUNIOR B. A.

Candidates.	Class										
Miss M. K. Edmisson, Wesley College. H. G. Gunn, Manitoba College. Miss A. K. Murray, Manitoba College. M. Seigmiller, St. John's College. Miss I. Simpson, Non. Collegiate. Miss E. A. Sutherland, Manitoba College. Miss J. C. Taylor, Manitoba College. W. R. Tymms, St. John's College. Miss J. Urquhart, Manitoba College.	I.	Taylor Gunn Murray Tymms Sutherland Urquhart Edmisson Simpson	Tymms	Sutherland Murray Gunn	Tymms Sutherland Taylor Gunn Murray Urquhart	Tymms Taylor Sutherland Murray Urquhart Edmisson	Tymms Taylor Murray Urquhart Edmisson Sutherland	Tymms Taylor Edmisson Gunn		Tymms Taylor	
	II.	Seigmiller	Simpson Sutherland Taylor Gunn Murray Edmisson	Taylor Urquhart Tymms Edmisson Simpson	Edmisson Seigmiller	Gunn	Gunn	Murray Urquhart Sutherland	Tymms	Murray Sutherland Edmisson Gunn Urquhart	
Students taking Special Subjects of this Course. J. R. MacArthur, Manitoba College. R. A. Mitchell, Manitoba College. Miss M. Somerset, Wesley College.	III.		Urquhart Seigmiller			Seigmiller Simpson	Seigmiller Simpson		Edmisson Taylor Urquhast Murray Sutherland Gunn		

J. R. McArthur passed in the first class in Chantrel, Boileau, Bossuet, Goethe and Composition and Literature.
Miss Somerset " " " " " " " " " second class in Composition and Literature.
R. A. Mitchell " " " " Craik and Taylor.

GENERAL B.A. COURSE.

SENIOR B.A.

GENERAL B.A. COURSE.

SENIOR B.A.

Candidates	Class.	Latin.	Greek.	Hydrostatics	English.	French.	Geology.	Zoology.	History.	Calderwood.	Total Standing.	Total for both years.
Brown, A. M. Manitoba Coll.	I.	Jackson Hetherington White Small	Hetherington Jackson	Hetherington Jackson Small White	Jackson Hetherington White Small	Hetherington Jackson Small White	Hetherington	Hetherington Jackson	White Jackson	White Hetherington Ferguson	Hetherington Jackson White	Hetherington Jackson White
Ferguson, A. J. Manitoba Coll.	II.	Ferguson Brown	White Small Ferguson Brown	Brown Ferguson	Brown Ferguson	Ferguson Brown	Jackson White Ferguson	White Small Ferguson Brown	Brown Hetherington Small Ferguson	Jackson Small Brown	Small Ferguson	Small, J. L. Ferguson
Hetherington, A. E. Wesley Coll.							Small Brown				Brown	Brown
Jackson, M. B. Manitoba Coll.												
Small, J. L. Manitoba Coll.												
White, A. S. St. John's Coll.	III.											

JUNIOR B.A.

Candidates.	Class.	Latin.	Greek.	Statics.	Trigonometry	English.	French.	Geology.	Zoology.	Calderwood.	Total Standing.	
Aldridge, A. R. Wesley Coll.	I.	Lawson Aldridge Crux Martin Armstrong Small Little	Crux Aldridge Armstrong		Lawson	Hartley Little Aldridge Crux	Lawson Aldridge Armstrong Middleton Martin Small	Lawson	Lawson Crux Little Armstrong	Aldridge Crux	Lawson	
Armstrong, W. L. Wesley Coll.												
Crux, W. S. A. Wesley Coll.												
Hartley, F. J. Manitoba Coll.												
Lawson, J. P. Manitoba Coll.	II.	Hartley Middleton McFarlane	Martin Little Small Lawson Hartley Middleton McFarlane	Lawson Martin Small Armstrong Middleton Crux Little Hartley	Armstrong McFarlane Middleton Little Martin Small Hartley Crux Aldridge	Armstrong Lawson McFarlane Middleton Small	Hartley Little Crux McFarlane	Crux Hartley Aldridge Little Armstrong Middleton Small	Middleton Hartley Small Martin Aldridge McFarlane	Little Hartley Lawson Small Armstrong Middleton Martin McFarlane	Armstrong Crux Little Hartley Aldridge Martin Small Middleton	
Little, Jos. Wesley Coll.												
Martin, A. Wesley Coll.												
McFarlane, A. J. St. John's Coll.												
Middleton, S. D. St. John's Coll.												
Small, W. J. Manitoba Coll.	III.							Martin McFarlane			McFarlane	

B. A. PASS SUBJECTS.

Class.	Physics.	Hydrostatics	Trigonometry.	Statics.	Logic.	Ethics.
I.	Mitchell	Hetherington. Jackson Tymms Cameron Martin Sharpe Kemlo Lawler Small, J. L. Abbott Cooke Sweet Ponton, T. MacArthur Wark Cowan, H. J. Halpenny White Graham Little Urquhart, J. A. Endicott	Lawson Dubuc Letourneau	Dubuc, G. A. Letourneau Bernier	Tymms Argue	White Hetherington Ferguson Perry Cross, J. F. Sparling, J. K. Aldridge Crux Cooke Little Jackson Alexander

B. A. PASS, SUBJECTS—Continued.

Class.	Physics.	Hydrostatics.	Trigonometry.	Statics.	Logic.	Ethics.
II.	Argue	Brown, J. Hossack Robinson Dove Alexander Ham, A. M. McMunn Chegwin Douglas Camp Camsell Clinton Argue Roy Bruce d'Easum McLeod	Armstrong Cowan Bernier McFarlane Graham	Lawson Tymms Martin Small, W. J. Armstrong Cowan	Sparling	Lawson Hartley Whitla Wark Brown, J. Bennett Douglas Cowan, H. J. Davidson Gunn Armstrong Small, W. J. Small, J. L. Middleton Brown, A. M. Argue Mitchell McArthur, D. C. Ponton, T. R. Finlay Taylor Martin Camsell McFarlane

B. A. PASS SUBJECTS.—Continued.

Class.	Physics.	Hydrostatics.	Trigonometry.	Statics.	Logic.	Ethics.
III.	Tymms	Hooper Matheson Fleming Gunn Taylor, J. C. Urquhart, Miss Simpson Brown, A. M. Argue Ferguson Conklin, Miss Ponton, Miss Edmison, Miss	Trudel Middleton Martin Little Small, W. J. Hartley d'Easum Taylor Buron Roy Ponton Sutherland Hall Bruce Lawler Chegwin Sharpe Crux McMunn Argue Fleming McLeod Robinson Smith Matheson Sweet Urquhart Gunn Clinton Aldridge Pinkham	Trudel Argue Buron Middleton McMunn Lawler Crux Little Cowan, Hugh d'Easum Sutherland Cameron Taylor Hartley Urquhart, Miss Roy Bruce Sharpe Graham Murray Ponton, T. R. Camsell McFarlane Aldridge Dove. Conklin, Miss Gunn Wark		Murray Graham Ponton, Miss Simpson Sharp Bruce Ham Fleming McLeod Sutherland Hooper Conklin, Miss Urquhart, Miss Sparling, W. R. Pullar Pinkham Coleman

PREVIOUS YEAR.

Class.	Latin.	Greek.	Physiology.	English.	German.	French.	Trigonometry.	History.
	Manahan	Watt	King	Richardson, J. A.	Magnnssen	Adams	Manahan	Richardson, J. A.
	McNabb	McNabb	Brown	Byrnes		Hart	Dearden	Bond
	King	Manahan	Wadge	Ross, D. G.		Bond	Richardson, W. J.	Woodsworth
	Desourdis	Cross	Conklin	Cross		Conklin	King	McKittrick
	Watt	Richardson, W.	Gillies	King				

PREVIOUS YEAR.

Class.	Latin.	Greek.	Physiology.	English.	German.	French.	Trigonometry.	History.
	Manahan	Watt	King	Richardson, I. A.	Magnnssen	Adams	Manahan	Richardson, J. A.
	McNabb	McNabb	Brown	Byrnes		Hart	Dearden	Bond
	King	Manahan	Wadge	Ross, D. G.		Bond	Richardson, W. J.	Woodsworth
	Desourdis	Cross	Conklin	Cross		Conklin	King	McKittrick
	Watt	Richardson, W.	Gillies	King		Byrnes	Watt	Wadge
	Richardson, W.	Ross, D. G.		Richardson, W. J.		King	Conklin	Ross
				Sterling		Gillies		Manahan
				Woodsworth				Sterling
				Watt				Soady
								Cross
I.								McCrossan
								Dunn
								Watt
								Gillies
								Haw
								Byrnes
								King
								Hart
								Creighton
								Conklin
								Strachan
								M. Neece
								Brown
								Lane

PREVIOUS YEAR—Continued.

Class.	Chemistry.	Euclid.	Algebra.
	Manahan	Manahan	Watt
	King	Watt	Richardson, W. J.
	Watt	King	Manahan
	Conklin	Woodsworth	Dearden
	Woodsworth	Conklin	Woodsworth
	Brown	Richardson, W. J. / Desourdis	
	Wadge	Cross	
	Dearden	Gillies	
	Strachan	Soady	
	Desourdis	Byrnes	
	Ross	McKittrick	
	Richardson, W.		
I.	Creighton		
	Gillies		
	Cross		
	Byrnes		
	Bond		
	Richardson, J. A. / McNeece / Dunn		
	McKittrick		
	Affleck / Hart / McNab		

PREVIOUS YEAR.—Continued.

Class.	Latin.	Greek.	Physiology.	English.	German.	French.	Trigonometry.	History.
	Hart	Hugg	Soady	Dunn	Hart	Burke	Cross	Good
	Richardson J. A.	Woodsworth	Howell	McNabb	Creighton	Magnussen	Gillies	Macarthur
	Conklin	Dunn	Good	Gillies				

PREVIOUS YEAR.—Continued.

Class.	Latin.	Greek.	Physiology.	English.	German.	French.	Trigonometry.	History.
	Hart	Hugg	Soady	Dunn	Hart	Burke	Cross	Good
	Richardson, J. A.	Woodsworth	Howell	McNabb	Creighton	Magnussen	Gillies	Macarthur
	Conklin	Dunn	Good	Gillies	Byrnes	Creighton	Woodsworth	Affleck
	Bond	Affleck		Manahan	McCrossan	Wadge	Soady	Richardson, W. J.
	Hugg	Desourdis		Haw	Haffner	McCrossan	Bond	Haffner
	Loftus	Sterling		Creighton			Wadge	Burke
	Strachan	Strachan		Hart			Haffner	Magnussen
	Byrnes	Haw		Wadge			Strachan	Beacham
	Creighton	McArthur		Bond				McNabb
	Magnussen	Richardson, J. A.		Soady				
	Wadge	Smith		McKittrick				
	Woodsworth			McCrossan				
	Affleck			Conklin				
	McCrossan			McNeece				
II.	Dunn			Magnussen				
	Cross			Adams				
	Howell			Affleck				
	McKittrick			Burke				
	Adams			McArthur, A. G.				
	Gillies			Beachem				
	Dearden			Good				
	Sterling			Strachan				
	Brown							
	Haw							
	Burke							
	McArthur, A. G.							
	Haffner							
	Good							
	Morgan							

PREVIOUS YEAR.—Continued.

Class.	Chemistry.	Euclid.	Algebra.
	Soady	McNabb	Desourdis
	Sterling	Wadge	King
	Howell	Strachan	Conklin
	Haw	Haw	McKittrick
	Adams	Adams	Beacham
	Magnussen	Dearden	Howell
	Lane	McCrossan	Bond
II.	Beacham	Richardson, J. A.	Haffner
	Thompson	Dunn	Cross
		Brown	Adams
		McNeece	Brynes
		Ross	Soady
		Creighton	Ross
		Beacham	
		Burke	

PREVIOUS YEAR—Continued.

Class	Latin.	Greek.	Physiology.	English.	German.	French.	Trigonometry.	History.
	Gray	McKittrick	McNeece	Brown	Adams	Morgan	Byrnes	Gray
	Soady	Dearden	Bond	Howell	Burke	Haffner	McCrossan	

PREVIOUS YEAR—Continued.

Class	Latin.	Greek.	Physiology.	English.	German.	French.	Trigonometry.	History.
III.	Gray Soady McNeece Beacham	McKittrick Dearden Coleman Gray	McNeece Bond Beacham Morgan Haffner Lane	Brown Howell Dearden Haffner Gray Lane Morgan	Adams Burke	Morgan Haffner Good Brown McNeece Howell Beacham	Byrnes McCrossan Creighton Affleck Richardson, J. A. McKittrick McNabb Ross Haw Sterling Desourdis Adams Lane Brown Dunn Howell McArthur, A. G. Magnussen Gray Beacham Morgan Hart Burke McNeece	Gray Adams Howell Dearden Morgan

PREVIOUS YEAR—Continued.

Class	Chemistry.	Euclid.	Algebra.
III.	Gray Haffner McCrossan Edmisson Good	Stirling Affleck Bond Lane Morgan Hart McArthur, A. G. Gray Howell Magnussen	Richardson, J. A. Wadge McNabb Gillies Haw Dunn Hart, E. H. McCrossan Affleck Stirling Burke Gray Brown Magnussen

E. Loftus passed in Latin, French and German.
J. B. Hugg passed in Latin.
A. S. Thompson passed in Chemistry.
H. J. Go don passed in Algebra.
Miss K. Lane was granted an aegrotat.

PREVIOUS FRENCH.

(For French Speaking Students.)

Candidate.	Class.	Racine and Corneille.	Rhetorique & Pros. Literature	Composition.	Histoire de France.	Total Standing.
Desourdis, J.	I.	Desourdis	Desourdis	Desourdis	Desourdis	Desourdis

PRELIMINARY YEAR.

Class	Latin.	Greek.	French.	German.	English and Roman History.	Botany.	Canadian History and Geography.	Algebra.	Euclid.	Arithmetic.	English.
I.	McDonald Kyle, Miss Ross, G. H. Rousseau Lathwell Russell Mis Dubuc Inglis King Truesdale Kerr Rocan Kenner, A.E. Fortin, Miss Woodroofe	McDonald Inglis Lathwell	King, Miss Reilly Fortin, Miss Ross, G. H. Miss Anderson Mathew	King, Miss Russell, Miss Finklestine, Miss	Ross, G. H. Lathwell Iverach Dubuc Marlatt McDonald Sparling Shaw Woodroofe Russell Jean McArthur King Lang, D. Griffith Rocan Rousseau Hall, H. F. McDougall Fieldhouse Cross Down Coke Ross, S.W. Arnett Reilly Young Somerset Robertson	Ross, G. H. Marlatt Lipsett	McDougall Iverach Lang Menzies Down Ross, G. H. McArthur Coke Dubuc Lipsett	Ross, G. H. Lathwell Riddell McDonald Sparling Arnett Mathew Duval, Lina Reilly Lang	Lathwell Sparling Riddell McDonald Fairchild King Reilly Woodroofe Down	King Lang Ross, G. H. Finklestine Fairchild Sparling Lathwell McDonald Duval, Lina Sissons Reekie Marlatt Arnett, T.L. Carley Mathew McVicar Miss Eddy, Miss Russell Mis Coke, C Reilly Young Smith McKay Truesdal Miss Menzies Fieldhouse Monro Miss Woodroofe	Ross, G. H. Down Arnett King Russell, Miss McVicar Miss Young Woodroofe Reekie Marlatt Fortin, Miss Eddy, Miss Menzies Reilly Iverach Lathwell Duval, G. Riddell Fieldhouse Cross McDougall Lang Mathew Kenner, A.W. Kenner, A.E. Fairchild Robertson Somerset Truesdale Sparling Simpson Ross, S. W. Shaw

PRELIMINARY YEAR—Continued.

Class	Latin.	Greek.	French.	German.	English and Roman History.	Botany.	Canadian History and Geography.	Algebra.	Euclid.	Arithmetic.	English.
II.	Mathew Iverach Lang Sparling McVicar Miss Ross, S. W. Thorburn Marlatt Menzies Reilly King, Miss McDougall Riddell Eddy, Miss Woodhull Cross Duval, Lina Down McKay Griffith Atkinson Cameron Miss Peacock Coke Hall	King Dubuc Sparling McDougall Rousseau Shaw Menzies Reekie Peacock Iverach Ritchie Hudson Down Rocan	Kyle, Miss Campbell Mis Eddy, Miss Ross, S. W. Marlatt Somerset Duval, Lina Finklestine Ms Russell Miss Lang Fairchild Ms McVicar Young Truesdale Carley Duval. Miss G Kenner, A.E. Griffith Hearn Boswell Cameron Miss	Anderson Miss Duval, Lina Thorburn Campbell McKay Woodroofe Ross, S. W. Smith, H. A. Fortin, Miss	Riddell Fortin Miss Kenner, AE Mathew Atkinson Menzies Duval, G. McKay Thorburn Anderson, Miss	Mathew Kyle, Miss Lang, H. Griffith Young Monro, Miss F Livingston Atkinson Reilly Fieldhouse McArthur	Lathwell Rocan Rousseau McDonald Marlatt Livingston Russell Miss Hudson Hall Woodroofe Sparling Riddell Eddy, Miss Shaw Kenner, AE McVicar Spencer Reilly Griffith McKay Monro Miss Robertson Arnett, T.L. Sissons Knowlton Cameron Miss Anderson, Miss Fortin Miss Mathew Thorburn	Woodroofe Truesdale McDougall Shaw Coke King Eddy, Miss Smith Down Russell Mis Fairchild Ms Dubuc Iverach Griffith Fieldhouse Reekie Finklestine Young Carley, Miss King, Miss Anderson Mis Hudson Duval, Genev	Sissons Ross, G. H. Coke, C. Eddy, Miss Mathew Truesdale McKay Lang, D. Smith, H. A. McDougall Iverach Shaw, W. McArthur Kenner, AE Young Russell, J. King, Miss Ross, S. W. Knowlton	Robertson Iverach Dubuc Somerset Livingstone McArthur McDougall Shaw Griffith King, Miss Simpson Ritchie Hudson Duval, G. Knowlton Shore, G. Lipsett Anderson Mis Richards Down Rocan	Hambly McDonald Duval, Lina Knowlton King, Miss Ritchie Braden, Miss Livingstone Griffith Coke McKay Kerr, H. F. Hudson Smith Spencer Anderson Mis Finklestine Ms Cameron Miss Lipsett Peacock Leech McArthur Wallace Hall Shore, Miss Monro, Miss Atkinson Thorburn

PRELIMINARY YEAR—Continued.

Class	Latin.	Greek.	French.	German.	English and Roman History.	Botany.	Canadian History and Geography.	Algebra.	Euclid.	Arithmetic.	English.
III.	McArthur Robertson Shore Simpson Anderson Mis Somerset Shaw Arnett Young Brooks Ritchie Hudson Hearn Reekie Knowlton Richards Monro, Miss Livingstone Wallace Leech Duval, Miss G Kenner, A.W. Hambly	Brooks Kenner, A.W. Robertson Coke Riddell Wallace Hambly	McKay Braden Mis Woodroofe Monro Miss Atkinson Smith Thorburn McArthur Campbell Woodhull Knowlton Arnett, T.L Kerr, F. H. Livingstone Richards Shore Simpson Cross	Fairchild Somerset Duval, G. Cameron Miss Braden, Miss	Leech Smith Duval, Lina Fairchild Mis Lipsett Reekie King, Miss Shore, G. C. Wallace Knowlton Truesdale Monro, Mis Spencer Saunders Eddy, Miss Carley Miss Kerr Sissons Cameron Ms Richards Hambly Livingstone Simpson	McVicar Miss Richards Leech Spencer Truesdale Hall	Cross Kenner, A.W Young Smith Reekie Leech Peacock Fieldhouse Atkinson Wallace King Somerset King, Miss Duval, Lina Ross, S.W. Duval, G. Fairchild Simpson Braden, Miss Kerr Hambly Truesdale Shore Ritchie	Somerset Marlatt Knowlton Ross, S.W. Richards McVicar Miss Fortin Miss Cameron Ms Braden, Miss Ritchie McArthur Kenner, AE Atkinson Cross Sissons Simpson Spencer McKay Hall Monro, Miss Hambly Shore, Miss Kerr	Anderson Finklestine Cross Duval, Lina Fortin, D. L Peacock Arnett, T. L Braden, Miss Kenner, A.W. Monro Miss Marlatt Dubuc Atkinson McVicar Carley Miss Reekie Menzies Griffith Robertson Shore Livingstone Hudson Richards Cameron Miss Lipsett Somerset Simpson Kerr	Kenner A W Cross Fortin Ross, S.W. Braden Mis Atkinson Hambly Rousseau Thorburn Riddell Kenner, A. E. Kerr Hall Cameron Miss Leech Peacock Spencer	Richards Carley Sissons

PRELIMINARY ENGLISH FOR FRENCH STUDENTS.

CANDIDATES.	Class.	Poetical Literature.	Composition and Authors.	Grammar and Rhetoric.	Total.
	I.		Rocan		
Dubuc, L. Rocan, R. N. Rousseau, A.	II.	Rocan	Rousseau	Rocan Dubuc	Rocan
	III.	Dubuc Rousseau	Dubuc	Rousseau	Dubuc Rousseau

Faculty of Medicine.

Faculty of Medicine.

FINAL YEAR.

CANDIDATES.

Armstrong, J. W.
Brown, R. W.
Cowan, Samuel B.
Campbell, Robt Donald
Duncan, Geo. Edward
Findlay, Ephraim K.
Inglis, Maxwell S.
Lougheed, Thos Hedly.
Morrison, Richard L.
McLeod, Alex. Neil.
Sloan, John McMichael
Simpson, Alfred Holmes

M. D.								C. M.	
	Medicine.	Surgery.	Clinical Medicine.	Clinical Surgery.	Pathology.	Obstetrics.	Total Standing.	Class.	
I.	Sloan Brown Findlay Campbell McLeod Armstrong Simpson Cowan Inglis		Campbell Findlay Sloan Armstrong Cowan Duncan Morrison Simpson Brown McLeod Inglis	Findlay Simpson Duncan Inglis Armstrong Brown Morrison Sloan	Findlay Simpson Campbell Armstrong Sloan Inglis Morrison McLeod Brown Cowan Lougheed	Sloan Brown Duncan Armstrong Findlay Inglis McLeod Campbell Simpson	Sloan Findlay Armstrong Campbell Simpson Brown McLeod.	I.	Campbell Findlay McLeod Sloan Simpson Inglis Brown Duncan
II.	Morrison Duncan Lougheed		Lougheed	Campbell McLeod Cowan	Dnncan	Cowan Morrison Lougheed	Duncan Inglis Morrison Cowan Lougheed	II.	Armstrong Cowan
III.		Sloan McLeod Campbell Findlay Lougheed Armstrong Duncan Simpson Brown Cowan Inglis Morrison		Lougheed					

Dr. Crawford and Dr. T. A. M. Hughes passed the necessary examination for license.

INTERMEDIATE.

	Sanitary Science.	Medical Jurisprudence.	Surgical Anatomy.	Practical Chemistry.	Total Standing.

INTERMEDIATE.

Candidates.		Sanitary Science.	Medical Jurisprudence.	Surgical Anatomy.	Practical Chemistry.	Total Standing.
Andrew, Jared N. Baird, A. R. Brien, Frederick Graham. Burnham, Frederick Crokat, Edward A. Cleghorn, J. M. Conklin, J. S. Camsell, George Elkin, J. S. Gunne, J. R. Goodwin, R. Gahan, J. Hepworth, W. McLennan, John K. McDonald, Donald Norquay, H. C. Stevenson, W. Scott, W. W. Stewart, A. B. Stewart, J. S. Vanstone, C. M. Versailles, A. E.	I.	Elkin Gahan Gunne Vanstone Crokat Camsell Burnham McLennan Norquay Cleghorn McDonald Stewart, A. B. Goodwin, Andrew Brien	Crokat Elkin Gunne Camsell Burnham Stewart, J. S. Vanstone McDonald Stewart, A. B. McLennan Brien Gahan	Gunne Elkin Brien Stewart, J. S. McLennan Gahan McDonald	Crokat Elkin Andrew Stevenson Vanstone Burnham Stewart, A. B. Gunne Brien McLennan Stewart, J. S. Goodwin Hepworth Norquay Cleghorn Baird McDonald Camsell	Elkin Gunne Crokat Vanstone McLennan Stewart, J. S. Brien McDonald Burnham Stewart, A. B. Camsell
	II.	Stevenson Hepworth Stewart, J. S.		Goodwin Norquay Cleghorn Stevenson Andrew Vanstone Stewart, A. B.		Gahan Stevenson Andrew Norquay Goodwin Cleghorn Hepworth
	III.	Conklin Baird Scott Versailles	Conklin Hepworth Versailles Baird Stevenson Cleghorn Goodwin Norquay Scott Andrew	Versailles Crokat Baird Conklin Scott Camsell Hepworth Burnham	Scott * Conklin * Versailles * Gahan	Baird Conklin Versailles Scott

* Exempt, having passed equivalent examination before.

PRIMARY.

Candidates.		Anatomy.	Practical Anatomy.	Materia Medica.	Physiology	Histology.	Chemistry.	Total Standing.
Andrews, Jared N. Baird, A. R. Bottomly, Ernest Conklin, J. S. Coulter, J. E. Chipperfield, G. Hargrave, Percy H. Hutcheson, J. N. Hamman, Alfred Lawther, Alfred Moody, Arthur W. McGuire, J. A. McKay, Hugh McQueen, D. D. Perry, H. H. Poole, Jesse J. Rolston, C. M. Smith, C. F. Versailles, A. E. Williamson, G. W. Watson, J. N. Young, George	I.	Hutcheson Watson Hamman McKay McGuire Smith Coulter Moody Young Perry Hargrave Poole Chipperfield Rolston Lowther	Hamman McKay Watson Conklin Young Hargrave Perry Rolston McGuire Moody Smith Andrew	Hamman Hargrave Hutcheson McKay Moody Rolston Watson Chipperfield Coulter McGuire Smith Young Perry Poole Williamson Baird	Hamman Watson Hutcheson Coulter Young Smith Bottomly Chipperfield Moody McGuire Hargrave McKay McQueen Perry Rolston Poole	Hamman Hutcheson Smith Watson McKay Young Chipperfield McGuire McQueen Moody Hargrave Perry Coulter Rolston Bottomly Williamson Andrew Poole	Hamman Watson Smith Young Bottomly Hutcheson Poole Moody Chipperfield Hargrave Perry McKay McGuire	Hamman Watson Hutcheson Smith McKay Young Hargrave Moody McGuire Chipperfield Perry Coulter Poole Rolston
	II.	McQueen Williamson	Chipperfield Coulter Hutcheson Lowther	Bottomly Andrew McQueen	Williamson Andrew		Coulter Williamson McQueen	McQueen Williamson Bottomly Andrew
	III.	Conklin Baird Versailles Bottomly Andrew	McQueen Williamson Bottomly Baird Poole Versailles	Conklin Versailles Lawther	Conklin Lowther Versailles Baird	Conklin Lawther Baird Versailles	Rolston Lawther Andrew Baird * Conklin * Versailles	Conklin Lawther Baird Versailles

* Exempt, being hon. graduates in Natural Science.

MEDICAL ENTRANCE.

	Latin.	Arithmetic.	Algebra.	Euclid.	Physics.	Botany.	Grammar and Rhetoric.	Composition.	Wordsworth.	Canadian History and Geography.	English and Roman History.	French.
I.	J. F. Pinkham	Bjornson Nichols			Bjornson	Perry	Bjornson Doran Shaw Watson Casselman Perry	Bjornson Shaw Eberts Doran	Shaw Casselman		Shaw	
II.	O. J. Bjornson W. H. Brothers A. D. Nichols	McDonald Graham Shaw Barrett	Doran Bjornson Shaw Perry	Eberts Nichols Shaw Perry Bjornson	McRae Brothers Perry Ferguson Shaw Eberts	Eberts Bjornson Casselman Shaw Graham Ferguson	Nichols Graham Ferguson Pinkham	Perry Graham Watson Nichols Casselman Pinkham Ferguson McDonald	Doran Bjornson Graham Perry	Perry Shaw Casselman Pinkham. Eberts	Eberts	
III.	W. Shaw A. S. Martin C. M. Watson J. A. Graham J. R. McRae D. Perry W. G. D. Casselman E. M. Eberts J. E. Doran W. Webster	Eberts Ferguson Doran Casselman Perry Pinkham Watson	Graham Nichols Casselman Pinkham Eberts McDonald Watson	Ferguson Watson Doran Barrett McDonald	Watson Nichols Casselman Webster Graham Barrett Pinkham	Watson Pinkham Nichols McDonald Martin Doran Barrett	Eberts Barrett McDonald	Barrett	Barrett Ferguson	Nichols Watson Ferguson Graham Barrett Doran McDonald Bjornson	Nichols McDonald Watson Doran	Doran Pinkham

Faculty of Law.

FINAL YEAR.

Candidate.	Class.	Hall.	Von Savigny.	Broom.	Pollock.	Maine.	Justinian.	Wills.
Leech, J. H.	I.	Leech	Leech	Leech	Leech	Leech	Leech	Leech

SECOND YEAR.

Candidates.	Class.	Underhill.	Fawcett.	Roman Law.	Best.	Leith.	May.	Todd.	Total.
Grimmett, M. L. McKercher, D. W. Rothwell, S. J.	I.	Grimmett McKercher Rothwell	Grimmett McKercher Rothwell	Grimmett Rothwell McKercher	Grimmett McKercher Rothwell	Grimmett McKercher	Grimmett Rothwell	Grimmett McKercher Rothwell	Grimmett McKercher
	II.						McKercher		Rothwell
	III.					Rothwell			

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University of Manitoba.

EXAMINATIONS, MAY, 1893.

HONOR CLASSICS—SENIOR B. A.

LATIN PROSE.

Three Hours.

An English commander must not trust his fortune. He dare not risk much, however conscious he may be of personal resources, when one disaster will be his ruin at home; his measures must be subordinate to this primary consideration. Wellington's caution, springing from that source, has led friends and foes alike into wrong conclusions as to his system of war; the French call it want of enterprise, timidity; the English have denominated it the Fabian system. These are mere phrases. His system was the same as that of all great generals. He held his army in hand, keeping it with unmitigated labour always in a fit state to march or to fight, and acted indifferently as occasion offered on the offensive or defensive, displaying in both a complete mastery of his art. Sometimes he was indebted to fortune, sometimes to his natural genius, always to his untiring industry, for he was emphatically a painstaking man.

That he was less vast in his designs, less daring in execution, neither so rapid nor so original a commander as Napoleon, must be admitted; and being later in the field of glory it is to be presumed he learned something of the art from that greatest of all masters.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

HONOR CLASSICS—SENIOR B. A.

LATIN GRAMMER.

Time—three hours.

1. Define Suffix, Prefix, Root, Stem, Heteroclita, Hectrogenea, Neuter passive, Inceptive, Concord, giving an example of each.

2. Give, with explanations and examples, the regular personal terminations of the Verb in the Active Voice in their simplest form.

3. State and illustrate the force of each of the following endings when added to Substantives derived from Verbs:—Or, tor, io ium, men, mentum.

4. Translate the following sentences, and show the use of the Relative Pronoun in each:—

(*a*) Arbores seret diligens agricola, adspiciet baccam ipse nunquam.

(*b*) Thebae ipsæ, quod Bœotiæ caput est.

(*c*) Peroratio, qui epilogus dicitur.

(*d*) Sapientes soli, quod est proprium divitiarun contenti sunt rebus suis.

5. Classify the uses of the Accusatives in the following:—

(*a*) Verissimum jusjurandum jurare.

(*b*) Contremere hastam.

(*c*) Redolet antiquitatem.

(*d*) Me pudet Stultitiae meae.

(*e*) Non celavi te Sermonem hominum.

(*f*) Consul pervenit in oppidum Cirtam.

(*g*) Acerba tuens.

(*h*) Inutile ferrum cingitur.

6. Give the reason for the case of the words italicised in the following:—

(*a*) Ubinam *gentium*.

(*b*) Ager quatuor *jugerum*.

(*c*) Fessi *rerum*.

(*d*) Non eum *hujus* aestimo.

(*e*) Magno *usui nostris* fuit.

(*f*) Quid *mihi* Celsus agit?

(*g*) *Quo* minus cupiditatis, *eo* plus auctoritatis.

7. Describe the uses of the Subjunctive Mood in the following sentences:—

(*a*) Si ita esset, ignoscerem.

(*b*) Cur dubitas quid de republica sentias?

(*c*) Valeas et Memineris Nostri.

(*d*) Legibus Servimus ut liberi esse possimus.

(*e*) Docent qunato in discrimine sit Nolana res.

8. Translate into Latin both as Oratio Recta and Oratio Obliqua:—

When the ambassadors of the Samnites had brought to Manius Curius a great weight of gold, he, after having been asked to be willing to use it laughed and said at once, "Tell the Samnites that I would rather rule the rich than be rich myself; carry back that gift and remember that I can neither be conquered in battle nor corrupted by money."

9. Translate into Latin:—

The new world was discovered by Columbus on the 12th of October, in the year one thousand four and ninety-two, and the World's fair was opened at Chicago on the 1st of May, one thousand eight hundred ninety-three, upwards of four hundred years after.

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EXAMINATIONS, MAY, 1893.

CLASSICAL HONORS—SENIOR B. A.

GREEK GRAMMAR.

Three hours.

1. (a) Explain with examples: *Proclitic, syncope, tmesis, oxymoron, prolepsis.*

(b) Place accents on (giving reasons): *νησος, πολεως, μητερα, τιμησαι, λελυμερος, "ει τις τι σοι φησιν, λεγε."*

2. Compare: *σάφης, φίλος, μέγας, ὀλίγος, μάλα, ἡδέως*, stating the rules followed and any exceptional cases.

3. Write explanatory notes (giving examples) on: (a) locative suffixes, (b) attraction of the Relative Pronoun, (c) Attic reduplication.

4. Describe the uses of the Accusative in the following sentence: *Νὴ τὸν Δία, ἐκεῖνος δεῖνος μάχην, ἐξὸν γεννάιως Ὀλύμπια νικᾶν, τὸ ἐναντίον πάντας λανθάνει, τὰ χρήματα ἀφαιρούμενος τοὺς πλεόντας τὴν θαλάσσαν.*

5. Explain clearly the force of the Indicative in conditional sentences, in wishes, and after final particles. Illustrate by examples.

6. (a) Discuss as fully as possible the formation of the Future, Active and Passive.

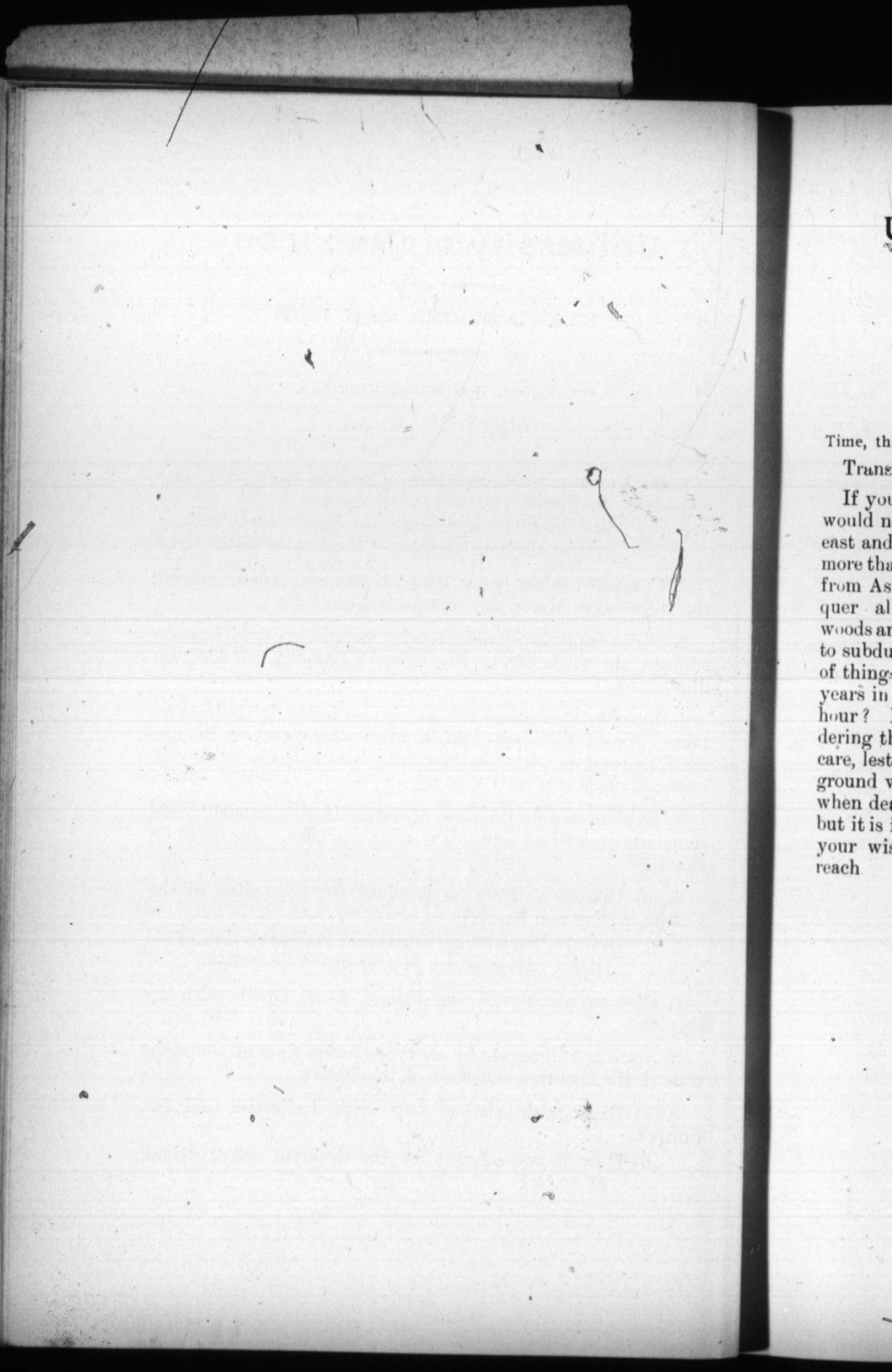
(b) Give 1st Pers. Sing., Aorist and Perfect Active, of:—
βάλλω, τέμνω, φέρω, ῥέω, ὁράω, ὄλλυμι, τιθημι.

7. Give an account of the uses of *ἄν* in Greek, with examples.

8. State and illustrate by short sentences *four* of the main uses of the Genitive and *three* of the Dative.

9. (a) Distinguish between *ὥστε* with Indicative and Infinitive.

(b) How do you account for the different constructions of *οὐ μή*?



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EXAMINATIONS, MAY, 1893.

HON. CLASSICS, SENIOR B. A'S.

GREEK PROSE COMPOSITION.

Time, three hours.

Translate into Greek :—

If your person were as gigantic as your desires, the world would not contain you. Your right hand would touch the east and your left the west at the same time. You grasp at more than you are equal to. From Europe you reach Asia; from Asia you lay hold on Europe. And if you should conquer all mankind, you seem disposed to wage war with woods and snows, with rivers and wild beasts, and to attempt to subdue nature. But have you considered the usual course of things? Have you reflected that great trees are many years in growing to their height, and are cut down in an hour? It is foolish to think of the fruit only, without considering the height you have to climb, to come at it. Take care, lest, while you strive to reach the top, you fall to the ground with the branches you have laid hold on. The lion when dead is devoured by ravens. There is nothing so strong, but it is in danger from what is weak. It will, therefore, be your wisdom to take care how you venture beyond your reach

U

1. Tra

(a) ἐ
σταθμὸν τ
Δελφοῖσι κ
ἴδρυτο· κ
ἕβδομον ἦ
Ἐπιτελέσα
ἄλλα ἅμα
ἀργύρεον·
ὁ δὲ ἀργύ

(b) Ἀ
τὴν Πυθίη
ἐστι ἀποφυ
ἐξέπλησε,
πόμενος ἐφ
οἱ προσήκο
παῖδας τοὺ
Κροῖσον, ο
αὗται ἠνύσ
Σαρδίων δ
ἔτεσι τούτ

2. Writ
In
In

3. Writ
In
In

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EXAMINATIONS, MAY, 1893.

HONOR CLASSICS—JUNIOR AND SENIOR B.A.

I.—HERODOTUS.

1. Translate:

(a) ἐποιέετο δὲ καὶ λέοντος εἰκόνα χρυσοῦ ἀπέφθου, ἑλκουσαν σταθμὸν τάλαντα δέκα· οὗτος ὁ λέων, ἐπεί τε κατεκαίετο ὁ ἐν Δελφοῖσι νηός, κατέπεσε ἀπὸ τῶν ἡμιπλινθίων· ἐπὶ γὰρ τούτοισι ἵδρυτο· καὶ νῦν κεῖται ἐν τῷ Κορινθίων θησαυρῷ, ἕλκων σταθμὸν ἑβδομον ἡμιτάλαντον· ἀπετάκη γὰρ αὐτοῦ τέταρτον ἡμιτάλαντον. Ἐπιτελέσας δὲ ὁ Κροῖσος ταῦτα ἀπέπεμπε ἐς Δελφοὺς καὶ τάδε ἄλλα ἅμα τοῖσι· κρητῆρας δύο μεγάθεϊ μεγάλους, χρύσεον καὶ ἀργύρεον· τῶν ὁ μὲν χρύσεος ἐκέετο ἐπὶ δεξιὰ ἐσιόντι ἐς τὸν νηόν, ὁ δὲ ἀργύρεος ἐπ' ἀριστερά·

(b) Ἀπικομένοισι δὲ τοῖσι Λυδοῖσι καὶ λέγουσι τὰ ἐντεταλμένα τὴν Πυθίην λέγεται εἰπεῖν τάδε· "τὴν πεπρωμένην μοῖραν ἀδύνατά ἐστι ἀποφυγέειν καὶ θεῷ· Κροῖσος δὲ πέμπτου γενεὸς ἁμαρτάδα ἐξέπλησε, ὃς ἐὼν δορυφόρος Ἡρακλειδέων, δόλῳ γυναικηίῳ ἐπισπόμενος ἐφόνευσε τὸν δεσπότεα, καὶ ἔσχε τὴν ἐκείνου τιμὴν οὐδέν οἱ προσήκουσαν. προθυμεομένου δὲ Λοξίεω, ὅκως ἂν κατὰ τοὺς παῖδας τοὺς Κροίσου γένοιτο τὸ Σαρδίων πάθος καὶ μὴ κατ' αὐτὸν Κροῖσον, οὐκ οἷός τε ἐγένετο παραγαγεῖν μοίρας· ὅσον δὲ ἐνέδωκαν αὗται ἠνύσατο, καὶ ἐχαρίσατό οἱ· τρία γὰρ ἔτεα ἐπανεβάλετο τὴν Σαρδίων ἅλωσιν· καὶ τοῦτο ἐπιστάσθω Κροῖσος, ὡς ὕστερον τοῖσι ἔτεσι τούτοισι ἁλοὺς τῆς πεπρωμένης.

2. Write explanatory notes on—

In (a): *Κορινθίων θησαυρῷ, ἕβδομον ἡμιτάλαντον·*

In (b): *τὰ ἐντεταλμένα, τὴν Πυθίην, δορυφόρος, πάθος.*

3. Write grammatical notes on—

In (a): *σταθμὸν, τάλαντα δέκα, ἐσιόντι.*

In (b): *ἀδύνατα, ἔτεα, ἁλοὺς, τῆς πεπρωμένης.*

II.—ST. CHRYSOSTOM.

4. Translate:

Νῦν ὑβρίσθαι ψῇς, καὶ πεπονθέναι οἷα μηδεὶς πώποτε τῶν προτέρων βασιλέων. Ἀλλ' ἐὰν θέλῃς, ὦ φιλανθρωπότατε καὶ φιλοσοφώτατε καὶ πολλῆς εὐσεβείας γέμων, τοῦ διαδήματος τούτου μείζονά σοι καὶ λαμπρότερον ἡ ὕβρις αὕτη περιθήσει στέφανον. Τοῦτο μὲν γὰρ τὸ διάδημά ἐστι μὲν τῆς σῆς ἀρετῆς ἀπόδειξις, ἔστι δὲ καὶ τῆς τοῦ δεδωκότος φιλοτιμίας τεκμήριον· ὁ δὲ ἀπὸ τῆς φιλανθρωπίας σοι ταύτης πλεκόμενος στέφανος, σὸν μόνον ἔσται κατόρθωμα καὶ τῆς φιλοσοφίας τῆς σῆς· καὶ οὐχ οὕτω σε θαυμάσονται πάντες διὰ τοὺς λίθους τοὺς τιμίους τούτους, ὡς ἐπαινέσονται διὰ τὴν ὑπεροψίαν τὴν κατὰ τῆς ὀργῆς. Καθεῖλόν σου τοὺς ἀνδριάντας; ἀλλ' ἔξεστί σοι λαμπροτέρους ἀναστῆσαι ἐκείνων. Ἂν γὰρ ἀφῇς τοῖς ἠδικηκόσι τὰ ἐγκλήματα καὶ μηδεμίαν ἀπαιτήσῃς δίκην αὐτούς, οὐ χαλκοῦν σε ἐπὶ τῆς ἀγορᾶς ἀναστήσουσιν, οὐδὲ χρυσοῦν, οὐδὲ λιθοκόλλητον, ἀλλὰ τῆς πάσης ὕλης τιμιωτέραν στήλην, φιλανθρωπίαν καὶ ἐλεημοσύνην ἀναβεβλημένον.

5. Parse:

οἷα, καθεῖλόν, ἠδικηκόσι, αὐτούς, χρυσοῦν, ἐλεημοσύνην, ἀναβεβλημένον.

6. Explain (a) the circumstances under which this speech was delivered; (b) the main arguments advanced by the speaker.

III.—HOMER.

7. Translate:

"Κρεί πέπον, τί μοι ὧδε διὰ σπέος ἔσσυο μήλων
ὕστατος; οὔ τι πάρος γε λελειμμένος ἔρχεαι οἰῶν,
ἀλλὰ πολὺ πρῶτος νέμεαι τέρεν ἄνθεα ποίης
μακρὰ βιβάς, πρῶτος δὲ ῥοὰς ποταμῶν ἀφικάνεις,
πρῶτος δὲ σταθμόνδε λιλαίεαι ἀπονέεσθαι
ἑσπέριος· νῦν αὖτε πανύστατος. ἦ σύ γ' ἄνακτος
ὀφθαλμὸν ποθέεις, τὸν ἀνὴρ κακὸς ἐξαλάωσε
σὺν λυγροῖς ἑτάροισι, δαμασσάμενος φρένας οἴνῳ,
Οὖτις, ὃν οὔ πω φημὶ πεφυγμένον εἶναι ὄλεθρον.
εἰ δὴ ὁμοφρονέοις ποτιφωνήεις τε γένοιο
εἰπεῖν ὅππῃ κεῖνος ἐμὸν μένος ἠλασκάζει·
τῷ κέ οἱ ἐγκέφαλός γε διὰ σπέος ἄλλυδις ἄλλῃ
θεινομένου ῥαίοιτο πρὸς οὐδεΐ, κὰδ δέ κ' ἐμὸν κῆρ
λωφήσειε κακῶν, τά μοι οὐτιδανὸς πόρεν Οὖτις."

8. Write (a) explanatory notes on: *ὕστατος, Οὖτις.*
(b) grammatical notes on: *σταθμόνδε, θεινομένου.*

9. Translate:

τὴν δ' ἀπαμειβόμενος προσέφη πολύμητις Ὀδυσσεύς·
Δαιμονίη, τί τ' ἄρ' αὖ με μάλ' ἀτρύνουσα κελεύεις
εἰπέμεν; αὐτὰρ ἐγὼ μυθήσομαι οὐδ' ἐπικεύσω.
οὐ μέν τοι θυμὸς κεχαρήσεται· οὐδὲ γὰρ αὐτὸς
χαίρω, ἐπεὶ μάλα πολλὰ βροτῶν ἐπὶ ἄστε' ἄνωγεν
ἐλθεῖν ἐν χειρεσσιν ἔχοντ' εὐῆρες ἐρετμόν,
εἰς ὅ κε τοὺς ἀφίκωμαι, οἳ οὐκ ἴσασι θάλασσαν
ἀνέρες, οὐδέ θ' ἅλεσσι μεμιγμένον εἶδαρ ἔδουσιν·
οὐδ' ἄρα τοί γ' ἴσασι νέας φοινικοπαρῄους,
οὐδ' εὐήρε' ἐρετμά, τά τε πτερὰ νηυσὶ πέλονται.

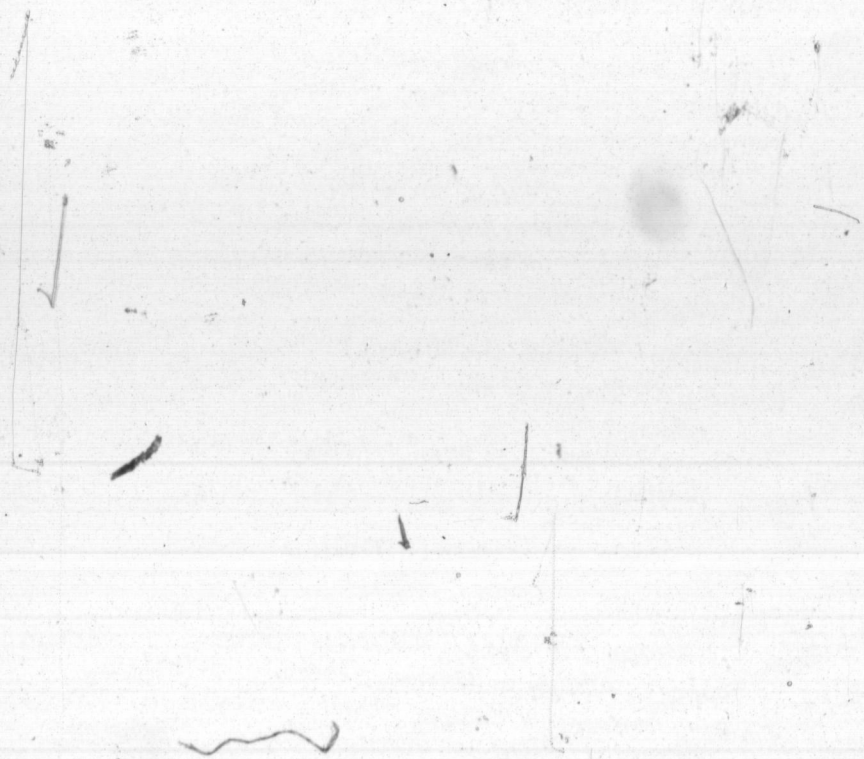
10. (a) *ἄνωγεν.* Who is the subject?
(b) *ἐλθεῖν.* Explain the significance of the journey referred to.
(c) State and criticise briefly Wolf's theory of the composition of the Homeric Poems.

IV.—EURIPIDES.

11. Translate:

λέγεις ἀκοῦσαι μαλθάχ', ἀλλ' εἴσω φρενῶν
ὀρρωδία μοι, μή τι βουλεύσῃς κακόν.
τοσῷδέ γ' ἧσσον ἢ πάρος πέποιθά σοι.
γυνὴ γὰρ ὀξύθυμος, ὡς δ' αὔτως ἀνὴρ,
ῥᾴων φυλάσσειν, ἢ σιωπηλὸς σοφός.
ἀλλ' ἔξιθ' ὡς τάχιστα, μὴ λόγους λέγε·
ὡς ταῦτ' ἄραρε, κοὐκ ἔχεις τέχνην, ὅπως
μενεῖς παρ' ἡμῖν, οὖσα δυσμενὴς ἐμοί.
Μη. μὴ πρὸς σὲ γούνων, τῆς τε νεογάμου κόρης.
Κρ. λόγους ἀναλοῖς· οὐ γάρ ἂν πείσαις ποτέ.
Μη. ἀλλ' ἐξελᾷς με, κοὐδὲν αἰδέσει λιτάς;
Κρ. φίλῳ γάρ οὐ σὲ μᾶλλον ἢ δόμους ἐμούς.
Μη. ὦ πατρίς, ὡς σοῦ κάρτα νῦν μνείαν ἔχω.

12. Write grammatical or explanatory notes on:
ἀκοῦσαι, ῥᾴων, ἄραρε, σέ (line 9), *κόρης, ἐξελᾷς, πατρίς.*



University of Manitoba.

EXAMINATIONS, MAY, 1893.

HONOR CLASSICS.

JUNIOR AND SENIOR B. A.

I. ST. AUGUSTINE.

1. Translate :

Sic tunc eram, et ille sensit; nescio quid enim puto dixeram, in quo adparebat sonus vocis meae iam fletu gravidus; et sic surrexeram. Mansit ergo ille ubi sedebamus nimie stupens. Ego sub quadam fici arbore stravi me, nescio quomodo, et dimisi habenas lacrimis, et proruperunt flumina oculorum meorum, acceptabile sacrificium tuum. Et non quidem his verbis, sed in hac sententia multa dixi tibi: Et tu, Domine, usque quo? Usque quo, Domine, irasceris in finem? Ne memor fueris iniquitatum nostrarum antiquarum. Sentiebam enim eis me teneri. Iactabam voces miserabiles: Quam diu? quam diu? Cras et cras? Quare non modo? quare non hac hora finis turpitudinis meae? Dicebam haec, et flebam amarissima contritione cordis mei. Et ecce audio vocem de vicina domo cum cantu dicentis et crebro repetentis, quasi pueri, an puellae nescio: Tolle, lege; tolle, lege.

2. Write explanatory notes on *sic, ille;* and state how the writer interpreted and obeyed the voice, "*Tolle, lege,*"

II. OVID.

3. Translate :

Præsidio foribus cœli cum mitibus Horis:
It, redit officio Jupiter ipse meo.
Inde vocor Janus. Cui cum Cereale sacerdos
Imponit libum, mixtaque farra sale;
Nomina ridebis: modo namque Patulcius idem,
Et modo sacrifico Clusius ore vocor.
Scilicet alterno voluit rudis illa vetustas
Nomine diversas significare vices.
Vis mea narrata est: causam nunc disce figuræ;
Jam tamen hanc aliqua tu quoque parte vides.
Omnis habet geminas, hinc atque hinc, janua frontes:

E quibus hæc populum spectat, at illa Larem.
Utque sedens vester primi prope limina tecti
Janitor egressus introitusque videt;
Sic ego prospicio cœlestis janitor aulæ
Eoas partes Hesperiasque simul.
Ora vides Hecates in tres vergentia partes,
Servet ut in ternas compita secta vias.
Et mihi, ne flexu cervicis tempora perdam,
Cernere non moto corpore bina licet.

4. Write short notes on: *Inde vocor Janus—Larem—Hecates.*

5. Translate, with brief comment:

Ex uno quidam celebres, aut torquis ademptæ,
Aut corvi titulos auxiliaris habent.
Magne, tuum nomen rerum mensura tuarum est:
Sed qui te vicit, nomine major erat.
Nec gradus est ultra Fabios cognominis ullus;
Illa domus meritis Maxima dicta suis.

III. DEMOSTHENES.

6. Translate:

Πῶς γὰρ οὐεσθ', ἔφην, ὦ ἄνδρες Μεσσήνιοι, δυσχερῶς ἀκούειν Ὀλυνθίους, εἴ τίς τι λέγοι κατὰ Φιλίππου κτλ. ἐκείνους τοὺς χρόνους ὅτ' Ἀνθεμοῦντα μὲν αὐτοῖς ἀφίει, ἧς πάντες οἱ πρότερον Μακεδονίας βασιλεῖς ἀντεποιοῦντο, Ποτίδαιαν δ' ἐδίδου τοὺς Ἀθηναίων ἀποίκους ἐκβαλών, καὶ τὴν μὲν ἔχθραν τὴν πρὸς ὑμᾶς αὐτὸς ἀνῄρητο, τὴν χώραν δ' ἐκείνοις ἐδεδώκει καρποῦσθαι; ἆρα προσδοκῶν αὐτοὺς τοιαῦτα πείσεσθαι, ἢ λέγοντος ἄν τινος πιστεῦσαι οὐέσθε; ἀλλ' ὅμως, ἔφην ἐγώ, μικρὸν χρόνον τὴν ἀλλοτρίαν καρπωσάμενοι πολὺν τῆς ἑαυτῶν ὑπ' ἐκείνου στέρονται, αἰσχρῶς ἐκπεσόντες, οὐ κρατηθέντες μόνον ἀλλὰ καὶ προδοθέντες ὑπ' ἀλλήλων καὶ πραθέντες· οὐ γὰρ ἀσφαλεῖς ταῖς πολιτείαις αἱ πρὸς τοὺς τυράννους αὗται λίαν ὁμιλίαι.

7. Explain the references in:
   (a) *εἴ τίς τι λέγοι κατὰ Φιλίππου*, etc.
   (b) *καὶ τὴν μὲν ἔχθραν τὴν πρὸς ὑμᾶς αὐτὸς ἀνῄρητο.*
   (c) *προδοθέντες ὑπ' ἀλλήλων*, etc.

8. State the circumstances which gave occasion to this Philippic.

9. What were the chief causes of the power of Demosthenes as an orator?

IV. SOPHOCLES, AJAX.

10. Translate:

ΟΔΥΣΣΕΥΣ.

Ἄκουέ νυν. Τὸν ἄνδρα τόνδε πρὸς θεῶν
Μὴ τλῇς ἄθαπτον ὧδ' ἀναλγήτως βαλεῖν·
Μηδ' ἡ βία σε μηδαμῶς νικησάτω
Τοσόνδε μισεῖν ὥστε τὴν δίκην πατεῖν.
Κἀμοὶ γὰρ ἦν ποθ' οὗτος ἔχθιστος στρατοῦ,
Ἐξ οὗ 'κράτησα τῶν Ἀχιλλείων ὅπλων·
Ἀλλ' αὐτὸν ἔμπας ὄντ' ἐγὼ τοιόνδ' ἐμοὶ
Οὐκ ἂν ἀτιμάσαιμ' ἄν, ὥστε μὴ λέγειν
Ἓν' ἀνδρ' ἰδεῖν ἄριστον Ἀργείων, ὅσοι
Τροίαν ἀφικόμεσθα, πλὴν Ἀχιλλέως.
Ὥστ' οὐκ ἂν ἐνδίκως γ' ἀτιμάζοιτό σοι.
Οὐ γάρ τι τοῦτον, ἀλλὰ τοὺς θεῶν νόμους
Φθείροις ἄν. Ἀνδρα δ' οὐ δίκαιον, εἰ θάνοι,
Βλάπτειν τὸν ἐσθλὸν, οὐδ' ἐὰν μισῶν κυρῇς.

ΑΓΑΜΕΜΝΩΝ.

Σὺ ταῦτ', Ὀδυσσεῦ, τοῦδ' ὑπερμαχεῖς ἐμοί;

ΟΔΥΣΣΕΥΣ.

Ἔγωγ'· ἐμίσουν δ', ἡνίκ' ἦν μισεῖν καλόν.

ΑΓΑΜΕΜΝΩΝ.

Οὐ γὰρ θανόντι καὶ προσεμβῆναί σε χρή;

ΟΔΥΣΣΕΥΣ.

Μὴ χαῖρ', Ἀτρειδη, κέρδεσιν τοῖς μὴ καλοῖς.

ΑΓΑΜΕΜΝΩΝ.

Τὸν τοι τύραννον εὐσεβεῖν οὐ ῥᾴδιον.

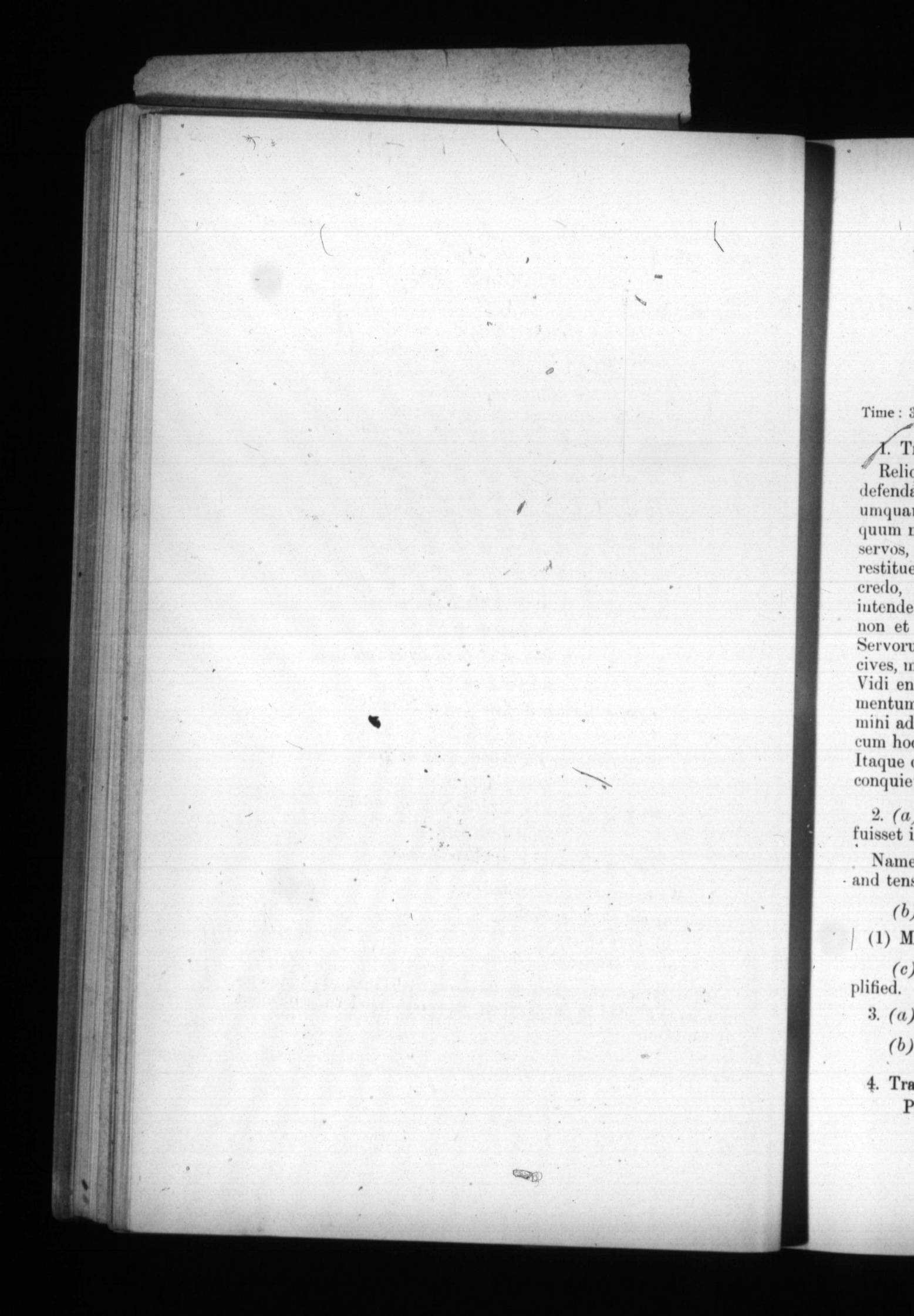
11. Write grammatical notes on:

(a) οὐκ ἂν γ' ἀτιμάσαιμ' ἄν,

(b) ὥστε μὴ λέγειν

(c) ἓν' ἄνδρ' ἰδεῖν ἄριστον.

12. Compare the spirit of Ulysses with that of Agamemnon as exhibited in this extract, and with modern sentiment towards our foes.



University of Manitoba.

EXAMINATIONS, MAY, 1893.

HONOR CLASSICS—SENIOR AND JUNIOR B. A.

Time: 3 hours.

I.

1. Translate:

Reliquum est ut iam illum natura ipsius consuetudoque defendat, hunc autem haec eadem coarguat. 'Nihil per vim umquam Clodius, omnia per vim Milo.' Quid? ego, iudices, quum moerentibus vobis urbe cessi, iudiciumne timui? non servos, non arma, non vim? Quae fuisset igitur iusta causa restituendi mei, nisi fuisset iniusta eiiciendi? Diem mihi, credo, dixerat; multam inrogarat; actionem perduellionis intenderat; et mihi videlicet in causa aut mala aut mea, non et praeclarissima et vestra, iudicium timendum fuit. Servorum et egentium civium et facinorosorum armis meos cives, meis consiliis periculisque servatos, pro me obici nolui. Vidi enim vidi hunc ipsum Q. Hortensium, lumen et ornamentum rei publicae, paene interfici servorum manu, quum mihi adesset: qua in turba C. Vibienus senator, vir optimus, cum hoc quum esset una, ita est mulcatus ut vitam amiserit. Itaque quando illius postea sica illa, quam a Catilina acceperat, conquievit?

—*Cicero.*

2. *(a)* Quae fuisset igitur justa causa restituendi mei, nisi fuisset injusta ejiciendi?

Name the kind of sentence and state the force of the mood and tense employed.

(b) Comment briefly on:

(1) Multam inrogarat. (2) Actionem perduellionis.

(c) Credo: lumen. Names, figures of speech exemplified.

3. *(a)* What does Cicero endeavor to prove?

(b) State his eight arguments.

II.

4. Translate:

Pergite, Pierides. Chromis et Mnasylus in antro

Silenum pueri somno videre jacentem,
Inflatum hesterno venas, ut semper, Iaccho.
Serta procul, tantum capiti delapsa, jacebant;
Et gravis attritâ pendebat cantharus ansâ.
Aggressi (nam sæpe senex spe carminis ambo
Luserat) injiciunt ipsis ex vincula sertis.
Addit se sociam, timidisque supervenit Ægle;
Ægle, Naiadum pulcherrima; jamque videnti
Sanguineis frontem moris et tempora pingit.
Ille dolum ridens, Quo vincula nectitis? inquit:
Solvite me, pueri; satis est potuisse videri.
Carmina, quæ vultis, cognoscite; carmina vobis,
Huic aliud mercedis erit. Simul incipit ipse.
Tum vero in numerum Faunosque ferasque videres
Ludere, tum rigidas motare cacumina quercus;
Nec tantum Phœbo gaudet Parnasia rupes,
Ne tantum Rhodope miratur et Ismarus Orphea.

—*Virgil, Eclogues.*

5. *(a)* Write explanatory notes on:
Pierides, Chromis, Mnasylus, Silenus, tantum (4th verse).

(b) Give an account of the subject of this Eclogue.

III.

6. Translate:

Pater ipse colendi
Haud facilem esse viam voluit; primusque per artem
Movit agros, curis acuens mortalia corda,
Nec torpere gravi passus sua regna veterno.
Ante Jovem nulli subigebant arva coloni:
Ne signare quidem aut partiri limite campum
Fas erat: in medium quærebant; ipsaque tellus
Omnia liberius, nullo poscente, ferebat.
Ille malum virus serpentibus addidit atris,
Prædarique lupos jussit, pontumque moveri;
Mellaque decussit foliis, ignemque removit,
Et passim rivis currentia vina repressit:
Ut varias usus meditando extunderet artes
Paullatim, et sulcis frumenti quæreret herbam;
Ut silicis venis abstrusum excuderet ignem.

—*Virgil, Georgics.*

7. *(a)* Write explanatory notes on:
Pater ipse colendi; Ante Jovem; nullo poscente.

(b) Scan the last verse, and give rules for the quantity of the final syllables in the verse.

IV.

8. Translate:

Tristia mæstum
Vultum verba decent, iratum plena minarum,
Ludentem lasciva, severum seria dictu.
Format enim natura prius nos intus ad omnem
Fortunarum habitum; juvat aut impellit ad iram
Aut ad humum mærore gravi deducit et angit;
Post effert animi motus interprete lingua.
Si dicentis erunt fortunis absona dicta,
Romani tollent equites peditesque cachinnum.
Intererit multum divusne loquator an heros,
Maturusne senex an adhuc florente juventa
Fervidus, et matrona potens an sedula nutrix,
Mercatorne vagus cultorne virentis agelli,
Colchus an Assyrius, Thebis nutritus an Argis.

—*Horace.*

Equites peditesque, Thebis nutritus an Argis. Explain.

V.

9. Translate:

Tendimus hinc recta Beneventum, ubi sedulus hospes
Pæne macros arsit dum turdos versat in igni;
Nam vaga per veterem dilapso flamma culinam
Vulcano summum properabat lambere tectum.
Convivas avidos cœnam servosque timentes
Tum rapere atque omnes restinguere velle videres.
Incipit ex illo montes Apulia notos
Ostentare mihi, quos torret Atabulus, et quos
Nunquam erepsemus, nisi nos vicina Trivici
Villa recepisset, lacrimoso non sine fumo,
Udos cum foliis ramos urente camino

—*Horace.*

10. *(a)* Comment briefly on:
"Macros turdos," "montes notos," "erepsemus."

(b) What was the object of this journey?
Who were Horace's travelling companions?

University of Manitoba.

EXAMINATIONS MAY, 1893.

HONOR CLASSICS—SENIOR B. A.

I.—PLAUTUS.

1. Translate :

EU. uolui ànimum tandem confirmare hodié meum,
ut béne me haberem filiai nùptiis.
uenio àd macellum, rogito piscis : indicant
caros – agninam càram—caram bùbulam—
uitulinam cetum porcinam, cara omnia.
atque éo fuerunt càriora—aes non erat.
abeo iratus illinc quoniam nihil est qui emam.
ita illis inpuris omnibus adii manum.
deinde égomet mecum cogitare intér uias
occépi 'festo die si quid prodégeris,
profésto egere liceat, nisi pepérceris.'
postquam hànc rationem uéntri cordique édidi,
accéssit animus àd meam senténtiam,
quam minumo sumptu filiam ut nuptum darem.
nunc tusculum emi hoc èt coronas floreas :
haec inponentur in foco nostro Lari,
ut fortunatas fàciat gnatae nuptias.
sed quid ego apertas aédis nostras conspicor ?
et strépitust intus. numnam ego conpilor miser ?
CO. aulàm maiorem, si potes, uiciniâ
pete : haéc est parua, càpere non quit.
EU. ei mihi
*dis*périi hercle. aurum ràpitur, aula quaéritur.

2. (*a*) Write brief notes on bubulam, adii manum, accessit ad meam sententiam, nuptum, Lari. (*b*) "aulam majorem pete. aula quæritur"—explain Euclio's mistake.

II.—TERENCE.

3. Translate :

(*a*) SI. Omnes, qui amant, grauiter sibi dari uxorem ferunt.
DA. Ita aiunt. SI. Tum siquis magistrum cepit ad eam rem improbum,

Ipsum animum ægrotum ad deteriorem partem plerumque adplicat.

DA. Non hercle intellego. SI. Non? HEM. DA. Non: Dauos sum, non Œdipus.

SI. Nempe ergo aperte uis quæ restant me loqui? DA. Sane quidem.

SI. Si sensero hodie quicquam in his te nuptiis
Fallaciæ conari, quo fiant minus,
Aut uelle in ea re ostendi, quam sis callidus,
Verberibus cæsum te in pistrinum, Daue, dedam usque ad necem,
Ea lege atque omine, ut, si te inde exemerim, ego pro te molam.
Quid, hoc intellextin? An non dum etiam ne hoc quidem? DA. Immo callide:
Ita aperte ipsam rem modo locutus, nil circumitione usus es.
SI. Vbiuis facilius passus sim quam in hac re me deludier.

(*b*) CH. Andrium ego Critonem uideo? Certe is est CR. Saluos sis, Chreme.

CH. Quid tu Athenas insolens? CR. Euenit. Sed hicinest Simo?

CH. Hic. SI. Men quæris? Eho tu, Glycerium hinc ciuem esse ais?

CR. Tu negas? SI. Itane huc paratus aduenis? CR. Qua de re? SI. Rogas?
Tune impune hæc facias? Tune hic homines adulescentulos
Imperitos rerum, eductos libere, in fraudem inlicis?
Sollicitando et pollicitando eorum animos lactas? CR. Sanun es?

SI. Ac meretricios amores nuptiis conglutinas?

PA. Perii: metuo ut substet hospes. CH. Si, Simo, hunc noris satis,
Non ita arbitrere: bonus est hic uir. SI. Hic uir sit bonus?
Itane attemperate uenit, hodie in ipsis nuptiis
Vt ueniret, antehac numquam? Est uero huic credundum, Chreme.

PA. Ni metuam patrem, habeo pro illa re illum quod moneam probe.

SI. Sycophanta CR. Hem. CH. Sic, Crito, est hic: mitte. CR. Videat qui siet.

4. Comment in (*a*) on *Dauos sum, non Œdipus*, and *pistrinum*, in (*b*) on *Critonem* and *Sycophanta*.

5. i. Compare Plautus and Terence as humorists.
ii. In what relation did they stand to Greek Comedy?
iii. Give a brief life of Terence.

III.—TERTULLIAN.

6. Translate:

"O quanta illius, si eruisset aliquem, qui centum iam infantes comedisset! Atquin invenimus inquisitionem quoque in nos prohibitam. Plinius enim Secundus cum provinciam regeret, damnatis quibusdam gradu pulsis, ipsa tamen multitudine perturbatus, quid de cetero ageret, consuluit tunc Traianum imperatorem, adlegans praeter obstinationem non sacrificandi nihil aliud se de sacramentis eorum conperisse quam coetus antelucanos ad canendum Christo et deo et ad confoederandam disciplinam, homicidium, adulterium fraudem, perfidiam et cetera scelera prohibentes. Tunc Traianus rescripsit hoc genus inquirendos quidem non esse, oblatos vero puniri oportere. O sententiam necessitate confusam! Negat inquirendos ut innocentes, et mandat puniendos ut nocentes. Parcit et saevit, dissimulat et animadvertit. Quid temetipsam censura circumvenis? si damnas cur non et inquiris? si non inquiris, cur non et absolvis?

7. Show how Tertullian demonstrates *(a)* the injustice with which Christians were treated as compared with criminals, and *(b)* the blind prejudice against *the name "Christian."*

IV.—TACITUS.

8. Translate:

Nuntiata ea Tiberium lætitia curaque adfecere. Gaudebat oppressam seditionem: sed quod largiendis pecuniis et missione festinata favorem militum quæsivisset, bellica quoque Germanici gloria angebatur. Rettulit tamen ad senatum de rebus gestis, multaque de virtute ejus memoravit, magis in speciem verbis adornata quam ut penitus sentire crederetur. Paucioribus Drusum et finem Illyrici motus laudavit, sed intentior et fida oratione. Cunctaque quæ Germanicus indulserat, servavit etiam apud Pannonicos exercitus.

Eodem anno Julia supremum diem obiit, ob impudicitiam olim a patre Augusto Pandateria insula, mox oppido Rheginorum, qui Siculum fretum accolunt, clausa. Fuerat in matrimonio Tiberii florentibus Caio et Lucio Cæsaribus, spreveratque ut imparem; nec alia tam intima Tiberio causa cur Rhodum abscederet. Imperium adeptus extorrem, infamem, et, post interfectum Agrippam, omnis spei egenom, inopia ac tabe longa peremit, obscuram fore necem longinquitate exilii ratus.

9. Write explanatory notes on *Pannonicos, quæ Germanicus indulserat, longinquitate.*

10. What prominent features of the character of Tiberius as represented by Tacitus are illustrated by this extract?

University of Manitoba.

EXAMINATIONS. MAY, 1893.

HONOR CLASSICS—SENIOR B.A.

ARISTOTLE, ETC.

1. Translate:

τὸ γὰρ ἀγαθὸν καὶ τὴν εὐδαιμονίαν οὐκ ἀλόγως ἐοικασιν ἐκ τῶν βίων ὑπολαμβάνειν. Οἱ μὲν πολλοὶ καὶ φορτικώτατοι, τὴν ἡδονήν· διὸ καὶ τὸν βίον ἀγαπῶσι τὸν ἀπολαυστικόν. (τρεῖς γάρ εἰσι μάλιστα οἱ προέχοντες, ὅ, τε νῦν εἰρημένος, καὶ ὁ πολιτικὸς, καὶ τρίτος ὁ θεωρητικός.) Οἱ μὲν οὖν πολλοὶ παντελῶς ἀνδραποδωδεις φαίνονται, βοσκημάτων βίον προαιρούμενοι· τυγχάνουσι δὲ λόγου, διὰ τὸ πολλοὺς τῶν ἐν ταῖς ἐξουσίαις ὁμοιοπαθεῖν Σαρδαναπάλῳ. Οἱ δὲ χαριέντες καὶ πρακτικοὶ τιμήν· τοῦ γὰρ πολιτικοῦ βίου σχεδὸν τοῦτο τὸ τέλος. Φαίνεται δὲ ἐπιπολαιότερον εἶναι τοῦ ζητουμένου· δοκεῖ γὰρ ἐν τοῖς τιμῶσι μᾶλλον εἶναι ἢ ἐν τῷ τιμωμένῳ· τἀγαθὸν δὲ οἰκεῖόν τι καὶ δύσαφαίρετον εἶναι μαντεύόμεθα. Ἔτι δὲ ἐοίκασι τὴν τιμὴν διώκειν, ἵνα πιστεύωσιν ἑαυτοὺς ἀγαθοὺς εἶναι. Ζητοῦσι γοῦν ὑπὸ τῶν φρονίμων τιμᾶσθαι, καὶ παρ' οἷς γιγνώσκονται, καὶ ἐπ' ἀρετῇ· δῆλον οὖν ὅτι κατά γε τούτους ἡ ἀρετὴ κρείττων.

2. τρεῖς γάρ εἰσι, etc. State these three main theories about happiness, and show that they are typical and progressive views of the nature of happiness.

3. Who was Sardanapalus, and why is he here mentioned?

4. Define: τέλος, ἀρετή, ψυχή, βίος, as used by Aristotle.

5. Translate:

XO. ἰὼ ἰώ,
ἔπαγ', ἔπιθ', ἐπίφερε πολέμιον
ὁρμὰν φονίαν, πτέρυγά τε παντᾶ
περίβαλε περί τε κύκλωσαι·
ὡς δεῖ τῶδ' οἰμώζειν ἄμφω
καὶ δοῦναι ῥύγχει φορβάν.
οὔτε γὰρ ὄρος σκιερὸν οὔτε νέφος αἰθέριον

οὔτε πολιὸν πέλαγος ἔστιν ὅ τι δέξεται
τώδ' ἀποφυγόντε με.
ἀλλὰ μὴ μέλλωμεν ἤδη τώδε τίλλειν καὶ δάκνειν.
ποῦ 'σθ' ὁ ταξίαρχος; ἐπαγέτω τὸ δεξιὸν κέρας.
ΕΥ. τοῦτ' ἐκεῖνο· ποῖ φύγω δύστηνος;
ΠΕ. οὗτος, οὐ μενεῖς:
ΕΥ. ἵν' ὑπὸ τούτων διαφορηθῶ;
ΠΕ. πῶς γὰρ ἂν τούτους δοκεῖς
ἐκφυγεῖν; ΕΥ. οὐκ οἶδ' ὅπως ἄν.
ΠΕ. ἀλλ' ἐγώ τοί σοι λέγω
ὅτι μένοντε δεῖ μάχεσθαι λαμβάνειν τε τῶν χυτρῶν.
ΕΥ. τί δὲ χύτρα νώ γ' ὠφελήσει;
ΠΕ. γλαῦξ μὲν οὐ πρόσεισι νῷν.
ΕΥ. τοῖς δὲ γαμψώνυξι τοισδί;
ΠΕ. τὸν ὀβελίσκον ἁρπάσας
εἶτα κατάπηξον πρὸ σαυτοῦ.
ΕΥ. τοῖσι δ' ὀφθαλμοῖσι τι;
ΠΕ. ὀξύβαφον ἐντευθενὶ πρόσθου λαβὼν ἢ τρύβλιον.
ΕΥ. ὦ σοφώτατ', εὖ γ' ἀνεῦρες αὐτὸ καὶ στρατηγικῶς·
ὑπερακοντίζεις σύ γ' ἤδη Νικίαν ταῖς μηχαναῖς.

6. Comment on the force of the change of tense in the infinitives ὀνεμώζειν and δοῦναι.

7. ταξίαρχος. Write a short note on the military system of the Athenians.

8. Νικίαν ταῖς μηχαναῖς. Explain the reference.

9. Translate:

ΘΥΡΣΙΣ.

ἄρχετε βωκολικᾶς, Μῶσαι φίλαι, ἄρχετ' ἀοιδᾶς.
Θύρσις ὅδ' ὢξ Αἴτνας, καὶ Θύρσιδος ἅδ' ἁ φωνά.
πᾷ ποκ' ἆρ' ἦθ', ὅκα Δάφνις ἐτάκετο, πᾷ ποκα, Νύμφαι;
ἢ κατὰ Πηνειῶ καλὰ πέμπεα, ἢ κατὰ Πίνδω;
οὐ γὰρ δὴ παταμῶ γε μέγαν ῥόον εἴχετ' Ἀνάπω,
οὐδ' Αἴτνας σκοπιάν, οὐδ' Ἀκιδος ἱερὸν ὕδωρ.
ἄρχετε βωκολικᾶς, Μῶσαι φίλαι, ἄρχετ' ἀοιδᾶς.
τᾶνον μὰν θῶες, τᾶνον λύκοι ὠρύσαντο,
τᾶνον χὠ δρυμοῖα λέων ἀνέκλαυσε θανοντα.
ἄρχετε βωκολικᾶς, Μῶσαι φίλαι, ἄρχετ' ἀοιδᾶς.
πολλαὶ οἱ πὰρ ποσσὶ βόες, πολλοὶ δέ τε ταῦροι,
πολλαὶ δ' αὖ δαμάλαι καὶ πόρτιες ὠδύραντο.
ἄρχετε βωκολικᾶς, Μῶσαι φίλαι, ἄρχετ' ἀοιδᾶς.
ἦνθ' Ἑρμᾶς πράτιστος ἀπ' ὤρεος, εἶπε δά· Δάφνι,
τίς τυ κατατρύχει; τίνος, ὦ 'γαθέ, τόσσον ἔρασσαι;
ἄρχετε βωκολικᾶς, Μῶσαι φίλαι, ἄρχετ' ἀοιδας.

ἦτθον τοὶ βῶται, τοὶ ποιμένες ὡπόλοι ἦνθον,
πάντες ἀνηρώτευν, τί πάθοι κακόν. ἦνθ' ὁ Πρίηπος
κἤφα, Δάφνι τάλαν, τί τὺ τάκεαι; ἃ δέ τε κώρα
πᾶσας ἀνὰ κράνας, πάντ' ἄλσεα ποσσὶ φορεῖται,—
ἄρχετε βωκολικᾶς, Μῶσαι φίλαι, ἄρχετ' ἀοιδᾶς,—
ζατεῦσ' · ἃ δύσερώς τις ἄγαν καὶ ἀμάχανός ἐσσι.

10. Give a brief account of the subject of this Idyll. What poets have imitated this extract?

11. Where, when and how is bucolic poetry said to have had its origin?

12. Give the Attic forms corresponding to the Doric in the first six lines.

13. Scan the first three lines of this extract.

University of Manitoba.

EXAMINATIONS MAY, 1893.

HONOR CLASSICS—SENIOR B.A.

UNSPECIFIED GREEK AUTHORS.

1. Translate:

Ὣς ἔφαθ' · οἱ δ' ἄρα πάντες ἐπῄνησαν βασιλῆες.
Τρώων αὖτ' ἀγορὴ γένετ' Ἰλίου ἐν πόλει ἄχρῃ,
Δεινὴ, τετρηχυῖα, παρὰ Πριάμοιο θύρῃσι ·
Τοῖσιν δ' Ἀντήνωρ πεπνυμένος ἦρχ' ἀγορεύειν ·
Κέκλυτέ μευ, Τρῶες, καὶ Δάρδανοι, ἠδ' ἐπίκουροι,
Ὄφρ' εἴπω τά με θυμὸς ἐνὶ στήθεσσι κελεύει.
Δεῦτ' ἄγετ', Ἀργείην καὶ κτήματ' ἂμ' αὐτῇ
Δώομεν Ἀτρεΐδῃσιν ἄγειν · νῦν δ' ὅρκια πιστὰ
Ψευσάμενοι μαχόμεσθα · τῷ οὐ νύ τι κέρδιον ἡμῖν
Ἔλπομαι ἐκτελέεσθαι, ἵνα μὴ ῥέξομεν ὧδε.
Ἦ τοι ὅγ' ὣς εἰπὼν κατ' ἄρ' ἕζετο · τοῖσι δ' ἀνέστη
Δῖος Ἀλέξανδρος, Ἑλένης πόσις ἠϋκόμοιο ·
Ὅς μιν ἀμειβόμενος ἔπεα πτερόεντα προσηύδα ·
Ἀντῆνορ, σὺ μὲν οὐκ ἔτ' ἐμοὶ φίλα ταῦτ' ἀγορεύεις ·
Οἶσθα καὶ ἄλλον μῦθον ἀμείνονα τοῦδε νοῆσαι ·
Εἰ δ' ἐτεὸν δὴ τοῦτον ἀπὸ σπουδῆς ἀγορεύεις,
Ἦ ἄρα δή τοι ἔπειτα θεοὶ φρένας ὤλεσαν αὐτοί.
Αὐτὰρ ἐγὼ Τρώεσσι μεθ' ἱπποδάμοις ἀγορεύσω ·
Ἀντικρὺ δ' ἀπόφημι, γυναῖκα μὲν οὐκ ἀποδώσω ·
Κτήματα δ', ὅσσ' ἀγόμην ἐξ Ἄργεος ἡμέτερον δῶ,
Πάντ' ἐθέλω δόμεναι, καὶ ἔτ' οἴκοθεν ἄλλ' ἐπιθεῖναι.

2. Translate:

Ἆρ' οὖν ἄν με οἴεσθε τοσάδε ἔτη διαγενέσθαι, εἰ ἔπραττον τὰ δημόσια, καὶ πράττων ἀξίως ἀνδρὸς ἀγαθοῦ ἐβοήθουν τοῖς δικαίοις καὶ, ὥσπερ χρή, τοῦτο περὶ πλείστου ἐποιούμην; πολλοῦ γε δεῖ, ὦ ἄνδρες Ἀθηναῖοι. οὐδὲ γὰρ ἂν ἄλλος ἀνθρώπων οὐδείς. ἀλλ' ἐγὼ διὰ παντὸς τοῦ βίου δημοσίᾳ τε εἴ πού τι ἔπραξα, τοιοῦτος φανοῦμαι, καὶ ἰδίᾳ ὁ αὐτὸς οὗτος, οὐδενὶ πώποτε ξυγχωρήσας οὐδὲν παρὰ τὸ δίκαιον οὔτε τούτων οὐδενί, οὓς οἱ διαβάλλοντές μέ φασιν

ἐμοὺς μαθητὰς εἶναι. ἐγὼ δὲ διδάσκαλος μὲν οὐδενὸς πώποτ' ἐγενόμην· εἰ δέ τίς μου λέγοντος καὶ τὰ ἑαυτοῦ πράττοντος ἐπιθυμεῖ ἀκούειν, εἴτε νεώτερος εἴτε πρεσβύτερος, οὐδενὶ πώποτε ἐφθόνησα. οὐδὲ χρήματα μὲν λαμβάνων διαλέγομαι, μὴ λαμβάνων δ' οὔ, ἀλλ' ὁμοίως καὶ πλουσίῳ καὶ πένητι παρέχω ἐμαυτὸν ἐρωτᾶν, καὶ ἐάν τις βούληται ἀποκρινόμενος ἀκούειν ὧν ἂν λέγω. καὶ τούτων ἐγώ, εἴτε τις χρηστὸς γίγνεται εἴτε μή, οὐκ ἂν δικαίως τὴν αἰτίαν ὑπέχοιμι, ὧν μήτε ὑπεσχόμην μηδενὶ μηδὲν πώποτε μάθημα μήτε ἐδιδαξα. εἰ δέ τίς φησι παρ' ἐμοῦ πώποτέ τι μαθεῖν ἢ ἀκοῦσαι ἰδίᾳ ὅ τι μὴ καὶ οἱ ἄλλοι πάντες, εὖ ἴστε ὅτι οὐκ ἀληθῆ λέγει.

3. Translate :

Ὁ δὲ Ξενοφῶν εἶπεν. Ἐθέλοιτε δ' ἂν τούτοις, ὦ Μηδόσαδες, ἐπιτρέψαι, (ἐπειδὴ φίλους ἔφατε εἶναι ὑμῖν,) ἐν ὧν τῇ χώρᾳ ἐσμέν, ὁπότερα ἂν ψηφίσωνται, εἴθ' ὑμᾶς προσῆκεν ἐκ τῆς χώρας ἀπιέναι, εἴτε ἡμᾶς; Ὁ δὲ ταῦτα μὲν οὐκ ἔφη· ἐκέλευε δὲ μάλιστα μὲν αὐτὼ τὼ Λάκωνε ἐλθεῖν παρὰ Σεύθην περὶ τοῦ μισθοῦ, καὶ οἴεσθαι ἂν Σεύθην πεῖσαι· εἰ δὲ μή, Ξενοφῶντα σὺν αὐτῷ πέμπειν, καὶ συμπράξειν ὑπισχνεῖτο. Ἐδεῖτο δὲ τὰς κώμας μὴ καίειν.

Ἐντεῦθεν πέμπουσι Ξενοφῶντα, καὶ σὺν αὐτῷ οἱ ἐδόκουν ἐπιτηδειότατοι εἶναι. Ὁ δὲ ἐλθὼν λέγει πρὸς Σεύθην· Οὐδὲν ἀπαιτήσων, ὦ Σεύθη, πάρειμι, ἀλλὰ διδάξων, ἢν δύνωμαι, ὡς οὐ δικαίως μοι ᾠχθέσθης, ὅτι ὑπὲρ τῶν στρατιωτῶν ἀπῄτουν σε προθύμως ἃ ὑπέσχου αὐτοῖς· σοὶ γὰρ ἔγωγε οὐχ ἧττον ἐνόμιζον συμφέρον εἶναι ἀποδοῦναι, ἢ ἐκείνοις ἀπολαβεῖν. Πρῶτον μὲν γὰρ οἶδα μετὰ τοὺς θεοὺς εἰς τὸ φανερὸν σε τούτους καταστήσαντας, ἐπεί γε βασιλέα σε ἐποίησαν πολλῆς χώρας καὶ πολλῶν ἀνθρώπων· ὥστε οὐχ οἷόν τέ σοι λανθάνειν, οὔτε ἤν τι καλόν, οὔτε ἤν τί αἰσχρὸν ποιήσῃς. Τοιούτῳ δὲ ὄντι ἀνδρὶ μέγα μέν μοι ἐδόκει εἶναι μὴ δοκεῖν ἀχαρίστως ἀποπέμψασθαι ἄνδρας εὐεργέτας, μέγα δέ, εὖ ἀκούειν ὑπὸ ἑξακισχιλίων ἀνθρώπων· τὸ δὲ μέγιστον, μηδαμῶς ἄπιστον σαυτὸν καταστῆσαι, ὅ τι λέγοις.

University of Manitoba.

EXAMINATIONS. MAY, 1893.

CLASSICAL HONORS—SENIOR B. A.

UNSPECIFIED LATIN AUTHORS.

Time—Three hours.

Translate:

(a) In Cumano nuper quum mecum Atticus noster esset, nunciatum est nobis a M. Varrone, venisse eum Roma pridie vesperi et, nisi de via fessus esset, continuo ad nos venturum fuisse. Quod quum audissemus, nullam moram interponendam putavimus quin videremus hominem nobiscum et studiis eisdem et vetustate amicitiae coniunctum. Itaque confestim ad eum ire perreximus, paullumque quum ab eius villa abessemus, ipsum ad nos venientem vidimus: atque illum complexi, ut mos amicorum est, satis eum longo intervallo ad suam villam reduximus. Hic pauca primo, atque ea percontantibus nobis, ecquid forte Roma novi, Atticus: Omitte ista, quae nec percontari nec audire sine molestia possumus, quaeso, inquit, et quaere potius ecquid ipse novi. Silent enim diutius Musae Varronis quam solebant, nec tamen istum cessare, sed celare quae scribat existimo. Minime vero, inquit ille: intemperantis enim arbitror esse scribere quod occultari velit: sed habeo opus magnum in manibus, quia iam pridem ad hunc ipsum—me autem dicebat—quaedam institui, quae et sunt magna sane et limantur a me politius. Et ego: Ista quidem, inquam, Varro, iam diu exspectans, non audeo tamen flagitare: audivi enim e Libone nostro, cuius nosti studium—nihil enim eius modi celare possumus—, non te ea intermittere, sed accuratius tractare nec de manibus umquam deponere.

(b) Bella per Emathios plus quam civilia campos
Jusque datum sceleri canimus, populumque potentem
In sua victrici conversum viscera dextra,
Cognatasque acies, et rupto fœdere regni,
Certatum totis concussi viribus orbis
In commune nefas, infestisque obvia signis
Signa, pares aquilas, et pila minantia pilis.
Quis furor, o cives, quæ tanta licentia ferri,
Gentibus invisis Latium præbere cruorem?

Quumque superba foret Babylon spolianda tropæis
Ausoniis, umbraque erraret Crassus inulta,
Bella geri placuit nullos habitura triumphos?
Heu quantum terræ potuit pelagique parari
Hoc, quem civiles hauserunt, sanguine, dextræ,
Unde venit Titan, et nox ubi sidera condit,
Quaque dies medius flagrantibus æstuat horis,
Et qua bruma rigens, ac nescia vere remitti,
Adstringit Scythico glacialem frigore pontum!
Sub juga jam Seres, jam barbarus isset Araxes,
Et gens si qua jacet nascenti conscia Nilo.
Tunc, si tantus amor belli tibi, Roma, nefandi,
Totum sub Latias leges quum miseris orbem,
In te verte manus: nondum tibi defuit hostis.

(c) Tum Sp. Maelius ex equestri ordine, ut illis temporibus praedives, rem utilem pessimo exemplo, peiore consilio est adgressus. frumento namque ex Etruria privata pecunia per hospitum clientiumque ministeria coempto, quae, credo, ipsa res ad levandam publica cura annonam impedimento fuerat, largitiones frumenti facere instituit, plebemque hoc munere delenitam, quacumque incederet, conspectus elatusque supra modum hominis privati secum trahere, haud dubium consulatum favore ac spe despondentem. ipse, ut est humanus animus insatiabilis eo quod fortuna spondet, ad altiora et non concessa tendere et, quoniam consulatus quoque eripiendus invitis patribus esset, de regno agitare: id unum dignum tanto apparatu consiliorum et certaminum, quod ingens exsudandum esset, praemium fore. Iam comitia consularia instabant; quae res eum necdum compositis maturisve satis consiliis oppressit. consul sextum creatus T. Quinctius Capitolinus, minime opportunus vir novanti res; collega additur ei Agrippa Menenius, cui Lanato erat cognomen.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

HONOR CLASSICS.

LATIN GRAMMAR AND PROSE.

1. Classify nouns of the 3rd Declension on the basis of the stem ending. Give a complete list of all nouns included in the class of "i" stems.

2. (a) State fully the rules for gender of the 2nd and 4th Declensions, noting fully the exceptions. (b) Decline the following words, giving the gender of those italicised and the reason for putting them in that gender: *os, ver,* frugis, ancile, frenum, lues, *vas.*

3. (a) Compare: "inops," vafer," "opimus," "satis," "parum."

(b) Name the distributives from one to ten inclusive. State the uses of the distributives; giving illustrations.

4. (a) Write out the personal endings for the present subjunctive, active and passive, also for the imperative mood, active and passive, and show by the aid of these how to form the above named parts of any verb in any one of the four conjugations.

(b) Give the second person, singular, future, indicative of volo, fero. inquam, eo.

5. State fully when the subjunctive is used in the following: (a) Independent sentences; (b) conditional sentences; clauses introduced by relative "qui."

6. What constructions follow "opus est," "consulo," "piget," "interest"?

7. Translate into Latin prose:

During those days there were many movements and many attacks made on one side and the other, because, the enemy having the superiority in numbers, endeavored to weaken by numerous attacks, the strength of the Romans, as not likely to be sufficient for resistance everywhere. At the same time the camp was attacked and a detachment was also sent to lay

waste the Roman lands, and if any favorable opportunity offered to make an attempt on the city itself. Varius was left for the defence of the city. The consul was sent to repel the depredations of the frontier. No attention or labor was omitted on the part of either.

Watches were stationed in the city, outposts before the gates, and guards along the walls; and, as was necessary in so great an alarm, a suspension of civil business was observed for some days. In the meantime, at the camp, the consul, Furius, though at first he quietly endured the siege, burst out through the *Decuman* gate on the unguarded enemy, and though he might have pursued them, he stopped short, through fear lest any attack might be made on the camp from the opposite side.

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EXAMINATIONS, MAY, 1893.

CLASSICAL HONORS —JUNIOR B.A.

GREEK GRAMMAR AND PROSE.

1. (a) Define and illustrate Elison, Crasis, Hiatus, Contraction, Enclitic, Proclitic.

(b) State fully the rules governing contraction, noting carefully the exceptions to the rules.

2. (a) Give all the rules governing the formation of the Vocative case of the 3rd declension.

(b) Decline fully: *λαγώς, θυγάτηρ ναῦς, αἰδώς, μεγα.*

3. (a) State fully the rules governing the formation of the future and 1 Aorist Active of liquid stems, also when these stems are compounded with a preposition.

(b) Explain how to form the following parts of the verb: Perfect middle; 1 Aorist middle and passive; 2 Aorist middle and passive; Perfect Active; and write out the Perfect Active first per. of the following verbs, naming two others which form their perfects in the same manner as each of these: *λαγχανω, ἐσθιω, ἵημι.*

4. (a) Given the simple stem of a "*μι*" verb: Explain how the present, imperfect, and 2 Aorist Indic. would be formed in full. Illustrate.

(b) Write out the present Infin., Pres. Imper. of *φημι*, and Pres. Imperat. middle of *ἵημι.*

5. Explain fully the cases of the underlined words:

(1) *το ναυτικὶν τέχνης ἐστιν.*

(2) *καλος ἦν το σῶμα.*

(3) *ἐκδύει ἐμὲ ἐσθῆτυ.*

(4) *τῷ ἤδη δύω γενεὰι ἐφθίατο* (Homer).

(5) *ἐπιλέσονται ὧν ἔπαθον.*

6. Write note on the use of the Optative mood, stating when used in principal sentences and when used in dependent clauses.

7. Translate into Greek prose:

As, then, I said at the beginning of my discourse, we shall speak confidently to you; for each of us has many gallant deeds to relate to our young friends concerning his own father, both what they did in war and what they did in peace, whilst managing the affairs of the allies and of this city; but neither of us can relate such deeds of ourselves. On this account we feel shame before these, and blame our fathers for having allowed us to live delicately when we grew up, and for having busied themselves with the affairs of others, and these very facts we point out to these youths, saying that if they neglect themselves and do not obey us they will grow up inglorious. But if they pay attention to this, they might perhaps become worthy of the names which they bear.

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EXAMINATIONS MAY, 1893.

CLASSICAL HONORS—SENIOR B.A.

GREEK AND ROMAN HISTORY.

Three hours.

You are requested to answer only four questions in each division.

I. GREEK HISTORY.

1. State the chief causes, immediate and remote, of the Peloponnesian War.

2. Make a comparison between Athens and Sparta, at the outbreak of the Peloponnesian War regarding:

(a) Their own resources;
(b) Their allies;
(c) Their plans for the conduct of the war;
(d) Their political constitution;
(e) Their national character.

3 Write brief character sketches of:

(a) Pericles, (b) Brasidas, (c) Cleon, (d) Alcibiades.

4. Write short notes on:

(a) The fall of Amphipolis;
(b) The peace of Nicias;
(c) The capture of Melos.

5. Describe the part taken in the Sicilian War by Sparta. Compare the relative positions of Athens and Sparta at the end of that war.

6. Describe the part taken towards the end of the Peloponnesian War by—

(a) Pisander, (b) Theramenes, (c) Lysander, (d) Callicratidas, (e) Conon.

II. ROMAN HISTORY.

1. State the legislative measures proposed by Caiuis Gracchus, and point out the evils they were intended to remedy.

2. Write a short life of Sulla, adding a critical account of his legislation.

3. (a) Give some account of the military career of Sertorius and Lucullus.

(b) Under what circumstances did the following come by their end: Scipio Æmilianus, Cato Uticensis, Brutus ("the liberator").

4. (a) Who composed the First and Second Triumvirates?

(b) Define clearly the position and powers comprehended by the term "triumvirate."

(c) What was the fate of the members of the First Triumvirate?

5. (a) "As a *statesman* Cicero failed." Examine this statement, explaining the grounds on which it rests.

(b) Shew clearly in what character he was not "a failure."

6. "*The principle of Octavius' policy was to rise to universal power by slow and stealthy steps, to spare the forms of the ancient constitution and to renounce the external trappings of sovereignty.*"—Merivale.

Demonstrate this in detail.

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EXAMINATIONS. MAY, 1893.

CLASSICAL HONORS—JUNIOR B.A.

GREEK AND ROMAN HISTORY.

Three hours.

You are requested to answer only four questions in each division.

I. GREEK HISTORY.

1. (a) Describe briefly the political and social condition of the Greeks in the heroic age.

(b) What common ties bound the various Greek communities together from the eighth century?

2. Sketch the origin, progress, and issue of the Persian wars, giving the dates of the principal engagements.

3. Write short notes on:

(a) The confederacy of Delos and the rise of the Athenian Empire.

(b) The mutilation of the Hermæ and its effect on the Sicilian expedition.

4. Compare briefly the characters of and the patriotism evinced by Themistocles, Nicias, and Demosthenes (the orator).

5. What were the dates, causes and consequences of the following battles: *Arginusæ, Ægospotami, Cunaxa, Leuctra.*

6. Describe the rise and development of Athenian Tragedy. Compare its principal writers.

II.—ROMAN HISTORY.

1. Describe the reform in the Roman constitution made by Servius Tullius.

2. Describe, with dates, the three Secessions of the Plebeians, giving respectively their causes and the privileges which they helped to secure.

3. Enumerate, with dates, the battles of the Second Punic War, giving the names of the Roman generals and the result of each engagement.

4. Write brief biographical notes on: *(a)* Cato the Censor, *(b)* Caius Gracchus, *(c)* Marius, *(d)* Pompey.

5. Give a brief account of the dictatorship, legislation and death of Sylla.

6. Give a full account of the historical events connected with *(a)* The Rubicon, *(b)* Pharsalia, *(c)* Thapsus.

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EXAMINATIONS, MAY, 1893.

SENIOR B. A.

CHEMISTRY—FIRST PAPER.

1. Discuss the respective merits of the oxygen and hydrogen atoms as the standard of atomic weights. What facts lead us to believe that our so-called elements are at least substances *of the same order*, if not elements in the strictest sense?

2. Distinguish between additive, colligative and constitutive properties, giving examples of properties of each kind. To what classes of substances are colligative properties restricted? Explain how the existence of colligative properties enables chemists to determine molecular weights.

3. Describe V. Meyer's method of obtaining vapour densities. The vapour of an organic liquid immiscible with water is passed into water in the flask of a distilling arrangement. The joint boiling point is found to be 84° C. under an atmospheric pressure of 750 mm. The distillate is found to contain 80 per cent. of the organic liquid. Find the molecular weight of the liquid, the tension of aqueous vapour at 84° C. being 417 mm.

4. Assuming that the product of pressure into volume is two-thirds of the kinetic energy of the molecules, deduce Avogadro's Law and the fact that gases have the same coefficient of expansion. Explain also how the velocities of the molecules are calculated from the above relationship.

5. Calculate the molecular volume and the specific gravity (at the boiling point) of ethyl alcohol. Atomic volumes:—Carbon 11, hydrogen 5.5, carbonyl oxygen 12.2, hydroxyl oxygen 7.8.

6. Give a description of Pulfrich's refractometer. What relations exist between molecular refaction and chemical composition?

7. Explain the terms *critical temperature, critical pressure, surface tension, internal friction, magnetic rotation.*

8. Indicate briefly the different methods which have been employed for calculating the size of molecules.

9. Give a short account of the modern views with regard to the arrangement of atoms in space, and give examples of chemical changes which can only be explained by taking space relations into account.

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EXAMINATIONS MAY, 1893.

SENIOR B. A.

CHEMISTRY—SECOND PAPER.

1. Explain the chemistry of some of the chief indicators used in volumetric analysis.

2. Explain the action of potassium bichromate on iron salts, and that of potassium permanganate on oxalates. Write equations.

3. Describe Kjeldahl's method of estimating nitrogen in organic substances.

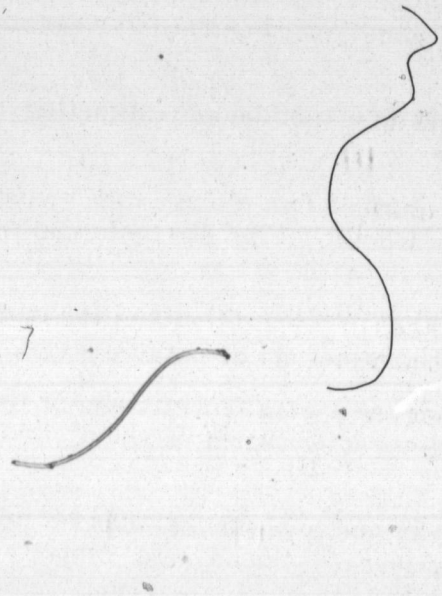
4. The platino-chloride of an organic base yields on ignition 32.9 per cent. of platinum. Find the molecular weight of the organic base.

5. Give the methods of preparation and the more characteristic reactions of the amines of the paraffin series.

6. What reactions are generally available for the determination of the points of substitution in the di- and tri- derivatives of benzene?

7. Describe briefly and give the methods of preparation of the halogen derivatives of toluene, and contrast their characteristic reactions.

8. Give a short account of the chemistry of the terpenes and related substances.



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EXAMINATIONS MAY, 1893.

NATURAL SCIENCE—SPECIAL COURSE.

DESCRIPTIVE MINERALOGY.

1. Of what importance is cleavage in the determination of minerals? Give examples. Name any mineral in which cleavage and crystalline form are the same, and one in which they are not.

2. Name the more important members of the group of Felspars, giving their composition and crystalline forms.

3. What is the cause of the striations on the prismatic planes of quartz and the triclinic felspars, and on the cube faces of pyrite?

4. Name some of the more important economic minerals to be found in Canada, stating their distribution and crystallographic characters.

5. What are the general characteristics of the family of the Zeolites? Name as many of them as you can.

6. Define the terms *isomorphism* and *pseudomorphism* giving three examples of the former.

7. Name from inspection, giving reasons therefor, the minerals placed before you.

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EXAMINATIONS, MAY, 1893.

NATURAL SCIENCE SPECIAL COURSE.

DETERMINATIVE MINERALOGY.

1. What different reactions may occur when mineral substances are heated in closed tubes?

2. Mention one good blowpipe test for Tin, Zinc, Aluminium and Antimony.

3. Determine the substances *a. b. c.* by means of the borax bead.

4. Determine by means of the blowpipe the substances marked *d. e. f.*

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EXAMINATIONS MAY, 1893.

NATURAL SCIENCE SPECIAL COURSE.

PRINCIPLES OF GEOLOGY, ETC.

1. Define the terms:—*Porphyritic, amygdaloidal, valley of denudation, lode, reversed fault,* and *coseismic curves.*

2. How are the imperfections of the geological record accounted for?

3. Explain some of the ways by which organic remains become fossil.

4. Account, after your text, for the formation of coral reefs.

5. How is the intermittent action of geysers explained?

6. State the various opinions held regarding the cause and seat of origin of volcanic phenomena.

7. In what way has the formation of mountain chains been accounted for?

8. Describe the following rocks and state the composition of each:—Syenite, porphyry, gneiss, gabbro, buhrstone, doleryte.

9. Name from inspection the rocks placed before you.

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EXAMINATIONS. MAY, 1893.

STRATIGRAPHICAL GEOLOGY.

1. Give the general distribution of the Siluro-Cambrian system in Canada. Name the Siluro-Cambrian fossils, and draw a figure of any Cephalopod found among them.

2. Describe the distribution of Trenton and Hudson River rocks in the Red River valley, and draw a diagram of a characteristic Trilobite of these rocks.

3. Discuss the origin of coal; and name the coal-formation animal fossils, noting any remains of Insects.

4. Give a description of the Carboniferous Calamites.

5. Discuss the coal formations of the Northwest and British Columbia, and refer Turtle Mountain, Souris river, Lethbridge, and Nanaimo coal beds to their proper horizons.

6. Characterize the Laramie formation; and discuss its place in the Geological series.

7. Give, following your author, a topographical description of the Rocky Mountains.

8. State how by the action of land ice the Red River reached its present condition, referring to Stony Mt., Bird's Hill, the Rosenfeld well, and the geology of the Archaean Rocks to the east.

9. Along the Pembina Mountains certain old beaches occur. Explain their formation, and give theories accounting for the fact that such beaches reach a higher altitude as they run north.

10. Determine specimens A to F; and the formation to which each belongs.

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EXAMINATIONS. MAY, 1893.

SYSTEMATIC BOTANY.

Time—Three hours.

1. Name the leading features of Rosaceæ; and the common plants of Manitoba belonging to this order.

2. Give leading genera of Compositæ.

3. Give characters and examples of Gentianaceæ.

4. Name leading genera of the grasses.

5. Give the leading genera of Coniferæ, and name useful plants included in Polygonaceæ

6. Write notes on (1) Manitoba French weed, (2) wheat rust, (3) Saskatoon berry, (4) cinquefoil.

7. Note salient points in the orders Urticacæ, Asclepiadaceæ, Lobeliacæ and Borraginaceæ.

8. Name vegetable poisons and the plants from which they are obtained.

9. Name and refer to their order plants useful for food which are indigenous to Manitoba.

10. Give an account of (1) Artificial, (2) Natural System of Classification.

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EXAMINATIONS, MAY, 1893.

HON. NATURAL SCIENCE.

MICROSCOPIC BOTANY.

I.

Time—2 hours.

1. Describe (1) the Leitz (2) the Zeiss Microscopes used in the class, giving any special adaptations for increasing the power.

2. Describe the "cellulose-reaction"; and explain the method of determining the presence of grape sugar in a vegetable tissue.

3. Draw diagrams of sections of (1) the grit of the pear; (2) bordered pits of *Pinus sylvestris.*

4. Explain the culture of Bacterias, following the line of the author in *Bacillus subtilis.*

5. Describe the Inuline precipitate found in a section of Dahlia tuber, and state the process by which it forms into sphaero-crystals.

6. What plant would you select for the study of stomata? Describe fully the stomata of an Iris or Tulip leaf.

7. Select the best stains for coloring—

(1) Cellular tissue.
(2) Nucleus.
(3) Starch.
(4) Tannin.
(5) Protein crystals.

II.

8. Determine specimens A, B and C.

9. Make the best section of specimen D for showing the chlorophyll.

10. From specimen E make a section to show the structure of a trichome.

11. Mount and label a section of a grain of wheat in glycerine jelly.

NOTE.—Neatness, expedition, and character of section will all be taken into account in the practical examination.

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EXAMINATIONS. MAY, 1893.

HONOR AND GENERAL B. A.

ZOOLOGY.

1. Describo the several kinds of animal tissue, and exemplify their formation by reference to *Nocticula miliaris.*

2. Trace the development of the heart through the various vertebrates, beginning with the Lancelet.

3. Write out a classification of the Mammals, and give the special features of non-placental mammals, with a description of one of the orders of the non-placental mammals.

4. Give a classification of insects; also make a diagram and description of the segments of a grasshopper.

5. Trace the development and relation of the classes and orders in a tabular view of Echinodermata.

6. Describe the Foraminifera, and point out the part taken by them in rock formation.

For General B. A. alone.

8. Draw a diagram of the lower surface of the cranium and other anterior vertebræ of a catfish, and name the several parts.

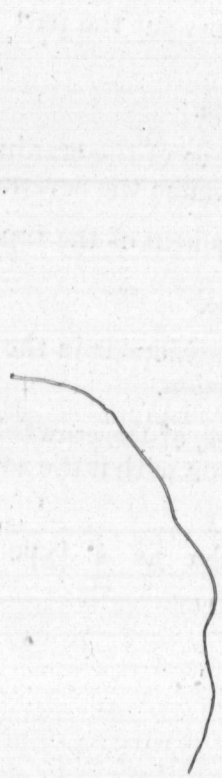
9. Describe with diagram the development of the tapeworm of the dog.

For Honor B. A. alone.

10. Discuss at length the place of Brachiopoda in the animal kingdom, giving grounds for your decision.

11. Give a description, with diagrams, of the crawfish of the Mammoth cave, and discuss in connection with it the zoological principle of degeneration.

12. Describe minutely the Amœba as a type of the Rhizopods.



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EXAMINATIONS. MAY, 1893.

JUNIOR B. A.

INORGANIC CHEMISTRY—SECOND PAPER.

1. How far does the arrangement of the elements in groups for the purposes of qualitative analysis agree with the classification indicated by the periodic law? Discuss fully any cases of apparent discordance, considering specially the elements silver, copper, lead, mercury, gold, magnesium, cadmium, zinc.

2. Classify the metallic chlorides, sulphates, carbonates, hydroxides, sulphides and nitrates according to their solubility in water.

3. Classify the following oxides according to their salt-forming properties:—H_2O, Li_2O, Cl_2O, Cu_2O, BaO, MnO, NO, CO, B_2O_3, Al_2O_3, P_2O_3, Fe_2O_3, SiO_2, MnO_2, BaO_2, NO_2, N_2O_5, Sb_2O_5, CrO_3, Mn_2O_7, OsO_8.

4. Express by equations the action of sulphuretted hydrogen, nascent hydrogen and sulphur dioxide on solutions respectively of nitric acid, bichromate of potash, ferric chloride, chlorine.

5. Give an account of the element phosphorus—its occurrence, preparation and properties. Make a list of the compounds of phosphorus, and compare the element, from a classificatory point of view, with the other elements in Group V.

6. Describe in detail the manufacture of carbonate of soda.

7. Give a short account of the elements in Mendeléeff's Group IV, omitting carbon and silicon.

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EXAMINATIONS MAY, 1893.

JUNIOR B. A.

INORGANIC CHEMISTRY—FIRST PAPER.

1. Give a brief account of the phlogiston theory of Stahl, comparing it carefully with the modern conception of combustion. Explain the terms *exothermal, endothermal, reversible,* as applied to chemical changes, and give examples of changes of each kind.

2. Give an outline account of the general methods available for the determination of atomic weights. State the reasons for adopting the respective atomic weights for the following elements:—*Hydrogen, beryllium, carbon, oxygen, fluorine, strontium, iron, mercury, tellurium.*

3. Give reasons in full for adopting the following molecular formulæ:—

$$O_2,\ O_3,\ P_4,\ H_g,\ C_2H_4,\ SiO_2,\ CaSO_4.$$

4. "Nitric acid in aqueous solution is therefore stronger than sulphuric." Explain fully. In what sense may sulphuric acid be said to be stronger than nitric?

5. When a chemical reaction is incomplete what are the chief factors which determine the amount of chemical change? What conditions must be satisfied for a chemical change to be complete? Explain fully, giving illustrative examples.

6. Explain how the terms "electro-positive," "basic," and "metallic" have come to be used as practically synonymous terms in chemistry. Give as much of Mendeléeff's (first) table as you can remember, indicating in some way the relations of the elements to each other when considered according to their relative "basicness."

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EXAMINATIONS, MAY, 1893.

NATURAL SCIENCE—SPECIAL COURSE.

JUNIOR B. A.—PHYSICS.

1. Distinguish between the terms *body*, *particle*, *molecule* and *atom*; *relative* and *absolute*.

2. Enunciate Newton's Laws of Motion.

Show that a body under a constant force moves over spaces proportional to 1, 3, 5, &c., in the 1st, 2nd, 3rd, &c., second that it is acted upon.

A stone is thrown downwards from a balloon with a velocity of 174.426 feet per second, overtaking in three seconds another which had been allowed to drop. How long had the latter stone been in motion?

3. Enunciate the laws of Boyle and Charles.

Suppose a vessel which holds two litres of air at 15°C to be inverted and thrust downward in the sea to a depth of one hectometre where the temperature of the water is 4°C; what amount of water will have entered the vessel?

4. What is meant by the statement that the coefficient of expansion of steel is 0·000012? Assuming the highest summer temperature to be 40°C., and the lowest winter temperature —20°C., what allowance for expansion must be made in a 1700 feet span of an iron bridge?

5. Define the terms specific heat and latent heat.

Find the specific heat of a substance 125 grms. of which at 78°, when mixed with 250 grms. of water at 12°, give a resulting temperature of 18°.

6. Musical notes are distinguished by *pitch*, *intensity* and *timbre*. State clearly the physical cause of each of these. Can noises have these characteristics?

7. How are Chladni's sound-figures produced? What do they demonstrate?

8. Describe and account for the effect on the ear in the following cases :—

(a) Of two organ-pipes previously in unison one is slightly shortened, and then both sounded together.

(b) Two notes are simultaneously produced, one of which makes 200, the other 300 vibrations per second.

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EXAMINATIONS. MAY, 1893.

NATURAL SCIENCE—SPECIAL COURSE.

CRYSTALLOGRAPHY.

1. Define the terms: *parameter, fixed form, sphenoid, zone brachydome, pinacoid.*

2. Show how the various holohedral forms of the regular system may be obtained by varying the values of m and n of the most general form m On.

3. What are the limiting forms of the icositetrahedron when m varies in value? What are its more common values?

4. Distinguish between pyramids of the first, second and third orders in the Tetragonal system.

5. Distinguish between *congruent* and *enantiomorphous* forms; *hemimorphism* and *hemihedrism*, giving examples of each

6. What are some of the more common imperfections to be met with in crystals?

7. Describe and name the crystal models given you.

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EXAMINATIONS. MAY, 1893.

STRUCTURAL BOTANY.

1. Explain the features of phyllotaxy, and give the more common varieties, with an example of each.

2. Describe fully the ligulate corolla. Explain adnation with examples.

3. Describe and figure the varieties of ducts or vessels.

4. Write notes on leaves (1) for climbing; (2) as pitchers; (3) as fly-traps.

5. Describe the process of assimilation in plants.

6. Give a minute account of the nutrition of parasites and saphrophytes.

7. What is meant by movements of nutation? Illustrate.

8. Write a description of plant specimens A to C.

9. Determine the forms of the leaf specimens A to C (1) as to apex; (2) general and particular outline.

10. Explain with examples the terms cleistogamous, anemophilous, and entomophilous flowers.

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EXAMINATIONS MAY, 1893.

NATURAL SCIENCE SPECIAL COURSE.

LIGHT AND ELECTRICITY.

1. Define the terms: *Spherical* and *chromatic* aberration. What gives rise to these evils in a lens, and how may they be corrected?

2. Show how the formula $\frac{1}{p}+\frac{1}{p^1}=\frac{2}{r}$ is obtained.

In what different ways may the focal length of a concave mirror be obtained?

An object stationed 4 in. distant from a convex lens has its image magnified 4 times. What is the focal length of the lens if the image be (*a*) virtual, (*b*) real?

3. The mirrors in a kaleidoscope are inclined to each other at angles of 36°. How many images of an object can be seen in it?

4. Define the terms: Critical angle, optical centre of a lens, complementary colors.

5. Discuss the statement: "Light is a sensation."

6. Define the terms: Potential, electromotive force, polarization. How may the latter be prevented?

7. Describe the construction and method of action of a Bichromate cell.

What kind of a cell would you use to work an electric bell? Why?

8. Distinguish between *alternate-current* and *direct-current* machines; between *series*, *shunt*, and *separately-excited* dynamos; also between a *dynamo* and an *electric motor*.

9. What is the difference between cells arranged *in series* and cells arranged *in parallel*? What effect would the difference in arrangement have upon the current?

10. Show clearly how electrical separation is effected in an ordinary Tœpler-Holtz electrical machine.

11. Describe fully how you could charge a Leyden jar from the positive conductor of an electrical machine so as to obtain at will either a positive or a negative charge on the inner coating.

12. A battery of 51 volts E. M. F., and 20 ohms resistance has opposed to it in the same circuit a battery of 26 volts E. M. F. and 25 ohms resistance. A current of $\frac{1}{2}$ ampère is maintained in the circuit. What is the resistance of the wire and connections?

13. There are two conductors, one of 35 ohms resistance, 1728 feet long, 12 sq. mms. cross-sectional area and with a specific resistance 7 : the other of 14 ohms resistance, 432 feet long and of 8 sq. mms. cross-sectional area. What is the specific resistance of the second wire?

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EXAMINATIONS, MAY, 1893.

HONOR MATHEMATICS.—SENIOR B.A.

HYDROSTATICS AND OPTICS.

1. Define the centre of pressure of a fluid upon a plane area immersed in it, and find it in the case of a rectangle having one side in the surface, also of a triangle with its base in the surface.

2. Find the conditions of equilibrium of a solid floating in liquid and partly supported by a string.

What will be the tension of a string attached to any part of a right circular cylinder of density $\frac{2}{3}$ that of a liquid in which it floats, if exactly half the volume is immersed.

3. What is the metacentre? Show the importance attached to the determination of its position in different floating bodies. What is the curve of buoyancy? and what is the relation of the metacentre to it?

4. Give the experimental proof of Mariotte's law of the variation of pressure of a given quantity of air at a given temperature, and state the relation existing between the pressure, density, and temperature of a given mass of air or gas. A weight suspended by a string from a fixed point is partially immersed in water, will the tension of the string be increased or diminished as the barometer rises?

5. Describe the common pump, and find the tension of the piston rod.

Show when this tension will be greatest.

6. Define what is meant by the geometrical focus of a pencil of rays reflected or refracted at a plane or spherical surface, also the *principal focus* of a spherical reflecting or refracting surface.

In the case of a spherical reflecting surface of radius r, deduce the equation connecting the distances of the conjugate foci from the centre.

7. Investigate the formula for determining the geometrical focus of a pencil after direct refraction through a plate.

Find the geometrical focus of a pencil passing directly from air into water through a plate of glass, the refractive indices from air into water and from air into glass being respectively $\frac{3}{2}$ and $\frac{4}{3}$.

8. Describe Newton's experiment to show the chromatic dispersion of light.

What are the means adopted by opticians to secure the required deviation of the ray of light through a combination of lenses which shall be as nearly achromatic as possible? Explain the word *achromatic*.

9. Describe Huyghen's eye-piece, and draw a diagram of Herschel's telescope furnished with this eye-piece, showing the course of a pencil of rays from a distant object to the eye.

Prove that the magnifying power of this telescope is $\frac{4F}{3a}$, where F is the focal length of the mirror, and a the distance between the lenses of the eye-piece.

10. Account as fully as you can for the formation of the primary and secondary rainbows, and illustrate by diagrams.

11. The focal lengths of the eye-glasses in a Ramsden's and a Huyghen's eye-piece are as 2 to 1, show that they are of equal *power*.

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EXAMINATIONS, MAY, 1893.

MATHEMATICAL HONORS—SENIOR B. A.

DIFFERENTIAL CALCULUS.

1. Find the differential coefficients of a^x and $\cos^{-1}x$.

Differentiate

(1) $\mathrm{Sin}^{-1}\dfrac{x}{\sqrt{1+x^2}}$

(2) $xe^{\tan x}$

(3) $\dfrac{1}{\sqrt{a^2-b^2}}\cos^{-1}\dfrac{b+a\cos x}{a+b\cos x}$

2. State Taylor's Theorem. Give any proof of it, in which it is supposed that all the functions that occur are continuous. Explain what is known as "the failure of Taylor's Theorem." Expand $\sin(x+h)$ by Taylor's Theorem and thence deduce the expression $\mathrm{Sin}\,a = a - \dfrac{a^3}{\lfloor 3} + \dfrac{a^5}{\lfloor 5} - \ldots$

3. If $u = \dfrac{x^2y}{a^2-z^2}$, verify the equations

$$\frac{d^3u}{dx\,dy\,dz} = \frac{d^3u}{dy\,dx\,dz} = \frac{d^3u}{dz\,dx\,dy}.$$

4. If in a fraction $\dfrac{\varphi(x)}{\psi(x)}$, both numerator and denominator vanish when $x=a$, find the limit towards which the fraction tends, as x approaches the limit a.

Show that $\lim_{\theta=0} \dfrac{\sin\theta-\theta}{\theta^3} = -\dfrac{1}{6}$.

5. If $y=f(x)$;

Find $\dfrac{d^2y}{dx^2}$ in terms of $\dfrac{dx}{dy}$, $\dfrac{d^2x}{dy^2}$.

Given $\mathrm{R} = \dfrac{\left(1+\dfrac{dy^2}{dx^2}\right)^{\frac{3}{2}}}{-\dfrac{d^2y}{dx^2}}$ and $\left(\dfrac{ds}{dx}\right)^2 = 1+\left(\dfrac{dy}{dx}\right)^2$,

Find the expression for the Radius of Curvature, when the arc is the independent variable.

6. State the condition that $\varphi(x)$ may have a maximum or minimum value, when $x=a$. How is a maximum value distinguished from a minimum?

Inscribe in a given circle the greatest isosceles triangle.

7. If $y=f(x)$ be the equation to a curve, find the equation of the tangent at any point of the curve, and obtain the expressions for the subtangent, subnormal, and the perpendicular from the origin on the tangent in terms of the differential coefficient $\frac{dy}{dx}$.

If $\sqrt{x}+\sqrt{y}=\sqrt{a}$, find the equation of the tangent and show that the sum of the intercepts made by the tangent on the axes $=a$.

8. Define an asymptote. Show how to find whether a proposed curve has an asymptote. If it has an asymptote, what is its equation?

Show that the parabola has no asymptote.

Find the asymptotes to the Folium of DesCartes, of which the equation is $x^3+y^3-3axy=0$.

9. Define the evolute of a plane curve.

If x^1, y^1 be the cordinates of the centre of curvature at the point x, y of a curve, find the equations from which the equation to the evolute may be obtained.

Find the equation to the evolute of a circle $(x^2+y^2=a^2)$, and show that it is the centre itself.

10. Define the following terms: "Point of inflexion," "multiple point," "cusp," and "conjugate point," and state the conditions of their existence or how they are determined

Describe the method to be pursued in discussing the equation to a plane curve, so as to be able to trace it.

Discuss and trace the curve, whose equation is $y^2=a^2x^3$.

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EXAMINATIONS, MAY, 1893.

B.A.—HONOR MATHEMATICS.

STATICS AND GEOMETRICAL OPTICS.

DIV. B, PART 2.

1. Define a couple, its arm, its axis, its moment. Show that any number of forces acting on a rigid body in one plane may be reduced to a single force and a single couple.

If the forces can be represented in magnitude and line of action by the sides of a plane closed polygon taken in order; show that they may be replaced by a couple and find its moment.

2. Find the condition among the forces acting on a rigid body that they may be reduced to a single force and find the equation to the straight line in which it acts.

If six equal forces each denoted by P act along the edges of a cube which do not meet a given diagonal, show that their resultant is a couple whose moment is $2Pa\sqrt{3}$, a being the edge of the cube.

3. Investigate the conditions of equilibrium when a rigid body is kept at rest by any number of forces acting in any direction. Under what circumstances will three couples keep a rigid body at rest?

4. Show how to find the center of gravity of any body. Find it in the case of three straight wires of uniform density bent so as to form a triangle.

5. Investigate the equation to the common catenary and reduce it to the form $s = \frac{1}{2} c \left(e^{\frac{x}{c}} - e^{-\frac{x}{c}} \right)$

A heavy uniform string ABCD is thrown over two smooth pegs B, C (not in the same horizontal line) prove that when it is in equilibrium the extremities A D are in the same horizontal line.

6. State the laws of reflection and refraction of light. How are these laws established? A circle which reflects light from

its inner surface has two holes a degrees apart, determine the angle of incidence of a ray which entering at one hole, after four reflections passes out at the other.

7. What is meant by the critical angle of a medium? Define the refracting angle of a prism. If the refracting angle of a prism be equal to the critical angle of the medium of which it is formed, prove that an incident ray nearly parallel to one face will pass out of the prism at right angles to the other face.

8. Find the law of the variation of the illumination at any point of a small plane area illuminated by a pencil of rays emanating from a point.

Find the locus of points in a horizontal field equally illuminated by an electric light and a gas lamp, their heights and brightness being unequal.

9. Explain the formation of focal lines when a small oblique pencil is reflected at a spherical surface. What is the circle of least confusion? Determine its position and magnitude.

10. To find the focal length of a lens equivalent to a combination of two thin convex lenses (focal lengths f_1, f_2) on the same axis at a distance (a) from each other.

If a third thin convex lens (focal length f_3) be placed on the same axis at a distance (b) from the second, show that the focal length (F) of the equivalent single lens is given by the equation $f_1 f_2 + f_2 f_3 + f_3 f_1 - a(f_1 + f_3) - b(f_1 + f_2) + a b = \frac{f_1 f_2 f_3}{F}$

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EXAMINATIONS MAY, 1893.

SENIOR B. A.—HONORS.

DYNAMICS AND HYDROMECHANICS.

1. Carefully define velocity and acceleration.

Find expressions for the accelerations of a moving point estimated (1) along and perpendicular to the radius vetor, (2) along the tangent and normal, the path of the point being a plane curve.

If the time be a quadratic function of the space described (say, $t = as^2 + 2bs + c$), prove that the tangential acceleration varies as the cube of the velocity.

2. Define relative velocity, angular velocity, and angular acceleration.

The point A is fixed; the point B describes uniformly a circle of radius a about A, and the point C describes uniformly, in the same plane, and in the same sense, a circle of the same radius about B. Find the motion of C about A.

On one side of a straight railway is a line of telegraph poles parallel to, and at intervals equal to their distance from, the rails. A train passes a pole every second; show that its angular velocity about any pole is $\frac{1}{1+t^2}$ where t is the time since the train passed the pole.

3. Define momentum, rate of change of momentum, kinetic energy, force, and work.

A fine thread having two masses each equal to 3 lbs. tied to its extremities, is hung over two smooth pegs in the same horizontal plane and 30 inches apart; a mass of 4lbs. is then attached to the middle point of the portion of the string between the pegs, and is allowed to descend under gravity; find how far it will descend below the horizontal line joining the pegs.

4. A particle, projected from a given point with a given velocity, is acted on by a constant force in the line of its motion; obtain formulæ for the position and velocity of the particle at any time.

A train goes from rest at one station to rest at another, one mile off, being uniformly accelerated for the first $\frac{2}{3}$rds of the distance and uniformly retarded for the remainder, and takes 3 minutes to describe the whole distance; find the acceleration, the retardation, and the maximum velocity.

5. Shew that the path of a particle in vacuum under gravity, is a parabola; that the velocity at any point is equal to the velocity acquired in falling from the directrix; and that the direction of projection required for the greatest range bisects the angle between the verticle and the plane on which the range is measured.

PT, QT are two tangents at two points P, Q of a parabolic trajectory, and u, v, the corresponding velocities at these points; shew that $u : v = \mathrm{PT} : \mathrm{QT}$.

6. Define the terms apse, apsidal distance, true anomaly, and mean anomaly.

If a particle be acted on by a central attraction, shew that the differential equation of the orbit described is

$$\frac{d^2u}{d\theta^2} + u = \frac{\mathrm{P}}{h^2u^2}.$$

State Kepler's laws; and shew how Newton's dynamical interpretation of each of them may be derived.

Find the attraction to the pole under which a particle will describe (1) a parabola, (2) a cardioide.

7. Define a perfect fluid; state the fundamental property of a perfect fluid, and prove that the pressure at any point of a fluid at rest is the same in all directions.

Define the measure of elasticity of a fluid and prove that if the elasticity is equal to the pressure, the pressure of the fluid is inversely proportional to its volume.

8. Define whole pressure, and centre of pressure, and prove that $dp = \rho\left\{ \mathrm{X}dx + \mathrm{Y}dy + \mathrm{Z}dz \right\}$.

The density of a heavy liquid varies as the square of its depth, and a semi-circular area is immersed vertically in it with its bounding diameter in the surface; find (1) the whole pressure on the area, (2) the depth of the centre of pressure below the surface.

9. Define the terms centre of buoyancy, plane of flotation, metacentre.

A homogeneous solid floats, wholly immersed, in a liquid of which the density varies as the depth; shew that the density of the liquid at the depth of the centre of gravity of the solid is equal to the density of the solid.

Investigate a method of determining the measure of stability of a body floating in a liquid.

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EXAMINATIONS, MAY, 1893.

SENIOR B. A. HONORS.

NEWTON AND ASTRONOMY.

1. State and prove Lemma I.

When the quantities considered become indefinitely small, what artifice is adopted to discover their limiting ratios? To illustrate state and prove a Lemma in which the artifice is adopted.

2. State and prove Lemma IV, and apply it to find the area of an ellipse.

3. State and prove Lemma XI., and define carefully the terms subtense, finnite curvature, and angle of contact.

If a subtense be drawn at the extremity of an arc of finite curvature, in any direction, the chord of curvature parallel to that direction will in the limit be a third proportional to the arc and subtens .

4. The centripetal forces by which bodies describe circles with uniform velocities tend towards the centres of the circles, and are to one another directly as the squares of the arcs described in equal times and inversely as the radii of the circles.

A small body is attached by an unelastic string 3 feet long to a point on a smooth horizontal table, if a velocity of 2 feet a second be communicated perpendicular to the string, find the tension of the s ring and the time of revolution.

5. If a body be revolving in an ellipse, find the law of centripetal force tending to (1) the centre, (2) one of the foci.

A particle describes an ellipse about a centre of force in the focus; shew that the velocity at the end of the minor axis is a mean proportional between the velocities at the ends of any diameter.

6. State three systems of coordinates for determining the position of a body on the celestial sphere and define the terms by which each coordinate is named.

7. Describe the mural circle and shew that an error of centering may be eliminated by using reading microscopes in pairs.

8. Define the equation of time. Of what parts is it generally taken to consist? State when each of these parts is vanishes, is positive, is negative. Give roughly their maximum and minimum values, and sketch curves shewing their variations graphically.

9. State Bode's Law connecting the mean distances of the various planets from the sun. Define the sidereal and synodic period of an inferior planet, and find the relation between them.

10. Name the "five astronomical connections," and state the causes which render these corrections necessary.

The parallaxes of the sun and moon being respectively 8·86″ and 57′, find approximately the ratio of the distances of the sun and moon from the earth.

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EXAMINATIONS, MAY, 1893.

SENIOR B. A.—HONORS.

INTEGRAL CALCULUS AND SOLID GEOMETRY.

1. Exhibit the definite integral $\int_a^b \varphi(x)dx$ as the sum of an infinite series.

Give a geometrical illustration of the process of integration.

2. Integrate the following:—

$\int \sqrt{(2ax-x^2)}dx$; $\int \frac{dx}{a+2bx+cx^2}$; $\int \cos mx \sin nx\, dx$;

$\int \frac{(2+x)dx}{(x-1)^2(x-2)}$.

3. Show that a binomial differential of the form $x^m(a+bx^n)^{\frac{r}{s}}dx$ can be rationalized and integrated by assuming $a+bx^n=z^s$, provided $\frac{m+1}{n}$ is an integer or zero.

Integrate $\int x^3(a+bx^2)^{-\frac{3}{2}}dx$.

4. Find formulæ of reduction for the integrals $\int \sin^n x\, dx$;

$\int x^n \cos x\, dx$; and evaluate the definite integral $\int_0^\pi \cos^n x\, dx$

when n is odd.

5. Apply the principles of the integral calculus to find the area of (1) the circle $x^2+y^2=a^2$;

(2) the lemniscate $r^2=a^2 \cos 2\theta$.

6. Rectify the following curves:—

(1) The cardioid $r=a(1+\cos\theta)$.

(2) The catenary $y=\frac{a}{2}(e^{\frac{x}{a}}+e^{-\frac{x}{a}})$ measured from its vertex.

7. Find the volume and surface of a paraboloid of revolution.

A paraboloid of revolution has its axis coincident with the diameter of a sphere, and its vertex outside the sphere; prove that the volume of the portion of the sphere outside the parabola is $\frac{\pi h^3}{6}$, where h is the distance between the planes in which the curves of intersection of the surfaces are situated.

8. Explain the system of polar co-ordinates.

Obtain the equation of a plane in the form

$$lx+my+nz-p=0.$$

9. Find the perpendicular distance of a given point from a given straight line.

Find the shortest distance between the diagonal of a cube and an edge which does not meet the diagonal.

10. Find the equations of the principal planes of a conicoid.

Find the principal planes of the conicoid

$$x^2+y^2-z^2+2yz+2zx-2xy=a^2.$$

11. Find the equation of the tangent plane at any point on the ellipsoid $\frac{x^2}{a^2}+\frac{y^2}{b^2}+\frac{z^2}{c^2}=1$

Find the equation for the lengths of the axes of any plane central section of the above ellipsoid, and deduce (1) the area of the section, (2) the condition that the section may be a circle.

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EXAMINATIONS, MAY, 1893.

JUNIOR B. A.—MATHEMATICAL HONORS.

ARITHMETIC, ALGEBRA, PLANE TRIGONOMETRY.

1. Show that a vulgar fraction may always be reduced either to a terminated or a repeating decimal, and explain how to determine by inspection which kind of decimal any given fraction will produce.

2. A person holds stock in the English $3\frac{1}{2}$ per cents. which are at 98 to the amount of £1,500 sterling. This he transfers to Dominion of Canada 5 per cents. which are at 105. Find the alteration in his income in dollars if £1 is worth $4.86.

3. State and prove the rule for finding the H. C. M. of two algebraic expressions.

Prove that $(a-b)(b-c)(c-a)$ will divide exactly each of the quantities $(a^2-b^2)^5+(b^2-c^2)^5+(c^2-a^2)^5$, $(a-b)^5+(b-c)^5+(c-a)^5$.

Have these any other common measure?

4. Write down the roots of the quadratic equation $ax^2+bx+c=0$, and show when the roots will be (a) equal; (b) real and unequal; (c) both irrational, (d) both imaginary.

Solve the equations

$$\frac{x}{a}+\frac{a}{x}=\frac{b}{a}+\frac{a}{b};\quad 2x^2-4x-\sqrt{x^2-2x-3}=9.$$

5. Show how to find the sum of any number of terms of an arithmetical progression. The sum of the successive odd numbers beginning with $2p+1$ and ending with $2q-1$ is q^2-p^2.

6. Prove the binomial theorem for a positive integral index and set down the general term in the expansion.

Find the two middle terms in the expansion of $(1-x)^{2n-1}$.

7. Find the number of permutations of n things, when 5 of them are of one kind, 4 of another, and 3 of a third kind, and the rest are unlike.

An officer wished to arrange a party of 3 soldiers and 5 sailors. He had 30 soldiers and 50 sailors. How many different parties could be formed?

8. Prove geometrically that

$$\sin(A+B)=\sin A\cos B+\cos A\sin B$$
$$\cos(A-B)=\cos A\cos B+\sin A\sin B.$$

Deduce

$$\sin A-\sin B=2\cos\tfrac{1}{2}(A+B)\sin\tfrac{1}{2}(A-B)$$

and $$\sin B-\cos A=2\sin\tfrac{1}{2}(A+B)\sin\tfrac{1}{2}(A-B).$$

Solve the equation $\cos\theta-\sin^5\theta=\cos 3\theta+\sin 3\theta$.

9. Define logarithms and show of what use they are in arithmetical computations.

How do the logarithms of numbers and trigonometrical functions appearing in the ordinary logarithmic tables differ from the true logarithms?

10. Show that in every triangle the sides are proportional to the sines of the opposite angles. Prove that in any triangle

$$\frac{(b+c)(c+a)(a+b)}{abc}=\frac{\cos\tfrac{1}{2}(A-B)\cos\tfrac{1}{2}(B-C)\cos\tfrac{1}{2}(C-A)}{\sin\tfrac{1}{2}A\sin\tfrac{1}{2}B\sin\tfrac{1}{2}C}$$

11. Find the radius of the circle described about a triangle in terms of the sides. The distances between the centres of the escribed circles of the triangle ABC are proportional to $\cos\frac{A}{2}$, $\cos\frac{B}{2}$, $\cos\frac{C}{2}$, the constant ratio being $=\frac{2a}{\sin A}$.

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EXAMINATIONS, MAY, 1893.

MATHEMATICAL HONORS.

EUCLID AND GEOMETRICAL CONICS.

1. In a right-angled triangle the square on the hypotenuse is equal to the squares on the other two sides. Enuntiate and prove the converse of this proposition. State propositions similar to the above for the squares on the sides of acute-angled and obtuse-angled triangles.

2. A straight line AB is divided into two equal parts at C and into two unequal parts at D. State, with these letters, Euclid's proposition relative to the square and rectangle of the whole line and its parts.

3. Describe an isosceles triangle having each of the angles at the base double the third angle.

On a given line as a base describe an isosceles triangle having the third angle triple of each of the other two.

4. In a right-angled triangle, if a perpendicular be drawn from the right angle to the base, the triangles on each side of it are similar to the whole triangle and to one another. Shew that the perpendicular is a mean proportional between the segments of the base. What other lines in this figure are mean proportionals and why?

5. ABC is a triangle right-angle at A; shew that any rectilineal figure described on BC is equal to the similar and similiarly described figures on the other two sides.

Show that the crescents, formed by the arcs AB and AC of a semicircle described on BC, and by the arcs of two other semicircles exterior to the triangle that are described on the sides AB and AC, are together equal to the triangle ABC.

6. If three straight lines meet all at one point, and a straight line stands at right angles to each of them at that point, these three lines are in one and the same plane.

From a point outside a plane to draw a line perpendicular to the plane.

7. If PN be an ordinate the parabola at the point P then $PN^2 = 4\ AS,\ AN$.

QSQ' is a focal chord parallel to AP, and PN, QM, $Q'M'$ are the ordinates of P, Q and Q' prove that $SM^2 = AM,\ AN$ and $MM' = AP$.

8. If BC be the semi minor axis of the ellipse, then
$BC^2 = CA^2$. Also $BC^2 = CA^2 - CS^2 = AS.SA'$

Find the numerical values of the eccentricity when SBS' is equilateral.

9. If from a point O a pair of tangents, OP, OP', be drawn to an elipse, then OP and OP' will subtend equal angles at either focus.

10. The sum of any parallelogram, formed by drawing tangents to the hyperbola and its conjugate at the extremities PP' and DD' of a pair of conjugate diameters, is equal to the rectangle contained by the axes. It is constant and equal $4\ AC,\ BC$.

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EXAMINATIONS, MAY, 1893.

HONORS—JUNIOR B. A.

STATICS AND DYNAMICS.

1. If three forces acting on a particle keep it at rest, each force is proportional to the sine of the angle between the other two. What condition is necessary for the converse to hold true?

If three equal forces keep a particle in equilibrium, prove that they must be equally inclined to each other. Could the three forces whose measures are 3, 5, 9 keep a point at rest?

2. Find the direction and magnitude of the resultant of any two unlike parallel forces acting on a rigid body.

Define a couple. Show how a couple may be moved about in a plane, and show how its arm may be changed so that it may be compounded with other couples.

Show that a system of forces acting in one plane can generally be reduced to a couple and a single force acting at an arbitrary point in the plane.

3. Define centre of gravity a body can have but one.

A table top 8x4 feet is supported at one corner, find two other points of support such that the pressures on all three may be equal.

4. Define a lever. Exhibit the mechanical advantage or disadvantage of each kind of lever. If two weights balance on a straight lever in any one position inclined to the vertical, they will balance each other in any other position.

Describe the common balance. Show how the requisites of a good balance may be satisfied.

One arm of a false balance is longer than the other by $\frac{1}{n}$ the length of the shorter arm; the owner has as often put the goods to be weighed in one pan as the other, and so has weighed out 100 lbs before discovering the error. Has he lost or gained?

5. Work out a general expression for the condition of equilibrium on the inclined plane where the force acts at an angle θ with the inclined plane.

State and explain the principle of Virtual Velocities, and demonstrate it in the case of the inclined plane.

6. Define acceleration and state how it is measured.

If a body start from rest and be acted upon for a time, and in a uniform direction by a uniform force of which the acceleration is f, then $v=ft$, $s=\frac{1}{2}ft^2$, or $v^2=2fs$, where v is the velocity acquired and s the length of the path described.

A body projected vertically from the ground passes the eye of an observer placed in a steeple 150 feet above; 8 seconds after it passes the same point on its way down. How high did it get, and what was its initial velocity?

7. A body projected in any direction not vertical, only acted upon by gravity, will describe a parabola, and its velocity at any point will be that which would be acquired in falling from the directrix to the point.

Investigate the flight of a cannon ball fired from the top of a tower H feet high—the angle of elevation is 45°, the muzzle velocity V; at what distance will it strike the horizontal plane?

8. Define *momentum*, *qis viva*, *elasticity*.

A body impinges directly on another, determine the velocities after impact, the elasticity being imperfect.

An 80-ton gun trained horizontally on a smooth horizontal plane fires a shot weighing 1,100 lbs with a velocity of 1,800 feet per second. What is the velocity of recoil—neglecting the weight of the powder?

9. If a body describes a circle of radius r with uniform velocity v the body is acted upon by a force tending to the centre of the circle, the acceleration of which is $\frac{v^2}{r}$.

Find the time of descent of a particle moving in a circle under the action of gravity.

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EXAMINATIONS, MAY, 1893.

JUNIOR B. A.—HONORS.

PLANE ANALYTICAL GEOMETRY.

1. Find the co-ordinates of the point which divides in a given ratio the straight line joining two given points.

Given the coordinates of the angular points of a triangle find the co-ordinates of its centre of gravity.

2. Investigate the equation to a straight line in the form $\frac{x}{a}+\frac{y}{b}=1$, and determine the equation of the straight line which passes through the point (a, b) and is perpendicular to this straight line.

On two straight lines intersecting at O the points P, P_1; Q, Q_1 are taken two on each line. If $OP=a$, $OP_1=a_1$, $OQ=b$, $OQ_1=b_1$, show that the equation of the line joining the intersections of PQ, P_1Q_1 and P_1Q, PQ_1 is

$$x\left(\frac{1}{a}+\frac{1}{a_1}\right)+y\left(\frac{1}{b}+\frac{1}{b_1}\right)=2.$$

3. Find the angle contained by the lines represented by the equation $ax^2+2hxy+by^2=0$; and show that the lines represented by the equation $x^2-\frac{a-b}{h}-y^2=0$ bisect the angles between the first pair of lines.

4. The rectangular axes are turned through an angle θ about the origin; express the old co-ordinates of a point in terms of the new.

Find the angle through which the axes must be turned to get rid of the term containing the product xy, in the general equation of the second degree.

5. Find the general equation of the circle in polar co-ordinates.

Two circles of radii a and b intersect at an angle θ, prove that the length of the common chord is

$$\frac{2ab\sin\theta}{\sqrt{(a^2+2ab\cos\theta+b^2)}}.$$

Find the equations to the common tangents to the circles $x^2+y^2-4=0$, and $x^2+y^2-8x+15=0$.

6. Determine the equations of the tangent and normal at ang point on an ellipse.

If θ and φ are the eccentric angles of two points on the ellipse $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$ show that the equation of the chord joining them is

$$\frac{x}{a}\cos\tfrac{1}{2}(\theta+\varphi)+\frac{y}{b}\sin\tfrac{1}{2}(\theta+\varphi)=\cos\tfrac{1}{2}(\theta-\varphi);$$

and hence find the co-ordinates of the point of intersection of the tangents at those two points.

7. P is any point on an ellipse whose foci are S and H. Show that (1) $SP+HP=2a$; (2) the normal at P bisects the angle SPH; (3) the locus of the point of intersection of the perpendicular from the focus on the tangent with the tangent is a circle.

8. Find the equation of a hyperbola referred to its asymptotes as axes.

If two fixed points P, Q on a hyperbola be joined to any variable point R on the same, and if PR cut the asymptotes in M, N and QR cut them in V, W; show that the intercepts VM, WN on each asymptote are constant.

9. Deduce the polar equation of a conic, focus being the pole, and find the polar equation of the tangent to this conic at the point $\theta=\alpha$.

If TP and TQ are two tangents to a conic from a point T, show that the line joining T and the focus S bisects the angle PSQ.

10. The equation of a parabola referred to any diameter and tangent at its extremity has the form $y^2=4ax$. Interpret a geometrically.

If any focal chord be drawn in a parabola, the line joining the intersection of the tangents at its extremities with the intersection of the normals at the same two points will be parallel to the axis.

11. Find the magnitude and position of the axes of a conic whose equation is $ax^2+2hxy+by^2=1$.

Trace the conic whose equation is

$$x^2+y^2-xy-3x-3y=0.$$

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EXAMINATIONS, MAY, 1893.

HONOR MATHEMATICS.—JUNIOR B.A.

HIGHER ALGEBRA.

1. Find the numerically greatest term in the expansion of $(1+x)^n$ for any rational value of n, which is negative, if x is less than unity.

Find the greatest term in the expansion of $(1-x)^{-\frac{3}{2}}$ when $x=\frac{8}{9}$.

2. Find the coefficient of any assigned term in the expansion of $(a+b+c+d+\ \ldots\ldots)^p$ where p is a positive integer.

Find the coefficient of $b^2c^3e^4f$ in $(a+2b+3c+4d+5e+6f)^{10}$ (Reduction by multiplication not required.)

3. Prove that the series $1+1+\frac{1}{|\underline{2}}+\frac{1}{|\underline{3}}+\ldots\ldots$, known as e, is incommensurable.

Show that the series $\log_e(1+x)=x-\frac{x^2}{2}+\frac{x^3}{3}-\ldots\ldots$ is convergent, x not being greater than 1.

Deduce from it the series $\log_{10}n-\log_{10}(n-1)=\frac{\mu}{n}+\frac{\mu}{2n^2}+\frac{\mu}{3n^3}+\ldots\ldots$ where μ is the modulus of the common system of logarithms.

Thence find $\log_{10}3$ to five decimal places ($\mu=.43429$.)

4. If a rational integral function of n dimensions vanishes for more than n values of the variable, the coefficient of each power of the variable must be zero.

Thence deduce the principle of undetermined coefficients.

Reduce to partial fractions $\frac{3x^2-8x+16}{(x-5)(x^2-2x-2)}$

Expand $\frac{3x-2}{(x-1)(x-2)(x-3)}$ in a series of ascending powers of x, and find the coefficient of x^n.

5. If $\frac{p_n}{q_n}$ be the nth convergent to a continued fraction $a_1 + \frac{1}{a_2+}\frac{1}{a_3+}\ldots$ then $p_n q_{n-1} - p_{n-1} q_n = (-1)^n$.

If $\frac{p_n}{q_n}$ be the nth convergent of $\frac{a_1}{b_1+}\frac{a_2}{b_2+}\frac{a_3}{b_3+}\ldots$ then will $p_n q_{n-1} - p_{n-1} q_n = (-1)^{n-1} a_1 . a_2 . a_3 \ldots . a_n$.

6. Find the sum of n terms of a recurring series.

What is the sum of the recurring series $1+2x+3x^2+4x^3 + \ldots$ to n terms.

7. If one solution in positive integers of the equations $ax+by+cz=d$, $a^1x+b^1y+c^1z=d^1$, can be found, show how the general solution may be obtained.

Given the solution $x=2$, $y=2$, $z=0$ of the equations $5x+7y+2z=24$, $3x-y-4z=4$; find the general solution.

Show that if zero values are excluded, there is only one solution giving positive values to x, y, and z. What is it?

8. The product of two determinants is a determinant. Show that

$$\begin{vmatrix} x & y & z \\ z & x & y \\ y & z & x \end{vmatrix} = x^3+y^3+z^3-3\,x\,y\,z.$$

Hence show by determinants that the product of $x^3+y^3+z^3-3\,xyz$ by $a^3+b^3+c^3-3\,abc$ is $X^3+Y^3+Z^3-3\,XYZ$, where $X=ax+by+cz$, $Y=ay+bz+cx$; $Z=az+bx+cy$.

9. In an equation with rational coefficients surd roots enter in pairs.

In the equation $x^5-10x^4+36x^3-56x^2+35x-6=0$, one root is $2+\sqrt{3}$, and three of the other roots form an arithmetical progression; find the roots.

10. Assuming Cardan's solution of the cubic equation $x^3+qx+r=0$.

$$x=\left(-\frac{r}{2}+\sqrt{\frac{r^2}{4}+\frac{q^3}{27}}\right)^{\frac{1}{3}}+\left(-\frac{r}{2}-\sqrt{\frac{r^2}{4}+\frac{q^3}{27}}\right)^{\frac{1}{3}},$$

state when Cardon's irreducible case occurs.

Reduce the equation $x^3-8x^2-6x+9=0$ to the form $y^3-\frac{82}{3}y-\frac{1213}{27}=0$. Is this the irreducible case?

Complete as far as can be done without tables the solution of the above equation.

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EXAMINATIONS MAY, 1893.

MATHEMATICAL HONORS.—JUNIOR B.A.

HIGHER PLANE TRIGONOMETRY AND SPHERICAL TRIGONOMETRY.

1. Prove that $\tan^{-1}x=\frac{1}{2}\tan^{-1}\frac{2x}{1-x^2}$

If $\tan^{-1}y=5\tan^{-1}x$, determine y as an algebraical function of x.

Prove that $\tan 18°$ is a root of the equation $5z^4-10z^2+1=0$. Hence determine the value of $\tan 18°$.

2. Shew that when the change in the angle is small, the change in the logarithm of the sine varies approximately as the change in the angle. Examine the condition when the angle is small or nearly a right angle. Investigate the greatest possible error in a table calculated for every ten seconds and to seven places of decimals.

3. State DeMoivre's theorem. Assuming that it is true for any integral index extend the proof for any fractional index.

Shew how all the values of $(\cos\theta+\sqrt{-1}\sin\theta)^{\frac{p}{q}}$ may be obtained.

If $\tan\theta=\frac{b}{a}$, prove that $(a\pm b\sqrt{-1})^{\frac{1}{n}}=(a^2+b^2)^{\frac{1}{2n}}$ $(\cos\frac{\theta}{n}\pm\sqrt{-1}\sin\frac{\theta}{n})$

4. Prove from DeMoivre's theorem that

$\text{Cos}\,n\theta=\cos^n\theta-\frac{n(n-1)}{1-2}\cos^{n-2}\theta\sin^2\theta+\ldots.$ and determine the last term when n is respectively even or odd.

Deduce the expression for $\cos x$ in a series of powers of x.

5. Prove that $\sin x=\frac{e^{x\sqrt{-1}}-e^{-x\sqrt{-1}}}{2\sqrt{-1}}$, and $\cos x=\frac{e^{x\sqrt{-1}}+e^{-x\sqrt{-1}}}{2}$

Shew from these exponential values that

(1) $\text{Tan } 2x = \dfrac{2 \tan x}{1 - \tan^2 x}$. (2) $\text{Cos } 2x = \text{Cos}^2 x - \sin^2 x$.

(3) If $\sin(\alpha - \varphi) = 3 \sin \varphi$, then $\varphi = \dfrac{1}{3}\sin\alpha - \dfrac{1}{2} \cdot \dfrac{1}{3^2} \sin 2\alpha + \dfrac{1}{3} \cdot \dfrac{1}{3^3} \sin 3\alpha \ldots$.

6. Expand θ in powers of $\tan\theta$.

Prove $\dfrac{\pi}{4} = 4 \tan^{-1}\dfrac{1}{5} - \tan^{-1}\dfrac{1}{239}$.

Thence obtain Machin's series for determining π.

7. Sum the following series:

(1) $\text{Cos } \alpha + \text{Cos } (\alpha+\beta) + \cos(\alpha+2\beta) + \ldots$. to n terms.

(2) $\text{Sin}^2\theta + \sin^2 2\theta + \sin^2 3\theta + \ldots$. to n terms.

8. Prove that in a spherical triangle $\sin A = \dfrac{2n}{\sin b \sin c}$, where $2n = \sqrt{1 - \cos^2 a - \cos^2 b - \cos^2 c + 2\cos a \cos b \cos c}$, assuming the expression for cos A in terms of sines and cosines of the sides.

Hence deduce that $\sin A : \sin B : \sin C :: \sin a : \sin b : \sin c$.

If α, β, γ be the perpendiculars from the angular points of a spherical triangle on the opposite sides, then

$$\text{Sin } a \sin \alpha = \sin b \sin \beta = \sin c \sin \gamma = 2n.$$

9. (*a*) Give Napier's rules of circular parts for the solution of right angled spherical triangles, and apply them for finding a when b and B are given, C being the right angle.

(*b*) Give Napier's analogies.

Apply them for the solution of a spherical triangle when two sides and the included angle are given (a, C, b.)

Discuss the ambiguity in finding c, mentioning any one way of finding c without ambiguity.

10. Find the area of a Lune.

Assuming the expression for the area of a spherical triangle shew from it that the area of a spherical triangle, each of the sides of which is a quadrant, is one-eighth of the surface of the sphere.

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EXAMINATIONS. MAY, 1893.

B. A. EXAMINATIONS—MATHEMATICAL HONORS.

PROBLEMS—PART I., A AND B.

1. If the angular points of a triangle be joined with the points of contact of the inscribed circle with the opposite sides, prove that the three straight lines thus drawn intersect at a point (O).

2. In the last question show that the perpendiculars drawn to the sides of the triangle from the point O are inversely proportional to the squares of the cosines of half the opposite angles of the triangle.

3. The straight lines drawn through the middle points of the sides of a triangle ABC parallel to the bisectors of the opposite angles (which meet in O) will meet in the same point P.

4. In the figure of the last question show that the resultant of forces represented by AO, BO, and CO, will be represented by 4 OP.

5. If $a, b, c, d, \ldots\ldots$ be any number of quantities such $\Sigma. a = 0$, then if $\Sigma. a\,b\,c\,d$ also $= 0$, show that $\Sigma. a^2\,b^2$ is a complete square.

6. If A, B be the integral parts of the quotients of $f(x)$ divided by $x-a, x-b$ respectively, then $\frac{A-B}{a-b}$ will be the integral part of the quotient of $f(x)$ divided by $(x-a)\,(x-b)$.

7. If a, b, c, are the sides of a triangle, right-angled at C, and p is the perpendicular from C on the hypothenuse, then if $a+b+c=np$, show that $c=\frac{1}{2}\cdot\frac{pn^2}{n+1}$, also that no matter what n may be $4c^2\,p^2=2\,(b^2c^2+c^2a^2+a^2b^2)-a^4-b^4-c^4$.

8. A rectangular lamina floats vertically, being supported by a string so that one diagonal is in the surface of the fluid, ρ,σ being the densities of the lamina and fluid, show that $\sigma:\rho = 2a^2+b^2 : 3\,(a^2+b^2)$, a, b being the sides of the rectangle.

9. The respective specific gravities of two fluids and of the atmosphere are σ_1, σ_2, and ρ; a body floats in the first fluid with $\frac{1}{m}$th, and in the second with $\frac{1}{n}$th of its volume immersed; show that $n\sigma_1 - m\sigma_2 = (n-m)\rho$.

10. Two railroads meet at an angle of 120°; it is required to join them by an arc whose radius is 450 yards. At what distance from the former meeting point will the curve commence and at what distance from the same point will it pass?

11. The distance between two circumferences is one yard; the two radii are respectively $0^{yd}.90$ and $0^{yd}.60$; what is the length of that part of the exterior common tangent lying between its points of contact with the circles?

12. In an equilateral hyperbola, the straight line from the centre to any point on the curve is a mean proportional between the focal distances of that point.

13. Find the greatest isosceles triangle which can be inscribed in an ellipse with its base parallel to the major axis.

14. A triangle A B C hangs by one of its corners A, weights P and Q are attached to its other corners. What angle will B C make with the horizontal?

15. A sphere of weight P rests on two inclined planes whose sides are parallel; one is inclined at angle α, the other at an angle of β to the horizontal. What is the pressure on each plane?

16. A heavy body moves down a plane inclined at an angle α, length l, and moves off into vacuum. After what time and at what point will it strike a horizontal plane at a distance d below the base of the inclined plane?

17. A heavy particle is placed on the top of a smooth sphere and slips down over the surface. Where will it leave the curve?

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EXAMINATIONS. MAY, 1893.

PROBLEMS—PART II., A & B.

1. If n be a positive integer and P_n denote the product of all the coefficients in the expansion of $(1+n)^n$, show that

$$\frac{P_{n+1}}{P_n} = \frac{(n+1)^n}{\underline{|n}}$$

2. Show that $\begin{vmatrix} a & a & a & a \\ a & b & a & a \\ a & a & b & a \\ a & a & a & b \end{vmatrix} = a\,(b-a)^3.$

3. The roots of the Equation $x^3 - 11x^2 + 36x - 36 = 0$ are in Harmonical Progression; solve the Equation.

4. If two semi circles be described internally upon the bounding radii of a quadrant, the circle, which touches the three circumferences will have its radius : radius of the quadrant :: $\sqrt{2} - 1 : 3\sqrt{2} - 1$.

5. Sum the following series :—

$\text{Sin}^3\,\theta + \text{Sin}^3\,2\theta + \text{Sin}^3\,3\theta +$ —— to n terms.

6. If $\alpha, \alpha', \beta, \beta', \gamma, \gamma'$ be the segments of the sides of any spherical triangle made by the perpendiculars from the opposite vertex, show that

$$\frac{\text{Cos}\ \alpha\ \cos\beta\ \cos\gamma}{\text{Cos}\ \alpha'\ \cos\beta'\ \cos\gamma'} = 1.$$

7. If $\tan z = \sqrt{\frac{1-x}{1+x}}$; show that $\frac{dz}{dx} = -\frac{1}{2\sqrt{1-x^2}}$

8. Bisect a triangle by the shortest line.

9 Discuss and trace the curve, whose Equation is

$$\frac{x^3}{a^3} + \frac{y^3}{b^3} = 1.$$

10. Integrate $\int_0^a \frac{\tan a - \tan x}{\tan a + \tan x}\, dx$

11. If the lines represented by $y = x \tan a$, $y = x \tan \beta$, where $a = \frac{11}{14}\pi$, $\beta = \frac{19}{24}\pi$ be perpendicular to each other, show that the angle between the co-ordinate axes is $\frac{\pi}{4}$.

12. Three particles are projected from the same point in different directions. Show that after a time t they form a triangle whose area varies as t^2.

13. If a central force $P = 2\mu \left(\frac{1}{r^3} - \frac{a^2}{r^5}\right)$ and the particle be projected from an apse at a distance a with a velocity $\frac{\sqrt{\mu}}{a}$, the orbit is $r = \frac{a}{2}\left(\begin{matrix}\theta & -\theta \\ e & +e\end{matrix}\right)$.

14. The radii of the front and hind wheels of a carriage are a and b,, c is the distance between the axle-trees; a particle of mud, driven from the highest point of the hind wheel is observed to alight on the highest point of the fore wheel. Show that the velocity of the carriage is

$$\sqrt{\frac{g(b+c-a)(c+a-b)}{4(b-a)}}$$

15. If a plane mirror be equally inclined to each of the three co-ordinate planes, and λ, μ, ν be the direction cosines of a ray incident upon it, show that the direction cosines of the reflected ray will be

$$\tfrac{1}{3}(2\mu+2\nu-\lambda),\ \tfrac{1}{3}(2\nu+2\lambda-\mu),\ \tfrac{1}{3}(2\lambda+2\mu-\nu).$$

16. Find the nature of the surface represented by the equation

$$x^2+y^2+z^2+yz+zx+xy=1.$$

17. Find the volume generated by the revolution of a circular disc about an axis in its plane, and at such a distance as not to intersect the disc.

18. A straight line is drawn from the centre of an ellipse meeting the ellipse in P. the auxiliary circle in Q, and the tangent at the vertex in T; prove that as CT moves up to and ultimately coincides with the major axis, PT, QT are ultimately in the duplicate ratio of the axes.

19. The centre of the circle, radius r, inscribed in a triangle ABC, is an origin of light, find the length of the path of a ray of light, which after reflection at the sides AB, AC, returns again to the origin.

20. Show that if a ray of light, incident on a sphere emerges after p internal reflections its minimum deviation is greatest when its refractive index is greatest.

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EXAMINATIONS MAY, 1893.

MENTAL AND MORAL SCIENCE—SPECIAL.

SEDGWICK.

1. Distinguish and connect Ethics and Politics.

2. State the difference in the point of view in which Ethical science is treated in ancient and in modern times and account for the change.

3. State the Socratic principle of virtue. Point out the relation thereto of the Socratic method and indicate the importance of the method in the history of philosophy.

4. (*a*) Point out the principal modifications of the Socratic doctrine by Plato.

(*b*) State what you regard to be (1) the merits and (2) the defects of Plato's Ethics.

5. Give and comment on Aristotle's definition of virtue or moral excellence.

6. Contrast ancient and mediæval Ethics in regard to (*a*) the virtue of beneficence and (*b*) the motives to virtuous action.

Or, distinguish with Thomas Aquinas "natural," "human," and "divine" law.

7. Explain "Particular affections are necessarily presupposed in the very idea of an interested pursuit."

Or, explain "A man cannot be consistently egoistic without being continually self-regulative."

8. State briefly (*a*) by whom and in what manner the relativity of the moral system of Hobbes was combatted, and (*b*) by whom and in what manner its selfishness.

9. Mill says "the mind is not in a state conformable to virtue, unless it loves virtue as a thing desirable in itself." Explain how on Mill's fundamental principle, it is claimed this state could be reached.

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EXAMINATIONS. MAY, 1893.

MENTAL MORAL SCIENCE.

CALDERWOOD. (SPECIAL AND GENERAL.)

1. State briefly not fewer than four of the more important questions discussed in Ethics.

2. Define a first truth and examine the claim of the following to be so regarded "we ought to hold sacred what others produce."

3. (*a*) Show that the completed volition is for ethical purposes the action. (*b*) Give a brief account of the method by which, according to the text book, the mind comes to pronounce an action to be right or wrong.

4. Shew the importance of the fact that moral guidance is given in the form of principles rather than of detailed rules.

5. What account is given of the authority of conscience by (*a*) Calderwood, (*b*) Butler, (*c*) John Stuart Mill.

6. "Moral rights are inalienable." Explain.

7. (*a*) State what exactly is meant by Utilitarianism as a System of Morals. (*b*) Give its two forms mentioning some of the more prominent advocates of each.

8. Distinguish emotion and impulse, and classify the impulses psychologically.

9. (*a*) Distinguish moral or spiritual freedom from that natural freedom which is the basis of responsibility. (*b*) State in what form the testimony of consciousness may be adduced to establish the reality of man's freedom in the latter sense.

10. "Moral judgments do not themselves possess moral quality." Examine the statement. Under what circumstances is it true and under what false?

11. Shew the consistency of the intuitional theory with the existence of a progressive standard of morality.

12. Point out the bearing of biological and phsycological evolution on the ethical questions of (*a*) the basis of moral distinctions and (*b*) the nature of conscience.

NOTE.—Students in Mental and Moral Science course, will take questions 2, 3, 4, 5, 6, 9, 10, 11, 12. All other Students 1, 2, 3, 4, 5, 6, 7, 8, 9.

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EXAMINATIONS, MAY, 1893.

MENTAL AND MORAL SCIENCE—SPECIAL COURSE.

WALKER AND BAGEHOT.

1. Discuss fully the respective merits of the English and German Schools of Political Economy.

2. State fully what is meant by the law of Diminishing Returns, and show the important position which it holds in Economic Science.

3. Discuss the policy of limiting by law the rate of interest legally payable.

4. Explain what is meant by Bi-metallism and summarize its alleged advantages and disadvantages.

5. Show the various directions in which co-operation has been attempted, and point out particular advantages or difficulties of each.

6. State and criticize after Walker the Wage Fund Theory.

7. Contrast the Cabinet System of Government with the Presidential *(a)* as to Elasticity; *(b)* Permanency or Stability; *(c)* Efficiency; *(d)* Responsibility.

8. *(a)* State and discuss the chief functions of the House of Commons.

(b) What are the disadvantages and advantages of changes of ministry?

9. Give fully the advantages and defects of the House of Lords and show why this House is the second House in importance.

10. What are the checks and balances in the British Constitution? Compare it in these respects with the Constitution of the United States.

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EXAMINATIONS, MAY, 1893.

JANET.

1. *(a)* "The Utilitarians have sometimes complained that two opposite faults are imputed to their philosophy." State these two faults and show how Janet reconciles the apparent contradiction.

(b) How, according to Janet, does Mill depart from his fundamental principle in the basis of moral distinctions which he adopts?

2. State clearly Janet's views as to the nature of happiness, exhibiting clearly its relation *(a)* to pleasure, *(b)* to virtue.

3. Sketch the process by which, according to Janet, we are enabled to pass from our own good to that of others. Examine Janet's views on this subject.

4. *(a)* State the principle upon which, according to Janet, moral obligation is based.

(b) Outline Janet's proof of this principle.

(c) Examine the sufficiency of this proof.

5. *(a)* Give Kant's view of the nature of duty, comparing it with that of Janet.

(b) How, according to Janet, does Kant depart from his formal principle in his ultimate determination of the basis of moral distinctions?

6. *(a)* State Janet's views as to the true nature of Liberty, comparing his views with those of Leibnitz.

(b) Exhibit the chief difficulties which confront Janet's theory of Liberty, and show briefly how each of them may be met.

7. Exhibit fully Janet's views as to the relation of Knowledge and Virtue.

8. Discuss after Janet the relation of Religion and Morality.

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EXAMINATIONS, MAY, 1893.

MENTAL AND MORAL SCIENCE—SPECIAL COURSE.

STEWART.

1. Enumerate our Principal Desires and discuss after author "The Desire of Knowledge."

2. Show that we have a sense of duty which is not resolvable into a regard to our own happiness.

3. State and criticize Paley's doctrine as to the origin of the Moral Faculty.

4. Granting the claim of the Intuitionalist as to the origin of moral ideas, how can the diversity in man's moral judgments be accounted for?

5. Contrast Cudworth's Theory of Morals with that of Hobbes, and point out the fundamental principles of each.

6. State and examine Bentham's Moral System.

7. *(a)* Compare the view of the nature of conscience taken by Stewart with that taken by Calderwood.

(b) How did Butler establish the Supremacy of Conscience?

8. Enumerate and briefly discuss the principles which our author mentions as co-operating with our moral powers in their influence on conduct.

9. 9. *(a)* State exactly and fully what you mean by the freedom of the Will.

(b) Vindicate it as against those who hold Necessitarian theories.

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EXAMINATIONS. MAY, 1893.

STEWART.—PASS.

1. State fully the difference between the desires and affections, and discuss, after author, The desire of Society.

2. *(a)* In what respects do our benevolent affections agree? Show that they are not resolvable into self-love.
(b) Show the position which resentment occupies in our moral nature.

3. Show that the moral faculty is not resolvable into self-love.

4. Show how the Intuitionalist accounts for the diversity in man's moral judgments.

5. State and criticise Adam Smith's Theory of Sympathy.

6. *(a)* State fully Stewart's view of conscience.
(b) Account for the authority which is ascribed to it by the Intuitionalist.
(c) How did Butler establish the supremacy of conscience.

7. Show the office and use of reason in the practice of morality.

8. *(a)* State what you understand by freedom of the will.
(b) Show how freedom of the will may be vindicated as against those who hold Necessitarian theories.

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EXAMINATIONS. MAY, 1893.

MILLS—POLITICAL ECONOMY.

I. "We see that there is a distinction more important to the wealth of a community than even that between productive and unproductive labor." Explain fully this distinction.

II. (*a*) Contrast after Mill the advantages of Communism and Private Property.

(*b*) Exhibit Mill's views as to the special nature of Property in Land.

III. Indicate fully how the rate of Profit is determined.

IV. State clearly Ricardo's view of the true nature of Rent, and prove after Mills that Rent does not really form any part of the expenses of Agricultural production.

V. Consider why the wages of women are, on the average, lower than those of men.

VI. Exhibit *(a)* the Universal *(b)* the Occasional elements in the cost of Production.

VII. Exhibit after Mills the chief causes of inequality in the Wages of Capital.

VIII. Ricardo, says: "It is not a difference in *absolute* cost which determines in *comparative* cost." Fully illustrate this remark.

IX. A Bill of Exchange for £103 drawn in New York on London, sells on the 1st of January, '93 for $510; on the 1st June, '93, a Bill of equal amount sells for $525. Explain clearly the changes in international trade relations which the fall indicates.

X. How will the progress of society affect—
(a) permanent values.
(b) fluctuations in value.

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EXAMINATIONS. MAY, 1893.

MENTAL AND MORAL SCIENCE. [SPECIAL.]

HISTORY OF PHILOSOPHY—MODERN.

1. Examine Locke's arguments against innate ideas in relation to (*a*) the view directly controverted, and (*b*) the view of Plato on the subject.

2. (a) State the exact purport of Berkley's denial of an external reality.

(b) Indicate how Hume dealt with the idea of "a substance called mind," and on what ground.

3. Trace the history of Realism and Nominalism in the middle ages with reference to Abelard, Duns Scotus, and William of Occam.

4. Explain the feature in Descartes' Philosophy which led to occasionalism.

5. Give and examine the solution of the Cartesian difficulty furnished by Malebranche. Give and examine the solution of this difficulty offered by Leibnitz.

6. Compare the accounts given by Locke and Hume of the ideas of space, cause and self-identity.

7. State the arguments for the existence of God as given by Anselm, Descartes, and Kant respectively.

8. State the main purport of Reid's answer to Hume, and compare his answer with that of Kant; giving at the same time the fundamental points in Kant's account of experience.

9. What modification of Kant's general method was made by Fichte?

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EXAMINATIONS, MAY, 1893.

MENTAL AND MORAL SCIENCE HONORS.

ETHICA I.

1. Ostende nullum quidem bonum creatum, Deum vero esse hominis finem ultimum.

2. Distingue inter actus humanos et actus hominis, inter actus voluntarios et liberos, elicitos et imperatos.

3. Probetur honestas et inhonestas actionum derivari non posse ex voluptate et dolore sensili, neque ex utilitate sive privata sive majoris numeri.

4. Explica notionem meriti ejusque conditiones, et ostende hominem actibus suis liberis mereri posse tum apud alios homines tum apud Deum.

5. Demonstretur existentia et explicetur definitio legis naturalis, quae immutabilis est et quoad generaliora praecepta a nemine invincibiliter ignorari potest.

6. Definiatur conscientia moralis variique conscientiae status describantur.

7. Lex naturalis sanctione perfecta communiatur, quae non habeatur nisi in altera vita, quaeque consistat in possessione aut privatione ultimi finis.

8. (*a*) Explicetur hoc dictum: Necessitas non habet legem.

VEL

(*b*) Demonstretur necessitas inquirendi de revelatione statim ac suspicio de ea facta oriatur.

9. (*a*) Exponatur triplex officiorum genus quae homo habet erga seipsum.

VEL

(*b*) Demonstretur illiceitas mendacii.

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EXAMINATIONS, MAY, 1893.

MENTAL AND MORAL SCIENCE HONORS.

ETHICA II.

1. Distinguatur naturalis a supernaturali felicitate, felicitatis notio explicetur, et qualis in hac vita possit, qualis autem non possit, haberi declaretur.

2. Explica varias species voluntarii, ignorantiae et concupiscentiae.

3. Actionum moralitas deducatur proxime ex earumdem convenientia vel discrepantia cum natura rationali, remote ex ordine qui specialiter fluit ex rerum essentialibus relationibus, quatenus hic ordo fundatur in sapientia et bonitate divina.

4. Obligationis natura declaretur; obligatio autem ipsa derivetur fundamentaliter ab ordine objectivo, et formaliter ab ordinatione divina.

5. Refutetur Kantiana rationis autonomia.

6. Statuantur et demonstrentur quatuor regulae ad dirigendam conscientiam quatenus est recta et vera, invincibiliter erronea, aut practice dubia, et quoties adest absoluta obligatio alicujus finis obtinendi.

7. Juris elementa quatuor describantur et explicentur.

8. (*a*) Exponantur systemata Kantii, Cousin et Jouffroy, et probetur moralitas non posse existere sine religione.

VEL

(*b*) Evolvatur religionis notio consideratione termini, objecti, fundamenti, religionis naturalis et supernaturalis, speculativae et practicae, cultus interni et externi atque discriminum inter hos.

9. (*a*) Argumenta contra suicidium directum exponantur. Quid de morte indirecte permissa cum causa proportionate gravi?

VEL

(*b*) Dissere de jure defensionis contra injustum aggressorem et de duello.

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EXAMINATIONS MAY, 1893.

MENTAL AND MORAL SCIENCE HONORS.

ETHICA III.

1. Definiatur proprietas, dominium plenum ac semiplenum, jus ad proprietatem et jus proprietatis, demum status quaestionis relate ad eos qui negant jus congenitum ad proprietatem. Explicetnr factum primigenium.

2. Distingue inter socialistas et communistas; contra ambos argue.

3. Solvatur haec difficultas. Negat Henricus George paritatem solum inter et ceteras res: nam 1. solum a Deo creatum fuit, hae ab homine producuntur; 2. solum est limitatum, hae indefinite crescere possunt; 3. solum de generatione in generationem perseverat, hae post aliquod tempus in primitiva elementa resolvuntur.

4. Definiatur contractus et exponantur quae in onmi contractu sunt necessaria.

5. Operariorum societates quae aliorum jura non violent a civili auctoritate dirigendae sunt; sin autem in juris oppressores degenerent, prohibendae sunt. Addantur duo notanda.

6. Proba societatem civilem non posse id efficere ex quo valor aut nullitas ipsius matrimonii pendeat.

7. Respondeatur utrum civilis auctoritas sit jurium individualium summa an emergat a jure individuali quod omnes socii habent ad suam perfectionem, et responsio argumentis fulciatur.

8. (*a*) Probetur auctoritas civilis originem ducere a Deo. Num haec auctoritas prius residet in communitate et ab ipsa in aliquod determinatum subjectum derivat?

VEL

(*b*) Jus poenale, spectato principio, derivat ex ordinis procurandi officio; spectato fine, ad ordinis reparationem sociorumque admonitionem primario tendit; spectato ambitu, ipsam capitalem poenam complectitur

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EXAMINATIONS, MAY, 1893.

MENTAL AND MORAL SCIENCE HONORS.

ETHICA IV.

1. Jus ad proprietatem fluit ex juribus hominum congenitis; jus autem proprietatis constituitur per aliquod factum, et lege naturae sancitur.

2. Prematur et solvatur haec objectio: Doctores scholastici jus proprietatis a jure gentium deducunt. Atqui jus gentium est jus positivum, non naturale. Ergo jus proprietatis non derivat a natura.

3. Solvatur haec Henrici George objectio ejusque duae instantiae: Illud tantum haberi potest uti proprium quod proprio labore producitur. Atqui solum proprio labore non producitur. Ergo solum non potest haberi uti proprium.

4. Responde Proudhon objicienti: Principium "res fructificat domino" non potest applicari contractui patronos inter et operarios: nam competit tantummodo labori a singulis individuatim praestito, non labori ab omnibus conjunctim inito. Virium enim consociatio laboris fructum multiplicat et sic utilitatis excessum producit; hic autem utilitatis excessus pertinet ad operarios, quippe qui sunt hujus incrementi causa.

5. Societas conjugalis, etsi ab ipsa natura interditur, non tamen est singulis obligatoria; praeterea est societas essentialiter amicalis. Objectionibus contra caelibatum responde desumptis ex propensione naturali, ex impossibilitate, ex ordinatione divina "crescite et multiplicamini."

6. Contra Hobbes et Rousseau argue societatem civilem esse homini naturalem, demonstra societatis cujusque actualem existentiam ab aliquo facto esse repetendam, et difficultatibus responde desumptis ex hominum aequalitate et ex malis quae de societate profluere dicuntur.

7. Dissere de variis regiminis formis, de forma praesertim repraesentativa et de jure populi ad repraesentationem.

8. (*a*) His objectionibus satisfiat: 1. Nefas est personam humanam in meram rem vertere. Atqui poena capitalis personam humanam in meram rem vertit. Ergo nefas est infligere poenam capitalem. 2. Aliae poenae sunt magis efficaces majoremque terrorem hominibus injiciunt. Ergo argumentum ex securitate deductum in favorem poenae capitalis non valet. 3. Non licet ordinem violatum novo delicto restituere. Atqui hominis occisio est delictum. Ergo non licet occidere hominem ut ordo restituatur.

VEL

(*b*) Disseratur de bello ejusque conditionibus, de modo illud gerendi et de belli exitu.

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EXAMEN, MAI, 1893.

MENTAL AND MORAL SCIENCE HONORS.

HISTOIRE DE LA PHILOSOPHIE.

PARTIE II.

1. Faire connaître brièvement l'enseignement de Thalès, d'Anaximène, de Diogène d'Apollonie, d'Anaximandre et d'Héraclite.

2. Appréciation sommaire de Platon.

3. Aristote: qu'était-il? Sa logique: dans quels ouvrages se trouve-t-elle? Résumé de sa métaphysique, de sa morale, de sa politique. Caractère de sa philosophie, son mérite.

4. Néoplatonisme: son berceau, ses sources; doctrine de Plotin sur deux manières de connaître Dieu, distinguer le vrai du faux dans cet enseignement; les trois hypostases; les deux âmes de l'homme; comment l'âme doit revenir à Dieu; l'extase; la dialectique de Plotin.

5. Origine du gnosticisme; son influence sur plusieurs erreurs subséquentes; ses principaux adhérents; résumé de la gnose de Valentin; abîme, silence, les quatre éons, le plérôme, le démiurge, les trois principes. Faire voir la genèse des extravagances gnostiques et les conséquences morales de ce système.

6. Apprécier la vie et les œuvres de Suarez; ses enseignements sur l'intellect actif, la connaissance du singulier, le phantasme, le libre arbitre, l'essence et l'existence, le concours divin.

7. (*a*) Qu'est-ce que Taine dit de Locke? Esquissez l'*Essay on the Human Understanding*. Vues de Locke sur l'immatérialité de la pensée et la personnalité; sa théodicée, sa morale individuelle et sociale.

OU BIEN

(*b*) Enumérer les principaux ouvrages de Hume; exposer ses notions sur la substances et la cause; conséquences de ces théories.

8. (*a*) Faire une critique raisonnée de la théorie de Hamilton sur la relativité de nos connaissances ; cause de cette erreur. Décrire et apprécier le procédé grâce auquel Hamilton croit sauver le libre arbitre, tout en professant que l'inconditionné est inconcevable.

OU BIEN

(*b*) Logique et anthropologie des positivistes ; leur attitude vis-à-vis des notions de substance, d'essence et de cause ; la théorie des trois étapes ; cosmologie, théodicée et morale positivistes ; apprécier tout le système.

Universite de Manitoba.

EXAMEN, MAI, 1893.

MENTAL AND MORAL SCIENCE HONORS.

HISTOIRE DE LA PHILOSOPHIE.

PARTIE I.

1. Résumer les doctrines de Démocrite.

2. Faire connaître les sources où nous puisons nos idées du système de Socrate ; exposer sa méthode et quelques particularités de son enseignement et de ses erreurs.

3. Coup d'œil rapide sur l'état de la philosophie avant Socrate ; effet de la méthode socratique sur Platon. Faire voir comment Platon ressuscita les spéculations, comment il envisage la science sous trois chefs principaux, comment il définit et divise la vertu. Distinguer entre l'idéalisme de Platon et l'idéalisme moderne. Les idées platoniciennes ont-elles un caractère objectif ?

4. Stoïcisme : son fondateur ; ses maximes ; son tort irréparable ; le plus fameux disciple du fondateur. Stoïcisme romain représenté par Sénèque, Epictète et Marc-Aurèle.

5. Caractère de la philosophie des Pères ; double attitude vis-à-vis de la philosophie païenne ; éclectisme ; problèmes résolus par les Pères ; ce qu'ils ont renversé.

6. Esquisse biographique de St. Thomas d'Aquin ; ses ouvrages les plus célèbres ; caractère de sa philosophie ; les auteurs qu'il cite le plus souvent ; sa logique ; son anthropologie ; ses erreurs en physique ; sa métaphysique ; sa morale ; sa politique. Est-il original ?

7. (*a*) Critique de Lord Bacon ; sa division des connaissances humaines ; les causes finales ; la morale ; la logique ; sa division des sources de nos erreurs ; son estime pour la religion ; sa méthode nouvelle ; son vrai mérite. A quoi faut-il attribuer son succès ?

OU BIEN

(*b*) Faire connaître Leibnitz, son *Systema Theologicum*, sa logique, son déterminisme, son harmonie préétablie. Montrer

comment il réfute Locke. Grand mérite de Leibnitz ; action *ad extra* ; explication de son optinisme ; matière et forme ; loi de la continuité ; théologie naturelle ; morale.

8. *(a)* Principaux ouvrages de Reid ; comment il a voulu combattre le scepticisme de Hume ; son sens commun ; sa théorie des idées, des jugements primitifs, du sens moral.

OU BIEN

(b) Enumérer les principaux auteurs positivistes et leurs ouvrages les plus célèbres. Signaler les divergences entre le positivisme français et le positivisme anglais.

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EXAMINATIONS. MAY, 1893.

MENTAL AND MORAL SCIENCE HONORS.

ECONOMIE POLITIQUE.—I.

1. Expliquer les termes : besoins, richesses et matière première.

2. Examiner les trois facteurs de la richesse ; en montrer l'union indispensable.

3. Esquisser les corporations ouvrières d'autrefois ; en signaler les inconvénients. Fallait-il les abolir ?

4. Deux extrêmes à éviter dans la réglementation industrielle. Donner quelques exemples de réglementation dans les industries agricoles, extractives, manufacturières, commerciales et de transport, dans les brevets d'invention et dans les professions libérales.

5. Importance de la terre et des agents naturels ; différences entre ces deux éléments. Les productions de la terre s'accroissent-elles indéfiniment en raison du travail qu'on y consacre ?

6. Esquisser l'histoire de l'échange depuis le troc simple jusqu'aux lettres de crédit.

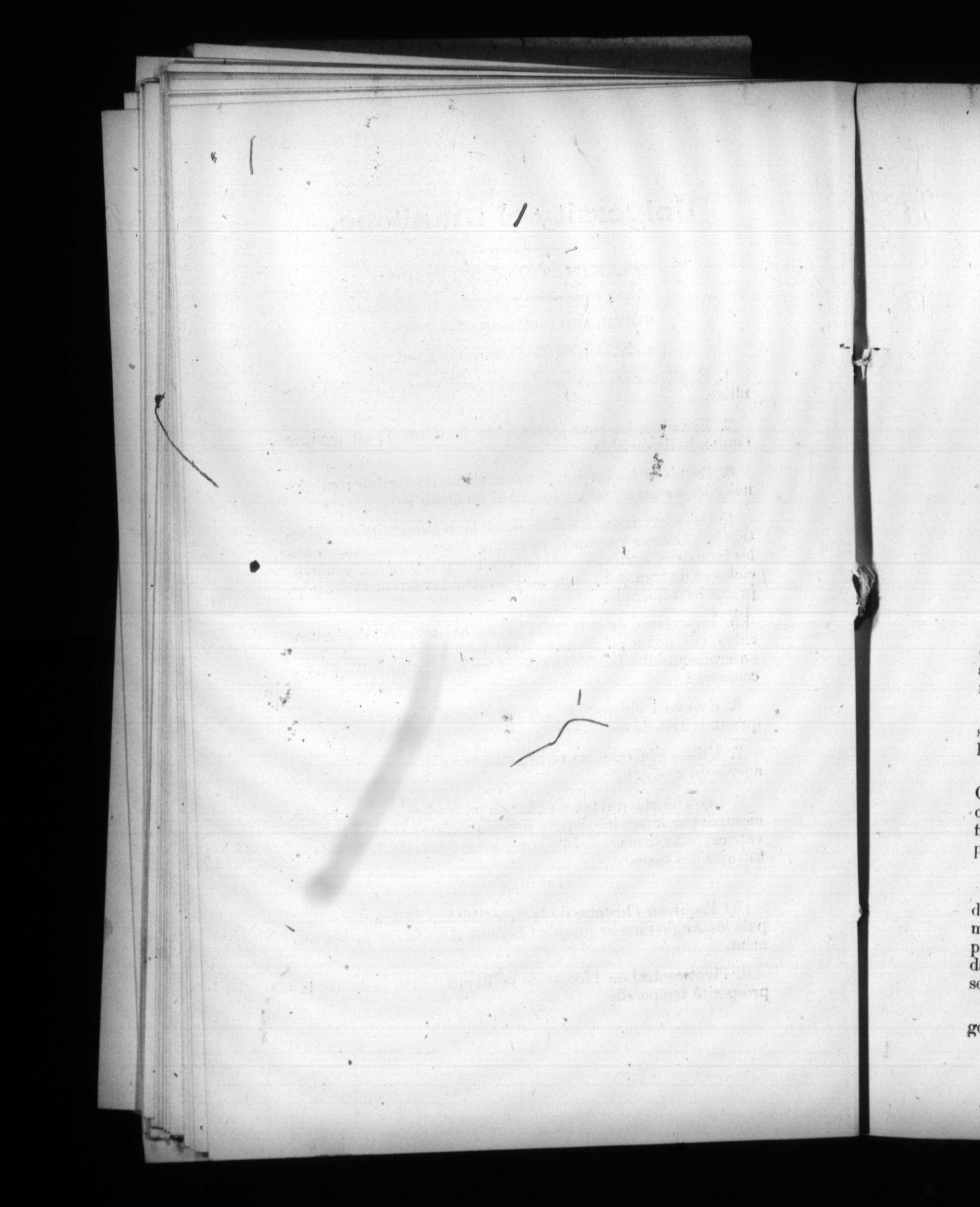
7. Utilité générale du crédit ; dangers d'une extension exagérée du crédit.

8. (*a*) Théories des taxes : charges professionnelles ; capacité mesurée par le sacrifice ; taxe politico-sociale ; théorie conservatrice ; éclectisme. Faire l'application générale de certaines théories des taxes.

OU BIEN

(*b*) Esquisser l'histoire de la Constitution Britannique depuis les Anglo-Saxons jusqu'au *Reform Act of 1832* inclusivement.

9. Pivot central de l'économie politique. Idée juste de la prospérité temporelle.



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EXAMEN, MAI, 1893.

MENTAL AND MORAL SCIENCE HONORS.

ECONOMIE POLITIQUE.—II.

1. Décrire la hiérarchie économique des travaux industriels.

2. Avantages et inconvénients des machines.

3. Définir les Trade-Unions, montrer les bienfaits que l'Angleterre en a tirés, les dés avantages que ces sociétés présentent. Les grèves peuvent-elles se justifier ?

4 Faire voir la différence entre le capital fixe et le capital circulant, ainsi que le rapport entre les crises industrielles et les capitaux fixes, entre le luxe et les capitaux circulants.

5. Donner quelques statistiques sur l'agriculture, l'industrie et le commerce de la France, la Prusse, la Belgique, les Etats-Unis et l'Angleterre ; faire un court commentaire sur ces chiffres.

6. De quoi se composent, dans un temps et dans un lieu déterminé, la demande et l'offre de la monnaie ? Que conclure de là quant à la valeur de la monnaie ? Quelle conclusion faut-il tirer de ce que la monnaie n'est pas la seule richesse ?

7. Apprécier, comme projets de réforme sociale, le Malthusianisme, l'abstinence totale, le socialisme, la loi des huit heures de travail.

8. (*a*) Exposer et réfuter le *Single Tax System* de Henry George. Définir la rente de la terre ; en indiquer la véritable origine ; son but incompréhensible sans la connaissance des fins terrestres de l'homme ; milieu entre l'optimisme et le pessimisme.

OU BIEN

(*b*) En quoi consiste le vrai progrès de la société ? Moyens de l'assurer. Indiquer quelques réformes à opérer dans les manufactures, dans les rapports entre les patrons et propriétaires et les ouvriers et locataires, dans les professions, dans la loi des créances, dans les propriétés rurales, dans les secours aux indigents.

9. Rôle théorique et pratique du Premier Ministre dans le gouvernement actuel de l'Empire Britannique.

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EXAMINATIONS MAY, 1893.

MODERN LANGUAGE HONOR COURSE
AND
GENERAL B. A. COURSE.

WORDSWORTH AND TENNYSON.

1. What are the chief features of Wordsworth's poems as regards *(a)* theme, *(b)* style, *(c)* influence?

2. "Wordsworth was always a nature worshipper." Illustrate this statement from the Wanderer.

3. Give an account of the education of the Wanderer, and the development of his feelings.

4. Paraphrase and scan the following lines:—

He looked—
Ocean and earth, the solid frame of earth
And ocean's liquid mass, in gladness lay
Beneath him. Far and wide the clouds were touched,
And in their silent faces could he read
Unutterable love. Sound needed none,
Nor any voice of joy; his spirit drank
The spectacle: sensation, soul and form,
All melted into him; they swallowed up
His animal being; in them did he live,
And by them did he live; they were his life.
In such access of mind, in such high hour
Of visitation from the living God,
Thought was not; in enjoyment it expired.
No thanks he breathed, he proffered no request;
Rapt into still communion that transcends
The imperfect offices of prayer and praise,
His mind was a thanksgiving to the power
That made him; it was blessedness and love!

Point out the figures of speech in the foregoing lines.

5. Explain fully the following phrases:—

"Extends his careless limbs. Reasonings of the mind
Turned inward. That mighty orb of song.—His
Triangles—they were the stars of heaven.
That stern yet kindly spirit. Deepest noon—
Had from its mother caught the trick of grief—
The calm oblivious tendencies of nature."

6. Enumerate some of Tennyson's principal poems, and, in particular, all those that relate to the "Arthur" legends. For what characteristics is Tennyson's poetry most remarkable?

7. Contrast the poetry of Wordsworth and Tennyson in regard *(a)* to subjects treated of, *(b)* style, and *(c)* method of looking at nature.

8. Explain clearly and fully the following passages:

He look'd and saw that all was ruinous.
Here stood a shatter'd archway plumed with fern;
And here had fall'n a great part of a tower,
Whole, like a crag that tumbles from the cliff,
And like a crag was gay with wilding flowers;
And high above a piece of turret stair,
Worn by the feet that now were silent, wound
Bare to the sun, and monstrous ivy-stems
Clasp't the gray walls with hairy-fibred arms,
And suck'd the joining of the stones, and look'd
A knot, beneath, of snakes, aloft, a grove.

O purblind race of miserable men,
How many among us at this very hour
Do forge a life-long trouble for ourselves,
By taking true for false, or false for true;
Here, thro' the feeble twilight of this world
Groping, how many, until we pass and reach
That other, where we see as we are seen!

9. Explain fully the following phrases:

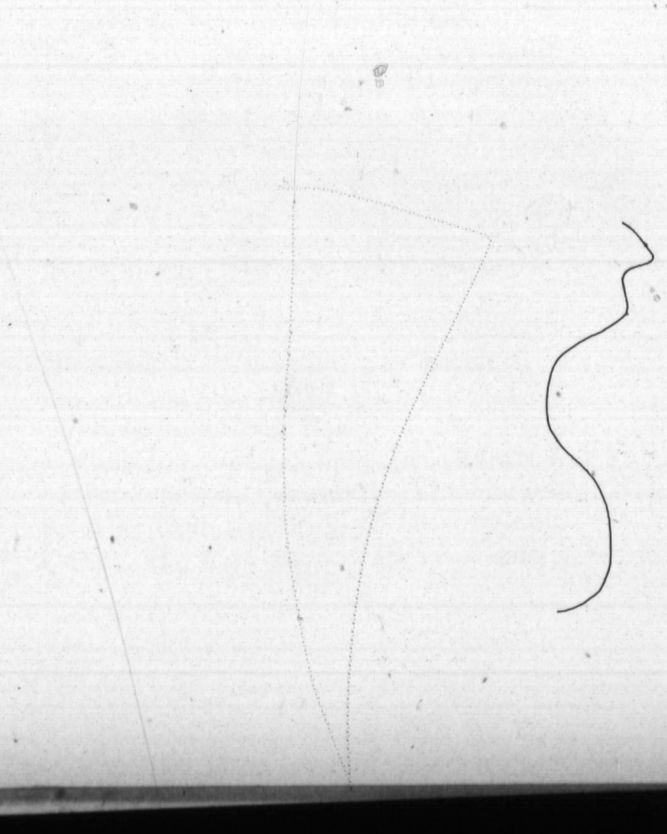
That great Order of the Table Round.
The rumour rose about the Queen.
This common sewer of all his realm.
Old Caerleon upon Usk.
A thousand pips eat up your sparrow-hawk.
Arthur's hall at Camelot: The chair of Idris.
Sweeter than the bride of Cassivellaun.
Dubric, the high saint. Many a listless annulet.

A touch of sweet civility
Mismated with a yawning clown.

FOR HONOR STUDENTS ONLY.

Write an essay of not less than *one* nor more than *two* pages on one of the following subjects :—

1. Music.
2. The Influence of Greek Literature.
3. The Force of Habit.



University of Manitoba.

EXAMINATIONS, MAY, 1893.

HONOR ENGLISH.

LAMB.

1. Point out allusions in Lamb's essays:

(1) To his poverty.
(2) To his education.
(3) To his warm, personal friendships.

2. Show from the Essay on "The South Sea House," Lamb's strong taste for the antique.

3. Summarize the Essay on "The two races of men."

4. Explain the following illusions in the Essay on "A Complaint of the decay of beggars":—

(*a*) "The blind Beggar in the legend—the father of pretty Bessy."

(*b*) "Where King Cophetua woos the beggar maid."

(*c*) "He was a grand fragment; as good as an Elgin marble."

(*d*) "The all-sweeping besom of societarian reformation."

MACAULAY.

State the occasion on which Macaulay wrote his Essay on "Milton," and point out the skill with which he uses this in introducing his subject.

6. "The Comus" and the "Samson Agonistes" are works which, though of very different merit offer some marked points of resemblance." Explain.

7. Develope after Macaulay the statement: "We think that, as civilization advances, poetry almost necessarily declines."

8. Give examples from the Essay, of Macaulay's

(1) Use of Cumulation.
(2) Adroitness in argument.

(3) Political opinions.
(4) Marvellous erudition.

PRINCIPLES OF RHETORIC.

9. State the "accessories of description" or means by which description is height need.

10. What are the necessary conditions for a successful historical narration?

11. What are the several processes used in Exposition?

12. Give a few practical rules or maxims to be followed in "Debate."

13. State the various principles of persuasion.

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EXAMINATIONS MAY, 1893.

HONOR ENGLISH.

CRAIK'S LITERATURE.

1. Give an account of the dialect used by John Barbour, and an account of "The Bruce."

2. Show the influence of Surrey and Wyatt on our English poetical literature.

3. Give an account of "Ralph Roister Doister," and "Gorboduc," and state the place they hold respectively in our literature.

4. Write a full account of "Euphuism."

CRAIK'S ENGLISH.

5. "Two great dialects of the French language had an influence on our English." Show when and how each of these acted.

6. State to what stages of the English language Layamon's Brut and the Ormulum respectively belong, and show by example how their English differs.

TAYLOR.

7. State the use made by Taylor of craniology. Explain "Cephalic index," and "Orbital index," respectively and state approximate indexes for the various races.

8. "The case of the horse in Neolithic culture is of great interest." Illustrate.

9. In Britian three cranial types characterize three ages of stone, bronze, and iron. Name and describe.

10. Discuss the Finnic hypothesis.

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EXAMINATIONS, MAY, 1893.

MODERN LANGUAGES—HONORS.

SENIOR AND JUNIOR B. A.

CHANTREL.

1. Define dramatic poetry, and describe its aim and origin.

2. Explain (*a*) *l'unité du fait*, (*b*) *l'unité du temps*, (*c*) *l'unité du lieu.*

3. Name the other essential characteristics of dramatic action, and show their importance.

4. *L'action dramatique* comprend *l'exposition*, le *nœud* et le *dénoûment.*

Define *l'exposition*, and deduce the rules for le *nœud*, and le *dénoûment* from the following verses:

Que le trouble toujours croissant de scène en scène,
A son comble arrivé, se débrouille sans peine,
L'esprit ne se sent point plus vivement frappé,
Que lorsqu'en un sujet d'intrigue enveloppé,
D'un secret tout à coup la vérite connue
Change tout, donne à tout une face imprévue.

5. Define epic poetry, and name the three classes into which it is divided.

6. Translate the following extracts, and state with reasons the class of epic poetry to which each belongs:

(*a*) Je chante les combats et cette homme pieux
Qui, banni par le sort du champ de ses aïeux,
Et des bords phrygiens conduit dans l'Ausonie,
Aborda le premier aux champs de Lavinie.

(*b*) Je chante les combats et ce prélat terrible
Qui, par ses longs travaux et sa force invincible,
Dans une illustre église exerçant son grand cœur,
Fit placer à la fin un lutrin dans le chœur.

7. Define the following kinds of smaller poems:
(*a*) *Sonnet*, (*b*) *Rondeau*, (*c*) *Ballade*, (*d*) *Triolet.*

GERUZEZ.

8. Give an account of *Les Romans de la Table ronde*. What poems are included under this name? How and where did they originate?

9. Write a short account of Commines, describing his position and merits as a historian.

10. In what period did Marot flourish? Describe his character and position as a poet. Give reasons for the exhortation of Boileau, "Imitons de Marot l'élégant badinage."

11. *(a)* What change in the French language did Du Bellay and Ronsard endeavour to introduce?

(b) What means did they employ?

(c) What was the result?

12. Give a brief sketch of the life and writings of Boileau. "C'est le code du bon goût." Criticise this opinion of l'Art poétique.

BRACHET.

13. Mention the chief causes that compelled the Franks to adopt Latin after the German invasion of Gaul, and show the effect of this invasion upon the French language.

14. Account for the introduction into the French language of such words as (*a*) *vassal, fief*, (*b*) *heaume, auberge*.

15. Explain the term "Lingua Romana rustica," and tell what the use of this term proves.

16. Describe and account for the influence of the church on the use of French in the 8th and 9th centuries.

17. Tonic syllable. Explain this term, and show its importance in the formation of French words.

18. From what Latin words are *âme, bonté*, and *voyelle* formed? Trace the process of formation in each word.

19. Derive *père, chef, gré, aimer*, and show, in each instance, the origin of the letter *e*.

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EXAMINATIONS, MAY, 1893.

GENERAL B.A.

BOSSUET.

I.

1. Translate:

Il serait superflu de parler au long de la glorieuse naissance de cette princesse: on ne voit rien sous le soleil qui en égale la grandeur. Le pape saint Grégoire donne dès les premiers siècles, cet éloge singulier à la couronne de France, "qu'elle est autant au-dessus des autres couronnes du monde, que la dignité royale surpasse les fortunes particulières." Que s'il a parlé en ces termes du temps du roi Childebert, et s'il éleve si haut la race de Mérovée, jugez ce qu'il aurait dit du sang de saint Louis et de Charlemagne! Issue de cette race, fille de Henri le Grand, et de tant de rois, son grand cœur a supassé sa naissance. Toute autre place qu'un trône eût été indigne d'elle. A la vérité elle eut de quoi satisfaire à sa noble fierté, quand elle vit qu'elle allait unir la maison de France à la royale famille des Stuarts, qui étaient venus à la succession de la couronne d'Angleterre par une fille de Henri VII, mais qui tenaient de leur chef, depuis plusieurs siècles, le sceptre d'Ecosse, et qui descendaient de ces rois antiques, dont l'origine se cache si avant dans l'obscurité des premiers temps.

2. Parse voit, aurait dit, satisfaire, allait, étaient, venus, tenaient.

3. Write explanatory notes on: Cette princesse, le pape St, Grégoire, roi Childebert, la race de Mérovée, Saint Louis. Charlemagne, Henri le Grand, fille de Henri VII.

II.

4. Translate:

Mais ne la verrons-nous jamais auprès du roi, qui souhaite si ardemment son retour? Elle brûle du même désir, et déjà je la vois paraître dans un nouvel appareil. Elle marche comme un général à la tête d'une armée royale, pour traverser des provinces que les rebelles tenaient presque toutes. Elle

assiége et prend d'assaut en passant une place considérable qui s'opposait à sa marche; elle triomphe, elle pardonne; et enfin le roi la vient recevoir dans une campagne où il avait remporté l'année précédente une victoire signalée sur le général Essex. Une heur après, on apporta la nouvelle d'une grand bataille gagnée. Tout semblait prospérer par sa présence; les rebelles étaient consternés: et si la riene en eût été crue; si au lieu de diviser les armés royales, et de les amuser, contre son avis, aux siéges infortunés de Hull et de Gloster, on eût marché droit à Londres, l'affaire était décidée, et cette campagne eût fini la guerre. Mais le moment fut manqué. Le terme fatal approchait; et le ciel, qui semblait suspendre, en faveur de la piété de la reine, la vengeance qu'il méditait, commenca à se déclarer.

5. Parse paraître, prend, vient, eût été, crue.

6. Form the plural of the following words, giving the rules for its formation: Général, bien, avis, fatal, ciel.

7. Distinguish venir recevoir, venir à recevoir, venir de recevoir, il crut et il crût.

8. Write in full the present subjunctive of paraître and eût été crue.

9. When is the form *nouvel* used? What other adjectives have corresponding forms?

10. Une victoire signalée. Give the name and date of this battle. Who gained it?

11. Give a brief account of the life of Henriette-Mariette de France.

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EXAMINATIONS, MAY, 1893.

JUNIOR AND SENIOR B. A.—HONORS.

MODERN LANGUAGES.

Time: Three hours.

I.

1 Translate:

Durant les premiers ans du Parnasse françois,
Le caprice tout seul faisait toutes les lois:
La rime, au bout des mots assemblés sans mesure,
Tenait lieu d'ornements, de nombre et de césure.
Villon sut le premier, dans ces siècles grossiers,
Débrouiller l'art confus de nos vieux romanciers.
Marot, bientôt après, fit fleurir les ballades,
Tourna des triolets, rima des mascarades,
A des refrains réglés ass-rvit les rondeaux,
Et montra pour rimer des chemins tout nouveaux.
Ronsard, que le suivit, par une autre méthode,
Réglant tout, brouilla tout, fit un art à sa mode,
Et toutefois longtemps eut un heureux destin.
Mais sa muse, en français, parlant grec et latin,
Vit, dans l'âge suivant, par un retour grotesque,
Tomber de ses grands mots le faste pédantesque.

2. Write full explanatory notes on: Parnasse françois; ballades; triolets; refrains; rondeaux; parlant grec et latin.

3. Give a brief account of Villon and Ronsard, stating their place in French literature.

II.

4. Translate:

Soyez vif et pressé dans vos narrations:
Soyez riche et pompeux dans vos descriptions.
C'est là qu'il faut des vers étaler l'élégance:
N'y présentez jamais de basse circonstance.
N'imitez pas ce fou, qui, décrivant les mers,
Et peignant, au milieu de leurs flots entr'ouverts,
L'Hébreu sauvé du joug de ses injustes maîtres,

Met, pour le voir passer, les poissons aux fenêtres ;
Peint le petit enfant qui va, saute, revient,
Et joyeux à sa mère offre un caillou qu'il tient.
Sur de trop vains objets c'est arrêter la vue.

5. Write in full the present subjunctive of faut, peignant, voir, revient, offre.

6. Derive vers, mers, flots, joug, fenêtres.

7. "Qui met les poissons aux fenêtres," etc. What author is referred to. Criticise the opinion of him here expressed.

III.

8. Translate :

Le chêne un jour dit au roseau :
Vous avez bien sujet d'accuser la nature ;
Un roitelet pour vous est un pesant fardeau :
Le moindre vent qui d'aventure
Fait rider la face de l'eau
Vous oblige à baisser la tête ;
Cependant que mon front, au Caucase pareil,
Non content d'arrêter les rayons du soleil,
Brave l'effort de la tempête.
Tout vous est aquilon, tout me semble zéphyr.
Encor si vous naissiez à l'abri du feuillage
Dont je couvre le voisinage,
Vous n'auriez pas tant à souffrir ;
Je vous défendrais de l'orage :
Mais vous naissez le plus souvent
Sur les humides bordes des royaumes du vent,
La nature envers vous me semble bien injuste.

9. Parse me, naissez, dont, lui.

10. Compare bien, moindre, content.

11. Give the gender of aventure, eau, royaumes.

12. (*a*) What reply did the Roseau make to Le Chêne ?
(*b*) Compare the spirit of their characters.
(*c*) Give the moral of the fable.

13. Translate :

Un chat, nommé Rodilardus,
Faisait de rats telle déconfiture
Que l'on n'en voyait presque plus,
Tant il en avait mis dedans la sépulture,

Le peu qu'il en restait, n'osant quitter son trou,
Ne trouvait à manger que le quart de son soûl ;
Et Rodilard passait, chez la gent misérable,
Non pour un chat, mais pour un diable.
Or, un jour qu'au haut et au loin
Le galant alla chercher femme,
Pendant tout le sabbat qu'il fit avec sa dame,
Le demeurant des rats tint chapitre en un coin
Sur la nécessité présente.
Dès l'abord, leur doyen, personne fort prudente,
Opina qu'il fallait, et plus tôt que plus tard,
Attacher un grelot au cou de Rodilard ;
Qu'ainsi, quand il irait en guerre,
De se marche avertis, ils s'enfuiraient sous terre ;
Qu'il n'y savait que ce moyen.

14. Form the plural of trou, and give the nouns in *ou* that form their plural in *x*.

15. Write explanatory notes on : (*a*) Sabbat ; (*b*) chapitre, and (*c*) doyen.

16. Derive Rodilardus, sepulture, soûl, dame, monsieur.

17. Translate :

L'intrépide guerrier que l'on vit des lis d'or
Porter à Carillon l'éclatante banniére,
Vivait au milieu d'eux. Il conservait encor
Ce fier drapeau qu'aux jours de la lutte derniére,
On voyait dans sa main briller au premier rang.
Ce glorieux témoin de ses nombreux fait d'armes,
Qu'il avait tant de fois arrosé de son sang,
Il venait chaque soir l'arroser de ses larmes.

18. Write explanatory notes on : (*a*) Lis d'or ; (*b*) lutte derniére ; (*c*) Carillon ; giving the date and result of the battle and the names of the opposing commanders.

19. Give the history of the banner, and name the author of the poem.

20. Translate into French :

(*a*) The Captain has all his men in town, and has just arrived from France. We have done our best to persuade him to accompany us to Paris, but he says he has a sore hand and does not want to leave his ship. I visited the market early this morning, and found that butter was selling at a franc a pound, and that the wife of the hotel-keeper goes there three times a day. I must resign my position here

without delay, I long to return home as my eldest brother is going to marry Miss B. next week. The Rev. Dr. S. is to marry them.

(*b*) The letter of Columbus to the Spanish monarchs, announcing his discovery, had produced the greatest sensation at court. The event it communicated was considered the most extraordinary of their prosperous reign. The sovereigns themselves were for a time dazzled and bewildered by this sudden and easy acquisition of a new empire, of indefinite extent and apparently boundless wealth; and their first idea was to secure it beyond the reach of question or competition. Shortly after his arrival in Seville, Columbus received a letter from them, expressing their great delight, and requesting him to repair immediately to court, to concert plans for a second and more extensive expedition. As the summer was already advancing, the time favorable for a voyage, they desired him to make any arrangements at Seville, or elsewhere, that might hasten the expedition, and to inform them by the return of the courier what was necessary to be done on their part.

University of Manitoba.

EXAMINATIONS MAY, 1893.

MODERN LANGUAGES. (SPECIAL)

GERMAN AUTHORS.

1. Translate :—

Grimmig erhob sich darauf in unsern Maennern die Wuth nun.
Das Verlorene zu raechen und zu vertheid'gen die Reste.
Alles ergriff die Waffen, gelockt von der Eile des Fluechtlings
Und vom blassen Gesicht und scheu unsicheren Blicke.
Rastlos nun erklang das Getoen der stuermenden Glocke,
Und die kuenft'ge Gefahr hielt nicht die grimmige Wuth auf.
Schnell verwandelte sich des Feldbau's friedliche Ruestung
Nun in Wehre ; da troff von Blute Gabel und Sense.
Ohne Begnadigung fiel der Feind und ohne Verschonung ;
Ueberall raste die Wuth und die feige tueckische Schwaeche.
Moecht' ich den Menschen doch nie in dieser schnoeden Verirrung
Wiedersehn ! Das wuethende Thier ist ein besserer Anblick.
Sprech' er doch nie von Freiheit, als koenn' er sich selber regieren !
Losgebunden erscheint, sobald die Schranken hinweg sind,
Alles Boese, das tief das Gesetz in die Winkel zuruecktrieb.

2. Parse, scheu, troff, sprech', raste.

3. Translate :—

Laechelnd sagte der Pfarrer: Des Todes ruehrendes Bild steht
Nicht als Schrecken dem Weisen, und nicht als Ende dem Frommen.
Jenen draengt es ins Leben zurueck, und lehret ihn handeln ;
Diesem staerkt es, zu kuenftigem Heil, im Truebsal die Hoffnung ;
Beiden wird zum Leben der Tod. Der Vater mit Unrecht
Hat dem empfindlichen Knaben den Tod im Tode gewiesen.
Zeige man doch dem Juengling des edel reifenden Alters
Werth, und dem Alter die Jugend, dasz beide des ewigen Kreises
Sich erfreuen und so sich Leben im Leben vollende !

4. Distinguish, "dringen" and "draengen".

5. Translate :—

Was hab' ich denn so Straefliches gethan,
Um mich gleich einem Moerder zu verbergen?
Dem frechen Buben, der die Ochsen mir,
Das trefflichste Gespann, vor meinen Augen
Weg wollte treiben auf des Vogts Geheisz,
Hab' ich den Finger mit dem Stab gebrochen.

6. Derive trefflichste, Gespann, Geheisz.

7. Translate :—

Geszler.

Nun, Tell! Weil du den Apfel triffst vom Baume
Auf hundert Schritt, so wirst du deine Kunst
Vor mir bewaehren muessen. Nimm die Armbrust—
Du hast sie gleich zur Hand—und mach' dich fertig,
Einen Apfel von des Knaben Kopf zu schieszen—
Doch, will ich rathen, ziele gut, dasz du
Den Apfel treffest auf den ersten Schusz;
Denn fehlst du ihn, so ist dein Kopf verloren.

(Alle geben Zeichen des Schreckens.)

Tell.

Herr—welches Ungeheure sinnet ihr
Mir an?—Ich soll vom Haupte meines Kindes—
—Nein, nein doch lieber Herr, das kommt euch nicht
Zu Sinn—Verhuet's der gnaed'ge Gott—Das koennt ihr
Im Ernst von einem Vater nicht begehren!

8. (*a*) Distinguish bewaehren and bewahren.
(*b*) Derive, Kunst, verhuet'
(*c*) Conjugate the verbs in schieszen, sinnet.

GOETHE.—FAUST.

1. Translate :—

Die Sorge nistet gleich im tiefen Herzen,
Dort wirket sie geheime Schmerzen,
Unruhig wiegt sie sich und stoeret Lust und Ruh;
Sie deckt sich staets mit neuen Masken zu,
Sie mag als Haus und Hof, als Weib und Kind erscheinen,
Als Feuer, Wasser, Dolch und Gift;
Du hebst vor allem was nicht trifft,

Und was du nie verlierst das must du staets beweinen.
Den Goettern gleich' ich nicht! Zu tief ist es gefuehlt;
Dem Wurme gleich ich, der den Staub durchwuehlt,
Den, wie er sich im Staube naehrend lebt,
Des Wandrers Tritt vernichtet und begraebt.

2. (*a*) Give Nom. Sing. and Plur. with Gender of Masken, Dolch, and Wurme. (*b*) "Wiegt". Give root and distinguish from another verb spelled with the same letters.

3. Translate :—

Faust.

O gluecklich, wer noch hoffen kann,
Aus diesem Meer des Irrthums aufzutauchen!
Was man nicht weisz, das eben brauchte man,
Und was man weisz, kann man nicht brauchen.
Doch lasz uns dieser Stunde schoenes Gut
Durch solchen Truebsinn nicht verkuemmern!
Betrachte, wie in Abendsonnegluth
Die gruenumgebenen Huetten schimmern!
Sie rueckt und weicht, der Tag ist ueberlebt:
Dort eilt sie hin und foerdert neues Leben!
O, dasz kein Fluegel mich vom Boden hebt,
Ihr nach und immer nach zu streben!
Ich saeh' im ewigen Abendstrahl
Die stille Welt zu meinen Fueszen,
Entzuendet alle Hoeh'n, beruhigt jedes Thal,
Den Silberbach in goldene Stroeme fliesszen.

4. (*a*) Give Gender and Plur. of Irrthum, Gut, Abendstrahl, and Thal.

(*b*) Distinguish Stunde and Uhr, foerdern and fordern.

(*c*) Doch lasz uns—verkuemmern. Give the construction.

(*d*) Sie rueckt. To what does "sie" refer.

5. Translate :—

Mephistopheles.

Euch ist kein Masz und Ziel gesetzt.
Beliebts euch ueberall zu naschen,
Im Fliehen etwas zu erhaschen,
Bekomm' euch wol was euch ergetzt.
Nur greift mir zu und seid nicht bloede!

Faust.

Du hoerest ja, von Freud', ist nicht die Rede.
Dem Taumel weih ich mich, dem schmerzlichsten Genusz,

Verliebtem Hasz, erquickendem Verdrusz
Mein Busen, der vom Wissensdrang geheilt ist,
Soll keinen Schmerzen kuenftig sich verschlieszen,
Und was der ganzen Menscheit zugetheilt ist
Will ich in meinem innern selbst genieszen,
Mit meinem Geist das Hoechst' und Tiefste greifen,
Ihr Wol und Weh auf meinen Busen haeufen
Und so mein eigen Selbst zu ihrem Selbst erweitern
Und wie sie selbst am End auch ich zerscheitern.

6. (*a*) Parse "Bekomm". (*b*) Give root of "Kuenftig", "Verdrusz", (*c*) "Verliebtem". Give examples of the different forces of "ver" in composition.

7. State what you understand to be the state of mind of Faust reflected in these words.

8. Point out any felicities of expression in this extract.

9. Translate :—

Mephistopheles.

(*a*) Er ist schon lang ins Fabelbuch geschrieben ;
Allein die Menschen sind nichts besser dran ;
Den Boesen sind sie los, die Boesen sind geblieben.

Mephistopheles.

(*b*) Hier ist ein Kaestchen, leidlich schwer ;
Ich habs wo anders hergenommen.
Stellts hier nur immer in den Schrein !
Ich schwoer euch, ihr vergehen die Sinnen ;
Ich that euch Saechelchen hinein
Um eine andre zu gewinnen.
Zwar Kind ist Kind und Spiel ist Spiel,

(*c*) O dasz dem Menschen nichts Vollkommnes wird
Empfind' ich nun. Du gabst zu dieser Wonne,
Die mich den Goettern nah und naeher bringt,
Mir den Gefaehrten, den ich schon nicht mehr
Entbehren kann, wenn er gleich kalt und frech
Mich vor mir selbst erniedrigt und zu Nichts
Mit einem Worthauch deine Gaben wandelt.
Er facht in meiner Brust ein wildes Feuer
Nach jenem schoenen Bild geschaeftigt an.
So tauml' ich von Begierde zu Genusz
Und im Genusz verschmacht ich nach Begierde.

(*d*) Schone mich ! Was hab ich dir gethan ?
Lasz mich nicht vergebens flehen,
Hab ich dich doch mein Tage nicht gesehen !

University of Manitoba.

EXAMINATIONS, MAY, 1893.

MODERN LANGUAGE SPECIAL COURSE.

GERMAN LITERATURE AND COMPOSITION.

PART I.

1. Give a brief account of the life and writing of Herder.

2. State the contents and characteristics of the Tasso of Goethe.

3. "Faust"

(*a*) Point out what you consider the excellencies of this drama.
(*b*) Quote some of its more striking passages.
(*c*) What view is to be taken of Faust, and of Mephistophele.

4. "Wilhelm Tell."

(*a*) Give an account of any two of the leading Characters in this drama.
(*b*) Compare Goethe and Schiller as poets.

5. Give a brief account of the Romantic School as represented in Tieck.

PART II.

6. Show by examples how the English participle in *ing* is to be translated into German after the prepositions *from, on, in, without, instead of* and *with.*

7. State the various uses of the Subjunctive mood, with examples in illustration.

8. Give rules for the position of objects and adverbs in a German sentence.

9. When is the Infinitive without *zu* employed in German?

10. In what different ways may the English passive voice be translated into German?

11. Translate the following sentences with each of the pronouns *du*, *ihr*, *Sie* and *man* for subject. (*a*) You always think of youself and of your own happiness. (*b*) Ought not you who are brave, to help your friends?

12. Translate into German :—

(*a*) Such insults are not easily forgotten.

(*b*) I have ordered a pair of books to be made.

(*c*) You appear to be astonished at the news which you have just heard, but you can rely upon its truth.

(*d*) By paying attention to what is going on about you, you will learn far more than by reading many books.

(*e*) Seated on a rock, the Sphinx used to put difficult questions to every one that passed by; and whoever was unable to solve them was either torn to pieces or hurled from the rock. Many Thebans had already miserably perished, when Œdipus came into that neighborhood. To him the monster put a riddle which ran as follows :— "There is a creature which in the morning walks on four feet, at noon on two feet, and in the evening on three feet.—What animal is it"? It is man answered Œdipus, and so angry was the Sphinx at being thus outwitted that she threw herself from the rock and was killed on the spot.

13. Oral exercise.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

GENERAL B. A.

HORACE.

1. (*a*) Translate:

Quod si *comminuas*, vilem redigatur ad assem.
At, ni id fit, quid habet pulchri constructus acervus?
Millia frumenti tua *triverit* area centum;
Non tuus hoc capiet venter plus ac meus; ut si
Reticulum panis venales inter onusto
Forte vehas humero, nihilo plus accipias quam
Qui nil portarit. *Vel die*, quid *referat* intra
Naturæ fines viventi, jugera centum an
Mille *aret*?

(*b*) Account for the mood in the italicized words of the above extract.

(*c*) Derive "comminuas, constructus, frumenti, venales, Reticulum."

2. Inde fit, ut raro, qui se vixisse beatum
Dicat reperire queamus.

What reason does Horace assign for the condition described in these lines?

3. (*a*) Translate:

Tendimus hinc recta Beneventum, ubi sedulus hospes
Pæne macros arsit dum turdos versat in igni;
Nam vaga per veterem dilapso flamma culinam
Vulcano summum properabat lambere tectum.
Convivas avidos cœnam servosque timentes
Tum rapere, atque omnes restinguere velle videres.
Incipit ex illo montes Apulia notos
Ostentare mihi, quos torret Atabulus, et quos
Nunquam erepsemus, nisi nos vicina Trivici
Villa recepisset, lacrimoso non sine fumo,
Udos cum foliis ramos urente camino.

(*b*) Parse fully:

"arsit," "dilapso," "lambere," "torret," "urenti."

4. Write notes on the following:

"Style suited for Satire," "State of Society in time of Horace, and its influence on Satire."

5. Translate:

In verbis etiam tenuis cautusque serendis,
Hoc amet, spernat promissi carminis auctor.
Dixeris egregie, notum si callida verbum
Reddiderit junctura novum. Si forte necesse est
Indiciis monstrare recentibus abdita rerum,
Fingere cinctutis non exaudita Cethegis
Continget, dabiturque licentia sumta pudenter.
Et nova factaque nuper habebunt verba fidem, si
Græco fonte cadant, parce detorta. Quid autem
Cæcilio Plautoque dabit Romanus, ademtum
Virgilio Varique? Ego cur, acquirere pauca
Si possum, invideor, quum lingua Catonis et Ennî
Sermonem patrium ditaverit, et nova rerum
Nomina protulerit? Licuit, semperque licebit.

6. (*a*) Compare nova, nuper, veterem, egregie.

(*b*) Comment on the use of invideor in the above and parse cadant, detorta, novum, fingere.

7. Translate:

Natura fieret laudabile carmen, an arte,
Quæsitum est: ego nec studium sine divite vena,
Nec rude quid possit video ingenium; alterius sic
Altera poscit opem res et conjurat amice
Qui studet optatam cursu contingere metam,
Multa tulit fecitque puer, sudavit et alsit,
Abstinuit Venere et vino. Qui Pythia cantat
Tibicen, didicit prius, extimuitque magistrum.
Nec satis est dixisse: *Ego mira poemata pango:*
Occupet extremum scabies; mihi turpe relinqui est,
Et, quod non didici, sane nescire fateri.

8. Discuss the question of the object and plan of Ars Poetica. At what time in the life of Horace was it written?

9. What was the condition of Tragic poetry in Rome at the time of Horace? Account for this condition.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

GENERAL B. A.

HOMER.

1. Translate:

Καρπαλίμως δ' εἰς ἄντρον ἀφικόμεθ', οὐδέ μιν ἔνδον
εὕρομεν, ἀλλ' ἐνόμευε νομὸν κάτα πίονα μῆλα.
ἐλθόντες δ' εἰς ἄντρον ἐθηεύμεσθα ἕκαστα·
ταρσοὶ μὲν τυρῶν βρῖθον στείνοντο δὲ σηκοὶ
ἀρνῶν ἠδ' ἐρίφων· διακεχριμέναι δὲ ἕκασται
ἔρχατο, χωρὶς μὲν πρόγονοι, χωρὶς δὲ μέτασσαι,
χωρὶς δ' αὖθ' ἕρσαι· ναῖον δ' ὀρῷ ἄγγεα πάντα,
γαυλοί τε σκαφίδες τε, τετυγμένα, τοῖς ἐνάμελγεν.
ἔνθ' ἐμὲ μὲν πρώτιστα ἕταροι λίσσοντ' ἐπέεσσι
τυρῶν αἰνυμένους ἰέναι πάλιν, αὐτὰρ ἔπειτα
καρπαλίμως ἐπὶ νῆα θοὴν ἐρίφους τε καὶ ἄρνας
σηκῶν ἐξελάσαντας ἐπιπλεῖν ἁλμυρὸν ὕδωρ·
ἀλλ' ἐγὼ οὐ πιθόμην, ἦ τ' ἂν πολὺ κέρδιον ἦεν,
ὄφρ' αὐτόν τε ἴδοιμι, καὶ εἴ μοι ξεινία δοίη.

2. (a) Parse following words:

νομὸν, ἰέναι, βρῖθον, ἔρχατο, διακεχρίμεναι, αἰνυμένους.

(b) Give principal parts of the following verbs:

ἀφικόμεθ', εὕρομεν, ἐξελάσαντας, ἴδοιμι, δοίη.

3. Translate:

πάντα δέ οἱ βλέφαρ' ἀμφὶ καὶ ὀφρύας εὖσεν ἀυτμὴ
γλήνης καιομένης· σφαραγεῦντο δέ οἱ πυρὶ ῥίζαι.
ὡς δ' ὅτ' ἀνὴρ χαλκεὺς πέλεκυν μέγαν ἠὲ σκέπαρνον
εἰν ὕδατι ψυχρῷ βάπτῃ μεγάλα ἰάχοντα
φαρμάσσων· τὸ γὰρ αὖτε σιδήρου γε κράτος ἐστίν·
ὣς τοῦ σίζ' ὀφθαλμὸς ἐλαϊνέῳ περὶ μοχλῷ.
σμερδαλέον δὲ μέγ' ὤμωξεν, περι δ' ἴαχε πέτρη,
ἡμεῖς δὲ δείσαντες ἀπεσσύμεθ'. αὐτὰρ ὁ μοχλὸν
ἐξέρυσ' ὀφθαλμοῖο πεφυρμένον αἵματι πολλῷ.
τὸν μὲν ἔπειτ' ἀπὸ εο χερσὶν ἀλύων,
αὐτὰρ ὁ Κύκλωπας μεγάλ' ἤπυεν, οἳ ῥά μιν ἀμφὶς
ᾤκεον ἐν σπήεσσι δι' ἄκριας ἐνεμοέσσας.
οἱ δὲ βοῆς ἀίοντες ἐφοίτων ἄλλοθεν ἄλλος,
ἱστάμενοι δ' εἴροντο περὶ σπέος ὅττι ἑ κήδοι·

4. (a) Account for the mood of the following verbs from the above extracts:

ἰέναι (1, line 10), *δοίη* (1, line 14), *κήδοι* (3, line 14).

(b) What is the peculiar force of the Indic., in the case of *ἦεν*, line 13, 1?

(c) Parse: *οἱ* line 2 in 3, *ξο*, *ξ*, *ἄλλοθεν*, and name local endings used by Homer, giving the meaning of each with illustration.

5. Explain the metre of the Odyssey, and scan last three lines of extract 3.

6. Translate: (a)

ἀλλ' αἰεί τινα φῶτα μέγαν καὶ καλὸν ἐδέγμην
ἐνθάδ' ἐλεύσεσθαι, μεγάλην ἐπιειμένον ἀλκήν·
νῦν δέ μ' ἐὼν ὀλίγος τε καὶ οὐτιδανὸς καὶ ἄκικυς
ὀφθαλμοῦ ἀλάωσεν, ἐπεί μ' ἐδαμάσσατο οἴνῳ.
ἀλλ' ἄγε δεῦρ', Ὀδυσεῦ, ἵνα τοι πὰρ ξείνια θείω,
πομπήν τ' ὀτρύνω δόμεναι κλυτὸν ἐννοσίγαιον·

(b) Explain term Epic as applied to the dialect of Homer. Give the Attic form for the Homeric in the last three lines of this extract.

(c) Parse *θείω*, and give rules for the moods of final clauses.

7. To whom was the epithet *πολύμητις* applied? and show from Book IX. the fitness of the epithet.

8. State the leading points of difference between the Odyssey and the Iliad, and show what use has been made of these by critics.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

GENERAL AND PASS HYDROSTATISCS.

1. Give a definition of a fluid; shew how it excludes a powder; distinguish between a liquid and a gas. Shew how a fundamental law of hydrostatics is illustrated in the "safety valve."

2. The pressure at any point within a heavy inelastic fluid not exposed to external heat, is proportional to the depth of that point below the surface. Shew that the surface of a heavy inelastic fluid at rest is horizontal, if a moderate extent of surface be considered; give the reason for this limitation.

3. What is meant by the term specific gravity? State the difference between sp. gr. and density. Explain the choice of units so as to give the formula $W = VS$.

(*a*) Determine the volumes of v and v′ of two quantities of liquids whose specific gravities are 1.3 and 0.7 respectively; if they were mixed the volume would be 3 pints and the sp. gr. 0.9.

4. Find the conditions of equilibrium for a body of uniform density wholly immersed in a fluid and partly supported by a string,

5. When a body of uniform density floats in a fluid the sp. gr. of the body is to the sp. gr. of the fluid as the volume of the part immersed is to the volume of the whole body. A body whose sp. gr. is 3.3 floats in a liquid whose sp. gr. is 4.4. what portion of the body will be immersed?

(*b*) A sphere of lead weighing 46 oz. and of sp. gr. 11.5 is wholly immersed in water and is supported by a string, what is the tension on the string?

6. Compare by means of the hydrostatic balance the sp. gr. of a solid and a fluid, when the solid is of greater sp. gr. than the fluid.

7. Describe the mercury barometer. Need the tube be of equal section throughout? Define exactly what is meant by the barometric height. What is meant by atmospheric pressure? How is this proportional to the barometric height? A barometer is sunk

in 20 feet of water, what will be the difference in the reading? (Sp. gr. of mercury = 13.57.)

8. Describe the common suction-pump, and explain why the limit of its lifting power is about 32 feet of water. What will be its limit in an atmosphere of carbon dioxide (1.5 the weight of air)? Set forth the function of the air-chamber in the force-pump.

9. Describe the action of the siphon. Does it work better on the top of a mountain or at the bottom; how will it act in a vacuum? Arrange a siphon to empty a bell-jar of hydrogen gas (.069 weight of air). State the effect of making a small hole in the siphon, first above the surface of the liquid, secondly below the surface.

10. Describe the mercury thermometer. How may a reading on the centigrade scale be reduced to Fahrenheit degrees? Give your reasons for the different steps in the process, illustrating it by an example. When do both shew the same reading? What is the advantage of a large bulb?

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EXAMINATIONS, MAY, 1893.

SENIOR AND JUNIOR B.A.

HONOR FRENCH.

1. Translate:

J'ai peine à contempler son grand cœur dans ces dernières épreuves. Mais certes il a montré qu'il n'est pas permis aux rebelles de faire perdre la majesté à un roi qui sait se connaître; et ceux qui ont vu de quel front il a paru dans la salle de Westminster et dans la place de Whitehall peuvent juger aisément combien il était intrépide à la tête de ses armées, combien auguste et majestueux au milieu de son palais et de sa cour. Grande reine, je satisfais à vos plus tendres désirs quand je célèbre ce monarque; et ce cœur, qui n'a jamais vécu que pour lui, se réveille, tout poudre qu'il est, et devient sensible, même sous ce drap mortuaire, au nom d'un époux si cher, à qui ses ennemis mêmes accorderont le titre de sage et celui de juste, et que la postérité mettra au rang des grands princes, si son histoire trouve des lecteurs dont le jugement ne se laisse pas maîtriser aux évènements ni à la fortune.

—*Bossuet.*

2. Write in full the future indicative, and present subjunctive of faire, sait, ont vu, a vécu, and the present indicative of juger.

3. Derive cœur, roi, palais, sensible, princes.

4. La salle de Westminster, la place de Whitehall. What events are here referred to?

5. Criticise the orator's opinion of the king.

6. Translate:

Après l'avoir contemplée quelques instants, je lui ai demandé son nom et ce qu'elle faisait dans ma mansarde. Ses yeux, qui suivaient l'aiguille de la pendule, se sont tournés de mon côté, et elle a répondu:

—Tu vois en moi l'année qui va finir; je viens recevoir tes remercîments et tes adieux.

Je me suis dressé sur mon coude avec une surprise qui a bientôt fait place à un amer ressentiment.

—Ah! tu veux être remerciée! me suis-je écrié; mais voyons pour cela ce que tu m'as apporté!

"Quand j'ai salué ta venue, j'étais encore jeune et vigoureux! tu m'as retiré, chaque jour, quelque peu de mes forces, et tu as fini par m'envoyer la maladie! Déjà, grâce à toi, mon sang est moins chaud, mes muscles sont moins fermes, mes pieds moins prompts. Tu as déposé dans mon sein tous les germes des infirmités; là où croissaient les fleurs de l'été de la vie, tu as méchamment semé les orties de la vieillesse.

"Et, comme si ce n'étaient pas assez d'avoir affaibli mon corps, tu as aussi amoindri mon âme; tu as éteint en elle les enthousiasmes; elle est devenue plus paresseuse et plus craintive. Autrefois, ses regards embrassaient généreusement l'humanité entière; tu l'as rendue myope, et elle voit maintenant à peine au delà d'elle-même.

—*Souvestre.*

7. Parse suivaient, va, croissaient, as éteint.

8. Write in full the future indicative and present subjunctive of envoyer, and as éteint, and the past definite and present subjunctive of croissaient.

9. Tu l'as vendue. Why is vendue feminine? Give the rules for the agreement and non-agreement of the past participle.

10. Derive adieux, mais, jour, mon, autrefois.

11. "Tu," "je." Name the persons referred to, and tell the circumstances of the meeting.

12. Translate:

Le philosophe consume sa vie à observer les hommes, et il use ses esprits à en démêler les vices et le ridicule; s'il donne quelque tour à ses pensées, c'est moins par une vanité d'auteur que pour mettre une vérité qu'il a trouvée dans tout le jour nécessaire pour faire l'impression qui doit servir à son dessein. Quelques lecteurs croient néanmoins le payer avec usure, s'il disent magistralement qu'ils ont lu son livre, et qu'il y a de l'esprit; mais il leur renvoie tous leurs éloges qu'il n'a pas cherchés par son travaille et par ses veilles. Il porte plus haut ses projets, et agit pour une fin plus relevée: il demande des hommes un plus grand et un plus rare succès que les louanges, et même que les récompenses, qui est de les rendre meilleurs.

—*La Bruyère.*

13. Le philosophe: Who is meant?

14. What special advantages had La Bruyère in writing Les Caractères.

15. Translate:

Nous devons travailler à nous rendre très digne de quelque emploi: le reste ne nous regarde point, c'est l'affaire des autres.

Se faire valoir par des choses qui ne dépendent point des autres, mais de soi seul, ou renoncer à se faire valoir: maxime inestimable et d'une ressource infinie dans la pratique, utile aux faibles, aux vertueux, à ceux qui ont de l'esprit, qu'elle rend maîtres de leur fortune ou de leur repos; pernicieuse pour les grands; qui diminuerait leur cour, ou plutôt le nombre de leurs esclaves; qui ferait tomber leur morgue avec une partie de leur autorité, et les réduirait presque à leurs entremets et à leurs équipages; qui les priverait du plaisir qu'ils sentent à se faire prier, presser, solliciter, à faire attendre ou à refuser, à promettre et à ne pas donner; qui les traverserait dans le goût qu'ils ont quelquefois à mettre les sots en vue, et à anéantir le mérite quand il leur arrive de le discerner.

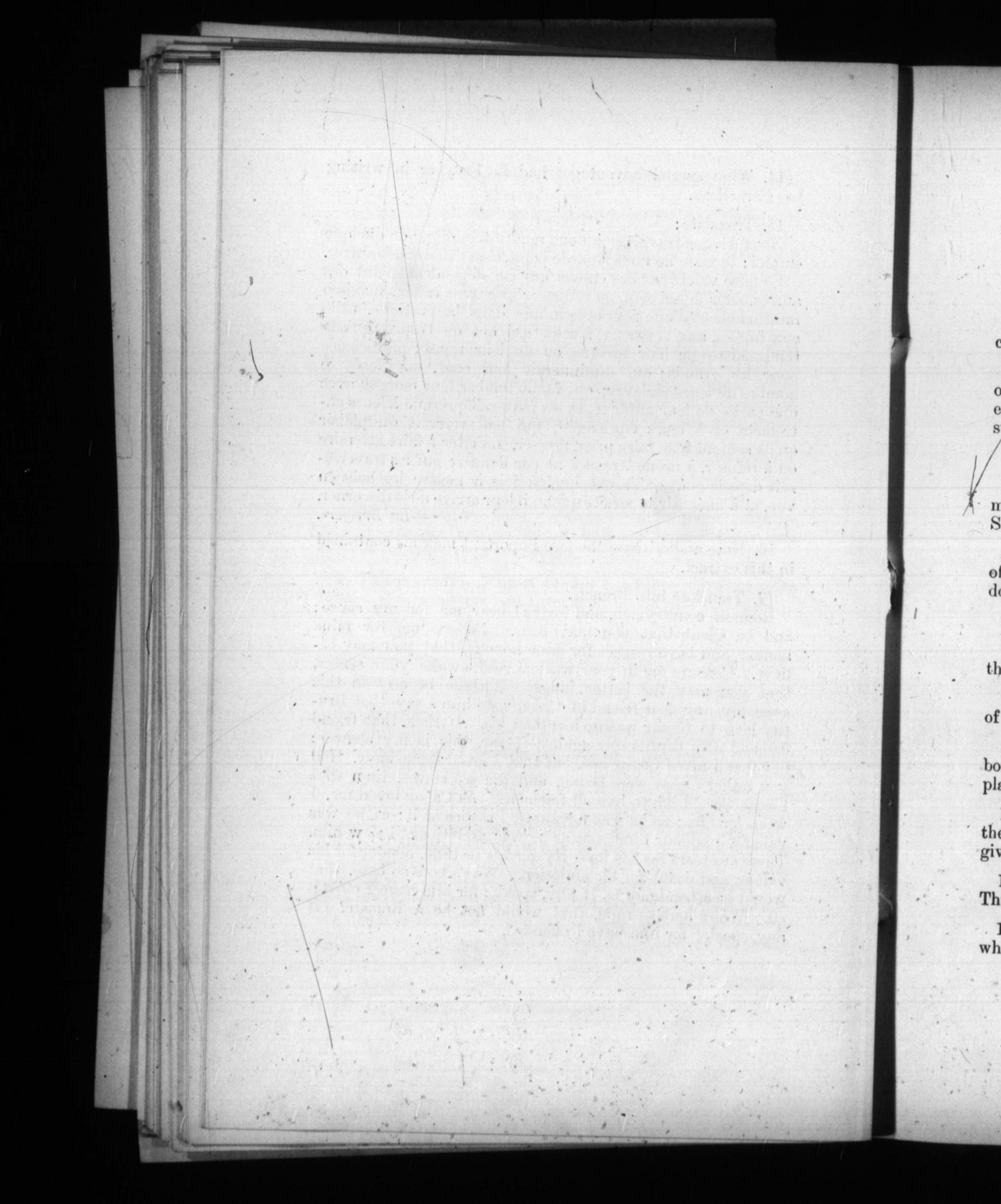
—*La Bruyère.*

16. Note and criticise the two important maxims contained in this extract.

17. Translate into French:

Romans, countrymen, and lovers! hear me for my cause; and be silent that you may hear. Believe me for mine honour, and have respect for mine honour, that you may believe. Censure me in your wisdom, and awake your senses, that you may the better judge. If there be any in this assembly, any dear friend of Cæsar's, to him I say that Brutus' love to Cæsar was no less than his. If then that friend demand why Brutus rose against Cæsar, this is my answer: not that I loved Cæsar less, but that I loved Rome more. Had you rather Cæsar were living, and die all slaves, than that Cæsar were dead, to live all freemen? As Cæsar loved me, I weep for him; as he was fortunate, I rejoice at it; as he was valiant, I honour him; but as he was ambitious, I slew him. There are tears for his love, joy for his fortune, honour for his valour, and death for his ambition. Who's here so base, that would be a bondman? If any, speak; for him have I offended. Who's here so rude, that would not be a Roman? If any, speak; for him have I offended.

—*Gasc.*



University of Manitoba.

EXAMINATIONS. MAY, 1893.

GENERAL GEOLOGY.

1. Discuss briefly the geological action of water as a chemical agent.

2. What are the arguments brought forward by Fisher and others in support of the theory, that a zone of molten matter exists at no great distance beneath the earth's surface, and surrounding a solid nucleus ?

3. Discuss the formation of valleys, and of veins.

4. It has been supposed that igneous agencies have acted more powerfully in former geological periods than at present. Show that this idea is unfounded.

5. Describe the following rocks and state the composition of each :—Syenite, porphyry, gneiss, gabbro, buhrstone, doleryte.

6. Name from inspection the rocks placed before you.

7. Give a table of all the rock formations occurring between the Lake of the Woods and the base of the Rocky Mountains.

8. Name the Siluro-Cambrian fossils, and draw diagrams of two of the Brachiopod fossils.

9. Give an account of the extensive plant life of the Carboniferous period, naming a number of leading species of plants.

10. Explain the surface Geology of the Red River due to the action of land ice. What is meant by Lake Agassiz, and give its extent.

11. Write a short description of the topography of the Third prairie-plateau.

12. Determine specimens M to R and the formation to which each belongs.

University of Manitoba.

EXAMINATIONS. MAY, 1893.

GENERAL B. A. HISTORY.

1. Describe the character of Xerxes. Give some account of his preparations for his Grecian campaign. How was his army composed?

2. Give an account of the rise and progress of prose writing in Greece. Name the chief writers of that class.

3. Explain carefully the causes of the Peloponnesian war. How did it end?

4. Discuss the schemes and intentions of Cromwell for obtaining the supreme power in England.

5. What four subjects of great importance occupied the Convention Parliament from the time of the Restoration till its dissolution?

6. Give a brief account of the proceedings of the Savoy Conference, with dates.

7. Trace briefly the history and growth of European settlements in India.

8. Sketch the progress of events in France which led to the establishment of the Republic in the 18th century.

9. *(a)* Give the constitution of the Senate of Canada. *(b)* What are the qualifications of its members? How are Judges appointed in Canada?

University of Manitoba.

EXAMINATIONS, MAY, 1893.

HISTORY OF PHILOSOPHY—ANCIENT.

1. "A *system* of philosophy proceeds synthetically, while the *history* of philosophy proceeds analytically." Explain this remark, and illustrate by reference to some one of the earlier Greek schools.

2. Write notes on the "fire" of Heraclitus and on the νοῦς of Anaxagoras.

3. (*a*) Describe fully the elements which were common to the Sophists and Socrates.
(*b*) What benefits did the Sophists confer upon their age?
(*c*) Wherein lay the danger to life and thought of Sophistic teaching?

4. (*a*) Exhibit Plato as the complete Socratic.
(*b*) Trace the genesis of the Platonic doctrine of ideas.
(*c*) Exhibit the relation of the ideas to the phenomenal world.

5. State the specific features of the teaching of Plato as regards (*a*) the State, (*b*) the Soul.

6. "Thus the Platonic system is only a fruitless struggle against Dualism." Illustrate and justify this remark.

7. Contrast (*a*) in their general characteristics, (*b*) in their method, the philosophies of Plato and Aristotle.

8. Trace and examine the process by which Aristotle sought to establish the conception of the Absolute spirit.

9. (*a*) State and explain the cosmical principles of Neo-platonism.
(*b*) "Ancient philosophy instead of becoming perfected in Neo-Platonism only makes a despairing leap beyond itself to its own destruction." Justify this statement.

University of Manitoba.

EXAMINATIONS MAY, 1893.

PASS STATICS.

1. What is the subject-matter of statics? Explain what is meant by (1) a rigid body; (2) line of action; (3) equilibrium. Show how a line may represent a force.

2. What is a resultant? What axioms are used in the parallelogram of forces and merely indicate where.

Assuming the theorem of the parallelogram of forces for the direction of the resultant, prove it for the magnitude.

Find expressions for the magnitude and direction of the resultant of two forces P and Q inclined at an angle α.

(1) Forces 3 and 5 lbs act on a point at an angle of 30°, find the magnitude of the resultant.

(2) If two forces acting at right angles to each other have a resultant, which is double the smaller of the two forces, find its direction.

3. State and prove the theorem known as the "triangle of forces."

Three forces P, Q, R, acting on a particle keep it at rest. P acts towards the N, Q to the E, R to the SW; find the ratios between the forces.

4. Find the resultant of two forces whose directions are parallel acting on a rigid body when the forces act towards the same parts. If three forces acting upon a rigid body balance each other, the lines through which they act must either be parallel or pass through a point.

5. What is a lever?

If two forces whose directions are not parallel acting on a lever produce equilibrium they are inversely as the perpendiculars drawn from the fulcrum to the directions in which the forces act.

AB is a straight lever; P and Q lbs acting at A and B produce equilibrium about O, the fulcrum, which is 3 ft. from A and 5 ft. from B. What is Q, if P is 3 lbs, angle BAP=60°, angle QBO=60°.

6. What is meant by centre of gravity? Show that if a line be drawn from any angle to the middle point of the op-

posite side, the centre of gravity of the triangle lies in this line at a distance from the angular point equal to two-thirds of the line.

Find the centre of gravity of a number of heavy particles lying in a straight line.

Find the centre of gravity of weights whose measures are 16, 8, 4, 2, 1 placed at distances one foot from each other in a straight line.

7. Give examples of the three kinds of levers, showing mechanical advantage or disadvantage in each case.

A uniform beam, whose weight is 130 lbs and length 12 ft., has weights of 15 lbs and 25 lbs hung on its ends. Find the point on which the system will balance.

A heavy uniform bar, 10 ft long and weight W, is laid over two props in the same horizontal line, so that one foot of its length projects over one of the props. What must be the distance between the props, that the pressure on one be double that on the other?

8. Describe the common steelyard—show how to graduate it. If it be made out of a uniform bar whose weight is $\frac{1}{p}$ of the moveable weight, and the fulcrum be $\frac{1}{4}$ of the length of the bar from one end; show that the greatest weight that can be weighed is $\frac{3p+1}{p}$ times the moveable weight.

The arms of a common balance are in the ratio of 9:10; the goods are suspended from the longer arm. What is the real weight of a body which apparently weighs 36 oz.?

9. Find the condition of equilibrium on a smooth inclined plane when the force acts at an angle θ to the plane.

If P acting along the plane = 9 lbs, find W when the height of the plane is 3 inches, and the base is 4 inches.

10. If a body be on the point of motion on an inclined plane, inclined at an angle α, to the horizon, then the coefficient of friction between the body and the inclined plane is equal to the tangent of α.

Universite de Manitoba.

EXAMEN, MAI, 1893.

LA STATIQUE.

1. De quoi s'occupe la Statique ? Expliquez ce que l'on entend par (1) un corps rigide, (2) la ligne d'action d'une force. (3) l'équilibre. Montrez comment une ligne peut représenter une force.

2. Qu'est-ce qu'une résultante ? De quels axiomes se sert-on dans le théorème dit " parallelogramme des forces," et en quels endroits ; prouvez ce théorème quant à la grandeur de la résultante, le supposant vrai pour ce qui est de la direction de la résultante ; trouvez des expressions pour la grandeur et la direction de la résultante de deux forces se faisant une angle.

(1) Deux forces représentées par 3 lbs. et 5 lbs. agissent sur un point matériel et se font un angle de 30°. Quelle est la grandeur de la résultante ?

(3) Si deux forces faisant un angle droit ont la résultante double de la plus petite des deux forces, trouver sa direction.

3. Enoncer et prouver le théorème dit " triangle des forces." Trois forces P, Q, R, agissent sur un point matériel et le tiennent en repos, P agit vers le nord, Q vers l'est, R vers le sud-ouest. Trouver le rapport entre les forces.

4. Trouver la résultante de deux forces parallèles qui agissent sur un point matériel selon une même direction. Si trois forces agissant sur un corps rigide se font équilibre, leurs lignes d'actions sont parallèles ou elles passent par un point.

5. Qu'est-ce qu'un levier ?

Si deux forces, dont les directions ne sont pas parallèles, agissant sur un levier se font équilibre, elles sont entre eux comme les perpendiculaires ménés du point d'appui sur les lignes d'action des forces.

A B est un levier droit, les forces P et Q produisent l'équilibre autour du point d'appui O qui est à 3 pieds de A et à 5 pieds de B. Quelle est la valeur de Q si P est de 3 lbs. et l'angle BAP = 60° et l'angle QBO = 60° ?

6. Qu'entend-on par " centre de gravité?" Montrer que si d'un angle quelconque l'on mène une ligne au côté opposé et

bisectrice de ce côté, le centre de gravité se trouvera sur cette droite à une distance de l'angle égale aux deux tiers de cette droite. Trouver le centre de gravité d'un système de points matériels placés sur une droite. Trouver le centre de gravité d'un système de corps dont les poids se représentent par 16, 8, 4, 2, 1 et placés sur une droite à des intervalles d'un pied.

7. Donnez un exemple de chaque espèce de levier, et indiquez dans chacun s'il y a avantage ou désavantage mécanique.

(1) On suspend aux extremités d'une poutre de section uniforme, d'une longueur de 12 pieds, et d'un poids de 130 lbs., des poids de 15 et de 25 lbs., trouver le point d'appui sur lequel la poutre sera en équilibre.

(2) On appuie une barre de section uniforme, 10 pieds de long, et d'un poids de W lbs. sur deux points en un plan horizontal, de manière qu'elle dépasse un des supports d'un pied ; on demande qu'elle doit être la distance entre ces supports pour que la pression sur l'un soit le double de la pression sur l'autre.

8. Donnez une description de la balance romaine ; montrez comment le graduer. Si la barre est uniforme, d'un poids $\frac{1}{p}$ de celui du poids curseur, et si le point d'appui est distant d'un extrémité de la barre d'un quart de sa longueur, montrez que le plus grand poids qui peut se peser avec cet instrument est $\frac{3p+1}{p}$ du poids curseur.

Les bras d'une balance ordinaire sont dans le rapport de 9 à 10. On suspend les marchandises au plus long bras ; quel est le poids réel d'un corps qui semble peser 36 oz. avec cet appareil ?

9. Trouver les conditions d'équilibre sur un plan incliné quand la force agit à un angle θ avec le plan.

Si la force P=9 lbs. agit le long du plan trouver le poids W, quand la hauteur du plan est de 3 pouces et la base 4 pouces.

10. Si un corps est sur le point de se mettre en movement sur un plan incliné dont l'angle avec le plan horizontal est α, alors le coéfficient de frottement entre le corps et le plan incliné est égal à la langente de α.

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EXAMINATIONS, MAY, 1893.

LOGIC.—PASS AND GENERAL.

1. Discuss after Jevons "What is the real subject matter of Logic."

2. Distinguish *(a)* Positive, Negative and Privative Terms. *(b)* Relative and Absolute Terms.

3. *(a)* Describe Knowledge which is clear, adequate and distinct.

(b) State and illustrate the distinction between intuitive and symbolical Knowledge.

4. *(a)* Name and describe the ordinary kinds of Logical Propositions, giving an example of each.

(b) Name and illustrate several kinds of propositions which differ from the simple logical order.

5. What constitutes the difference in figures? Illustrate by concrete examples in the First and Third.

6. Describe the various kinds oi conversion, illustrating each.

7. Point out the reason for the invalidity of the following syllogism, reciting in each case the rule violated:

All Englishmen are Europeans,
All Londoners are Europeans,
Therefore all Londoners are Englishmen.

All Englishmen love liberty,
But Americans are not Englishmen
Therefore they do not love liberty.

Some men are virtuous,
Some men are long-lived,
Therefore some virtuous people are long-lived.

8. What is meant by reduction? State two correct syllogisms, one in the Second and the other in the Third Figure, and reduce them to the First.

9. Describe the following fallacies, giving illustrations:

"Argumentum ad hominem

Petitio prinapii.

Fallacy of ambiguous middle.

10. Distinguish observation and experiment. Show why the latter is the best method of scientific enquiry.

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EXAMINATIONS, MAY, 1893.

PREVIOUS EXAMINATION.

PREMIER EXAMEN.

LATIN—HORACE.

1. Translate:
Traduisez:

illi robur et aes triplex
circa pectus erat, qui fragilem truci
commisit pelago ratem
primus nec timuit praecipitem Africum
decertantem Aquilonibus
nec tristes Hyadas nec rabiem Noti,
quo non arbiter Hadriae
maior, tollere seu ponere volt freta.
quem Mortis timuit gradum,
qui siccis oculis monstra natantia,
qui vidit mare turgidum et
infames scopulos Acroceraunia?
nequiquam deus abscidit
prudens Oceano dissociabili
terras, si tamen impiae
non tangenda rates transiliunt vada.
audax omnia perpeti
gens humana ruit per vetitum nefas.
audax Iapeti genus
ignem fraude mala gentibus intulit.

2. *(a)* Derive: Triplex, fragilem, praecipitem.
Donnez l'étymologie de: Hyadas, Acroceraunia, prudens.
(b) Acconnt for the case of:—illi pelago quo, oceano, fraude.
Donnez la raison du cas dans:—Illi pelago quo, oceano, fraude.

3. *(a)* Write explanatory notes on: robur et aes, siccis oculis, infames, Iapeti genus.
Ecrivez des notes explicatives sur: robur et aes, siccis oculis, infames, Iapeti genus.
(b) What circumstances prompted the reflections in this ode?

Quelles circonstances ont inspiré les réflexions que contient cette ode ?

4. To what class of metres does this belong ? Scan the fisrt four lines ?

A quel genre métrique cette ode appartient-elle ? Scandez les quatre premières lignes.

5. Translate :

Traduisez :

Natis in usum laetitiae scyphis
pugnare Thracum est : tollite barbarum
morem, verecundumque Bacchum
sanguineis prohibete rixis !
vino et lucernis Medus acinaces
immane quantum discrepat : impium
lenite clamorem, sodales,
et cubito remanete presso !
voltis severi me quoque sumere
partem Falerni ? dicat Opuntiae
frater Megillae, quo beatus
volnere, qua pereat sagitta.
* * * quidquid habes, age,
depone tutis auribus. ah miser,
quanta laborabas Charybdi,
digne puer meliore flamma !
quae saga, quis te solvere Thessalis
magus venenis, quis poterit deus ?
vix illigatum te triformi
Pegasus expediet Chimaera.

6. *(a)* Write grammatical notes on :—Thracum, immane quantum, cubito, presso, laborabas.

Ecrivez des notes grammaticales sur :—Thracum, immane quantum, presso, laborabas.

(b) Write explanatory notes on :—Falerni, beatus, Charybdi, Chimaera.

Ecrivez des notes explicatives sur :—Falerni, beatus, Charybdi, Chimaera.

7. Scan the first stanza of this.

Scandez la première stance de cette ode.

8. Write a short sketch of the life of Horace after his return from Greece.

Ecrivez une courte esquisse de la vie d' Horace apreé son retour de la Grèce.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PREVIOUS.

SALLUST AND CICERO.

1. Translate:

Simul, id quod in *tali* re solet, alii portenta atque prodigia nunciabant; alii conventus fieri, arma portari, Capuae atque in Apulia servile bellum moveri. Igitur, senati decreto, Q. Marcius Rex Faesulas, Q. Metellus Creticus in Apuliam circumque *loca*, missi: ii *utrique* ad urbem imperatores erant; *impediti*, ne triumpharent, calumnia paucorum, quibus omnia honesta atque inhonesta *vendere mos* erat. Sed praetores, Q. Pompeius Rufus *Capuam*, Q. Metellus Celer in agrum Picenum; iisque permissum, "uti pro tempore atque periculo exercitum compararent." Ad hoc, "si quis indicavisset de conjuratione, quae contra rem publicam facta erat, praemium servo libertatem et sestertia centum; libero impunitatem ejus rei, et sestertia ducenta;" itemque, "uti gladiatoriae familiae Capuam et in *ce era* municipia *distribuerentur*, pro cujusque *opibus*: Romae per totam urbem vigiliae haberentur, iisque *minores* magistratus praeessent."

2. Parse the italicized words.

3. Write notes on the class of verbs to which *solet* belongs and on *sestertia centum*, *gladiatoriae familiae*, and *minores magistratus*.

4. Account for the cases of *id*, *Faesulas*, *servo* and *iis*.

5. Translate:

Nolite existumare, majores nostros armis rempublicam ex parva magnam fecisse. Si ita res esset, multo pulcherrumam eam nos haberemus: quippe sociorum atque civium, preterea armorum atque equorum major nobis copia, quam illis. Sed alia fuere, quae illos magnos fecere, quae nobis nulla sunt; domi industria, foris justum imperium, animus in consulendo liber, neque delicto, neque lubidini obnoxius. Pro his nos habemus luxuriam atque avaritiam; publice egestatem, privatim opulentiam; laudamus divitias, sequimur inertiam; inter bonos et malos discrimen nullum; omnia virtutis prae-

mia ambitio possidet. Neque mirum; ubi vos separatim sibi quisque consilium capitis, ubi domi voluptatibus, hic pecuniae, aut gratiae servitis: eo fit, ut impetus fiat in vacuam rempublicam.

6. Parse the italicized words.

7. (*a*) Decline fully *domi*.

(*b*) What peculiarities are there about the meanings of the words *opibus* (first extract) and *copia* (second extract).

8. Translate:

Requiretur fortasse nunc, quemadmodum, quum hæc ita *sint*, reliquum possit magnum esse bellum. *Cognoscite*, Quirites; non enim hoc sine causa *quæri* videtur. Primum ex suo regno sic Mithridates profugit, ut ex eodem Ponto Medea illa quondam profugisse dicitur, quam prædicant in fuga fratris sui membra in iis locis, qua se parens persequeretur, dissipavisse, ut eorum collectio dispersa *mœrorque* patrius celeritatem *persequendi* retardaret. Sic Mithridates fugiens maximam vim auri atque argenti *pulcherrimarumque* rerum omnium, quas et a majoribus acceperat et ipse bello superiore ex tota Asia *direptas* in suum regnum congesserat, in Ponto omnem reliquit. Hæc dum nostri colligunt omnia diligentius, rex ipse e *manibus* effugit. Ita illum in persequendi studio mœror, hos lætitia tardavit.

Est hæc divina atque incredibilis virtus imperatoris. Quid ceteræ, quas paulo ante commemorare cœperam, quantæ atque quam multæ sunt! Non enim bellandi virtus solum in summo ac perfecto imperatore quærenda est, sed multæ sunt *artes* eximiæ, hujus administræ comitesque virtutis. Ac primum quanta *innocentia* debent esse imperatores! quanta deinde in omnibus rebus temperantia! quanta fide, quanta facilitate, quanto ingenio, quanta humanitate! Quæ breviter qualia *sint* in Cn. Pompeio consideremus. Summa enim omnia sunt, Quirites, sed ea magis ex aliorum contentione quam ipsa per sese cognosci atque intelligi possunt.

9. Parse the italicized words, giving reasons for tenses.

10. "Ex eodem Ponto Medea," "vim auri atque argenti," "hos." Explain the allusion.

11. Give an outline of Cicero's Oration "Pro Lege Manilia."

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EXAMINATIONS, MAY, 1893.

LATIN GRAMMAR—PREVIOUS.

1. Decline: *cubile, plebes, coelum, jusjurandum, requies, deus navis.*

2. Decline *ullus* in the singular and *idem* in the plural.

3. Compare: *exiguus, novus, dives, magnopere, simplex, diu.*

4. Give the third singular of *peto, sepelio* and *audeo* in all tenses of the indicative and subjunctive, and in all voices.

5. Conjugate *inquam* in detail.

6. What verbs take the same case after them as they have before them? Give examples.

7. Translate into Latin:—

(*a*) They threatened to throw him from the top of the tower.

(*b*) I commanded him to do this.

(*c*) He hopes to be able to return.

(*d*) A boy whose name was Servius Niger was appointed my companion, and the general said to me that this was the most faithful slave he had.

(*e*) In translating well into Latin what is given above, my very dear friends, you will show some knowledge of that Language; but remember always that to become a master of it, you must presevere studying such authors as Cicero, Sallust, &c., as well as expressing your own thoughts in Latin. This do, and the day will come when you will become truly worthy of praise. Seldom do we find in these times of so called progress in Sciences that love of literary culture which made our ancestors such distinguished Latin and Greek Scholars. They could read at sight the most difficult passages from any of the celebrated authors that lived either in Athens or Rome. Follow their example and their glory will be yours also.

University of Manitoba.

EXAMINATIONS MAY, 1893.

LATIN.—PREVIOUS.

FOR SCHOLARSHIPS.

1. Translate into English:

Traduisez en Français:

Cæsar militibus pro tanto labare ac patientia, qui brumalibus diebus, itineribus difficillimis. frigoribus intolerandis, studiosissime permanserant in labore, ducenos, sestertios, centurionibus duo millia (1) nummum prædæ nomine condonata pollicetur; legionibusque in hiberna remissis, ipse se recepit die XXX Bibracte. Ibi quum jus diceret, Bituriges ad eum legatos mittunt, auxilium petitum contra Carnutes, quos intulisse bellum sibi querebantur. Qua re cognita, quum dies non amplius decem et octo in hibernis esset moratus, legiones quartam et decimam et sextam ex hibernis Arare educit; quas ibi collocatas explicandæ rei frumentariæ causa, superiore commentario (2) demonstratum est. Ita cum duabus legionibus ad persequendos Carnutes proficiscitur.

2. Translate into Latin:

Because I could not explain by words what great pleasure I took in your letters, I have told you whence it was that they gladdened me so much: Now what I could not express well enough, I leave with you to imagine. Take, my son, take good young man, the books you have so long desired; see me therein, and praise me not more than I deserve. With regard to my merits believe not others but myself; and if anything in me should please thee, praise Him with me and Him alone whom I wish to be praised. Because He made us, but we were lost through our own fault; He however had made us over again. Wherefore whatever good we do, let us not seek the praise of men for it, lest pride should lead us to perdition. For those alone deserve to be praised, who seek not to know how much good they have done, but rather seek to congratulate others whom they consider it expedient to imitate.

Traduisez en Latin:

Parce que je ne puis vous expliquer par des paroles quel grand plaisir j'ai goûté dans vos lettres, je vous ai dit d'où venait la si grande joie qu'elle m'ont procurée. Maintenant

ce que je ne puis vous exprimer assez bien, je vous laisse à le supposer. Prenez, mon fils, prenez, vertueux jeune homme, les livres que vous avez si longtemps désirés, voyez y moi, et ne me louez pas plus que je ne mérite. En ce qui regarde mes mérites, ne croyez pas au témoignage des autres mais au mien ; et s'il se trouve en moi quelque chose qui vous plaise, rendez-Lui hommage avec moi, à Lui le seul que je désire être loué. Parce qu'Il nous a faits, et nous avions été perdus par notre propre faute ; mais Lui nous a refaits de nouveau. D'où quelque bien que nous fassions, ne recherchons pas les louanges des hommes pour cela, de peur que l'ogueil ne nous conduise à notre perte. Car ceux-là seuls méritent d'être loués, qui ne cherchent pas à connaître quel bien ils ont fait, mais cherchent plutôt à féliciter ceux qu'il leur parait bon d'imiter.

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EXAMINATIONS, MAY, 1893.

PREVIOUS.

GREEK GRAMMAR AND PROSE COMPOSITION.

1. (a) Draw up a table showing all the terminations in all cases of the first declension.

(b) Decline the following words: *θεός, νεώς, γένος, γραῦς, τριήρης, μέλας, μέγας, ἥδιων.*

2. (a) State the rules for the comparison of adjectives, illustrating each rule by an example.

(b) Decline *οὗτος*, and state the general uses of *αὐτός*.

3. (a) Write out in full, the 2nd Aorist indicative, act., of *βαίνω, γιγνώσκω, δύω.*

(b) Give the principal parts of *πάσχω, ἀκούω, ὁράω, ἔρχομαι.*

4. Write out the personal endings, for the primary and historical tenses of the passive and middle voices, indicative mood; and give rules for the connecting vowel in the same parts.

5. (a) Give clearly the reason for the cases underlined:

1. *λαμβάνει σε τῆς χειρός.*
2. *Κύρῳ ἦ βασιλειον μέγα.*
3. *ἐνταῦθα ἔμειναν ἡμέρας πέντε.*

(b) Write out *οἶδα* in full (Indicative) and the first Aorist Indicative Active of *τίθημι* and *ἵημι.*

6. Define the augment (a) syllabic, (b) temporal. Write the first person singular, Imperfect Indicative Active, of *προλαμβάνω, ἀετέω, ὑποπτεύω.*

7. Translate into Greek:

(a) He says that he will go in person to the city on the same day with four others.

(b) The General has not come, has he ?

(c) He came on the fourth day, and he will not go away for twenty days.

(d) For the sake of the king, he went through the country, the next day, with his soldiers, after the battle, to the sea.

(e) They are too young to remember the battle; but they have all heard their fathers tell about it.

(f) If he has money he gives it to his children; if he has no money he will give them good advice; if he were to advise them rightly, they would do well. If he had had time, he would have remained there the whole day.

(g) And after the battle Clearchus called all the generals together to inform them that those messengers whom he had sent had come back, saying that the king had already marched off in the night, and was now more than four stages distant. If, however, said he, I can trust the zeal of your soldiers, I think we shall cross the Euphrates river before the army of the king arrives there.

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EXAMINATIONS. MAY, 1893.

PREVIOUS GREEK.

HOMER'S ILIAD.

1. Translate:

(a) *Τίς δὲ σύ ἐσσι, φέριστε, καταθνητῶν ἀνθρώπων;*
Οὐ μὲν γάρ ποτ ὄπωπα μάχῃ ἐνι κυδιανείρῃ
Τὸ πρίν· ἀτὰρ μὲν νύν γε πολὺ προβεβηκας ἁπάντων
Σῷ θάρσει, ὅτ' ἐμὸν δολιχόσκιον ἔγχος ἔμεινας·
Δυστήνων δέ τε παῖδες ἐμῷ μενει ἀντιόωσιν.
Εἰ δέ τις ἀθανάτων γε κατ' οὐρανοῦ εἰληλουθὰς,
Οὐκ ἂν ἔγωγε θεσῖσιν ἐπουρανίοισι μαχοίμην.
Οὐδὲ γὰρ οὐδὲ Δρύαντος υἱός, κρατερὸς Λυκόοργος,
Δὴν ἦν, ὅς ῥα θεοῖσιν ἐπουρανίοισιν ἔριζεν·
Ὅς ποτε μαινομένοιο Διωνύσοιο τιθήνας.
Σεῦε κατ' ἠγάθεον Νυσήϊον· αἱ δ' ἅμα πᾶσαι
Θυσθλα χαμαὶ κατέχευαν, ὑπ' ἀνδροφόνοιο Λυκούργου
Θεινόμεναι βουπλῆγι· Διώνυσος δὲ φοβηθεὶς
Δύσεθ' ἁλὸς κατα κῦμα· Θέτις δ' ὑπεδέξατο κόλπω
Δειδιοτα· κρατερὸς γὰρ ἔχε τρόμος ἀνδρος ὁμοκλῇ·
Τῷ μὲν ἔπειτ' ὀδυσαντο θεοὶ ῥεῖα ζώοντες,
Καί μιν τυφλὸν ἔθηκε Κρόνου παῖς· οὐδ' ἄρ' ἔτι δὴν
Ἦν, ἐπεὶ ἀθανάτοισιν ἀπήχθετο πᾶσι θεοῖσιν.
Οὐδ' ἂν ἐγὼ μακάρεσσι θεοῖς ἐθέλοιμι μάχεσθαι.
Εἰ δέ τις ἐσσι βροτων, οἳ ἀρούρης καρπὸν ἔδουσιν,
Ἄσσον ἴθ', ὡς κεν θασσον ὀλέθρου πειραθ' ἵκηαι.

(b) *Δῶερ ἐμεῖο, κυνὸς κακομηχάνου, ὀκρυοέσσης,*
Ὥς μ' ὄφελ' ἤματι τῷ, ὅτε με πρῶτον τεκε μήτηρ,
Οἴχεσθαι προφέρουσα κακὴ ἀνέμοιο θύελλα
Εἰς ὄρος, ἢ εἰς κῦμα πολυφλοίσβοιο θαλασσης
Ἔνθα με κῦμ' ἀπόερσε, πάρος τάδε ἔργα γενέσθαι.

(c) *Ἀλλ' οὔ μοι Τρώων τόσσον μέλει ἄλγος ὀπίσσω,*
Οὔτ' αὐτῆς Ἑκάβης, οὔτε Πριάμοιο ἄνακτος,

Οὔτε κασιγνήτων, οἵ κεν πολέες τε καὶ ἐσθλοὶ
Ἐν κονίῃσι πέσοιεν ὑπ' ἀνδρασι δυσμενέεσσιν,
Ὅσσον σεῦ, ὅτε κέν τις Ἀχαιῶν χαλκοχιτώνων
Δακρυόεσσαν ἄγηται ἐλεύθερον ἦμαρ ἀπούρας·
Καί κεν ἐν Ἄργει ἐοῦσα πρὸς ἄλλης ἱστὸν ὑφαίνοις
Καί κεν ὕδωρ φορέοις Μεσσηίδος ἢ Ὑπερείης,
Πόλλ' ἀεκαζομένη, κρατερη δ' ἐπικείσετ' ἀνάγκη·
Καί ποτέ τις εἴπῃσιν ἰδὼν κατὰ δάκρυ χέουσαν·
Ἕκτορος ἥδε γυνή, ὃς ἀριστεύεσκε μαχεσθαι
Τρώων ἱπποδάμων, ὅτε Ἴλιον ἀμφεμάχοντο.
Ὣς ποτέ τις ἐρέει· σοὶ δ' αὖ νέον ἔσσεται ἄλγος
Χήτεϊ τοιουδ' ἀνδρὸς ἀμύνειν δουλιον ἦμαρ.
Ἀλλά με τεθνηῶτα χυτὴ κατὰ γαῖα καλύπτοι,
Πρίν γέ τι σῆς τε βοῆς σοῦ θ' ἑλκηθμοῖο πυθέσθαι.

5. Parse:
In (a): *ὄπωπα, ἔγχος, εἰλήλουθας, χαμαὶ, δειδιότα, ἴθ'.*
In (b): *οἴχεσθαι, γενέσθαι, θύελλα.*
In (c): *πολέες, ἀπούρας, χητεῖ, πύθεσθαι.*

3. (1) Give principal parts of the following verbs: *προβέβηκας, κατέχευαν, ἴσχαι, τεθνηῶτα, ὑφαίνοις, φορέοις, πέσοιεν.*
(2) Derive: *κυδιανείρη, ἀνδροφόνοιο, βουπλῆγι.*

4. (1) Compare: *φεριστε, θασσον, πρῶτον, κακὴ, πολυ.*
(2) When is the optative used in conditional clauses? Illustrate from the above extracts.

5. Explain what is meant by Epic, Ionic, Attic dialects. Show the historic relationship of each to the others.

6. Describe the metre of Homer's Iliad, and scan the first six lines of extract (a).

7. (1) Describe briefly the style of Homer.
(2) Describe the character of Hector as it appears in Book VI. of the Iliad.

8. (1) Give the Attic forms for the Homeric in the first six lines of extract (c).
(2) What reasons have been urged against the Homeric authorship of the Iliad?

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EXAMINATIONS, MAY, 1893.

PREVIOUS.

GREEK.—DEMOSTHENES AND PLATO.

Three hours.

A.—Demosthenes, Phil. I.

1. Translate:

(a) *ἂν τοίνυν ὦ ἄνδρες Ἀθηναῖοι καὶ ὑμεῖς ἐπὶ τῆς τοιαύτης ἐθελήσητε γενέσθαι γνώμης νῦν, ἐπειδήπερ οὐ πρότερον, καὶ ἕκαστος ὑμῶν, οὗ δεῖ καὶ δύναιτ' ἂν παρασχεῖν αὐτὸν χρήσιμον τῇ πόλει, πᾶσαν ἀφεὶς τὴν εἰρωνείαν ἕτοιμος πράττειν ὑπάρξῃ, ὁ μὲν χρήματ' ἔχων εἰσφέρειν, ὁ δ' ἐν ἡλικίᾳ στρατεύεσθαι, — συνελόντι δ' ἁπλῶς ἂν ὑμῶν αὐτῶν ἐθελήσητε γενέσθαι, καὶ παύσησθ' αὐτὸς μὲν οὐδὲν ἕκαστος ποιήσειν ἐλπίζων, τὸν δὲ πλησίον πάνθ' ὑπὲρ αὐτοῦ πράξειν· καὶ τὰ ὑμέτερ' αὐτῶν κομεῖσθ', ἂν θεὸς θέλῃ, καὶ τὰ κατερραθυμημένα πάλιν ἀναλήψεσθε, κἀκεῖνον τιμωρήσεσθε. μὴ γὰρ ὡς θεῷ νομίζετ' ἐκείνῳ τὰ παρόντα πεπηγέναι πράγματ' ἀθάνατα, ἀλλὰ καὶ μισεῖ τις ἐκεῖνον καὶ δέδι' ὦ ἄνδρες Ἀθηναῖοι καὶ φθονεῖ, καὶ τῶν πάνυ νῦν δοκούντων οἰκείως ἔχειν· καὶ ἅπανθ' ὅσαπερ καὶ ἐν ἄλλοις τισὶν ἀνθρώποις ἔνι, ταῦτα κἀν τοῖς μετ' ἐκείνου χρὴ νομίζειν ἐνεῖναι. κατέπτηχε μέντοι πάντα ταῦτα νῦν, οὐκ ἔχοντ' ἀποστροφὴν διὰ τὴν ὑμετέραν βραδυτῆτα καὶ ῥᾳθυμίαν, ἣν ἀποθέσθαι φημὶ δεῖν ἤδη.*

(b) *οὐκ ἐχειροτονεῖτε δ' ἐξ ὑμῶν αὐτῶν δέκα ταξιάρχους καὶ στρατηγοὺς καὶ φυλάρχους καὶ ἱππάρχους δύο; τί οὖν οὗτοι ποιοῦσιν; πλὴν ἑνὸς ἀνδρὸς ὃν ἂν πέμψῃτ' ἐπὶ τὸν πόλεμον, οἱ λοιποὶ τὰς πομπὰς πέμπουσιν ὑμῖν μετὰ τῶν ἱεροποιῶν· ὥσπερ γὰρ οἱ πλάττοντες τοὺς πηλίνους, εἰς τὴν ἀγορὰν χειροτονεῖτε τοὺς ταξιάρχους καὶ τοὺς φυλάρχους, οὐκ ἐπὶ τὸν πόλεμον. οὐ γὰρ ἐχρῆν ὦ ἄνδρες Ἀθηναῖοι ταξιάρχους παρ' ὑμῶν, ἱππαρχον παρ' ὑμῶν, ἄρχοντας οἰκείους εἶναι, ἵν' ἦν ὡς ἀληθῶς τῆς πόλεως ἡ δύναμις;*

2. Give and account (i.) in (a) for the case of:

ὁ ἔχων, συνελόντι, ὑμῶν αὐτῶν, θεῷ. In (b) *τῆς πόλεως.*

(ii.) for tense and mood of :

(a) *ὑπάρξῃ, κομεἰσθε, πεπηγέναι.* (b) *ἐκπέμψητε, ἦν.*

3. Write explanatory notes on :

εἰρώνεια, πάντα ταῦτα in (a), and in (b) *εἰς τὴν ἀγορὰν ἐχειροτονεῖτε*, and the *various military officials* there mentioned.

4. (a) State as fully as possible the preparations mentioned by Demosthenes. (b) Write a short note on Demosthenes' style, illustrating if possible by references to expressions or passages in this speech.

B.—Plato, Laches.

1. Translate :

ἔπειτα ὀνήσει μὲν τι τοῦτο τὸ μάθημα καὶ ἐν τῇ μάχῃ αὐτῇ, ὅταν ἐν τάξει δέῃ μάχεσθαι μετὰ πολλῶν ἄλλων· μέγιστον μέντοι αὐτοῦ ὄφελος, ὅταν λυθῶσιν αἱ τάξεις καὶ ἤδη τι δέῃ μόνον πρὸς μόνον ἢ διώκοντα ἀμυνομένῳ τινὶ ἐπιθέσθαι ἢ καὶ ἐν φυγῇ ἐπιτιθεμένου ἄλλου ἀμύνασθαι αὐτόν· οὔτ' ἂν ὑπό γε ἑνὸς εἷς ὁ τοῦτ' ἐπιστάμενος οὐδὲν ἂν πάθοι, ἴσως δ' οὐδὲ ὑπὸ πλειόνων, ἀλλὰ πανταχῇ ἂν ταύτῃ πλεονεκτοῖ. ἔτι δὲ καὶ εἰς ἄλλου καλοῦ μαθήματος ἐπιθυμίαν παρακαλεῖ τὸ τοιοῦτον· πῶς γὰρ ἂν μαθὼν ἐν ὅπλοις μάχεσθαι ἐπιθυμήσειε καὶ τοῦ ἑξῆς μαθήματος τοῦ περὶ τὰς τάξεις, καὶ ταῦτα λαβὼν καὶ φιλοτιμηθεὶς ἐν αὐτοῖς ἐπὶ πᾶν ἂν τὸ περὶ τὰς στρατηγίας ὁρμήσειε· καὶ ἤδη δῆλον ὅτι τὰ τούτων ἐχόμενα καὶ μαθήματα πάντα καὶ ἐπιτηδεύματα πάντα καὶ καλὰ καὶ πολλοῦ ἄξια ἀνδρὶ μαθεῖν τε καὶ ἐπιτηδεῦσαι, ὧν καθηγήσαιτ' ἂν τοῦτο τὸ μάθημα.

2. (a) Parse :

ὀνήσει, τι, λυθῶσιν, ἄλλου, μαθήματος, πολλοῦ, ὧν, τούτων.

(b) Account for mood in : *πάθοι, πλεονεκτοῖ, καθηγήσαιτ'.*

3. (a) Translate :

ΝΙ. Ὅτι οἴεται τοὺς ἰατροὺς πλέον τι εἰδέναι περὶ τοὺς κάμνοντας ἢ τὸ ὑγιεινὸν εἰπεῖν οἷόν τε καὶ νοσῶδες. οἱ δὲ δή τοι τοσοῦτον μόνον ἴσασιν· εἰ δὲ δεινὸν τῳ τοῦτό ἐστι τὸ ὑγιαίνειν μᾶλλον ἢ τὸ κάμνειν, ἡγεῖ σὺ τουτί, ὦ Λάχης, τοὺς ἰατροὺς ἐπίστασθαι ; ἢ οὐ πολλοῖς οἴει ἐκ τῆς νόσου ἄμεινον εἶναι μὴ ἀναστῆναι ἢ ἀναστῆναι ; τοῦτο γὰρ εἰπέ· σὺ πῶσι φῂς ἄμεινον εἶναι ζῆν καὶ οὐ πολλοῖς κρεῖττον τεθνάναι ;

ΛΑ. Οἶμαι ἔγωγε τοῦτό γε.

ΝΙ. Οἷς οὖν τεθνάναι λυσιτελεῖ, ταὐτὰ οἴει δεινὰ εἶναι καὶ οἷς ζῆν;

ΛΑ. Οὐκ ἔγωγε.

ΝΙ. Ἀλλὰ τοῦτο δὴ σὺ δίδως τοῖς ἰατροῖς γεγνώσκειν ἢ ἄλλῳ τινὶ δημιουργῷ πλὴν τῷ τῶν δεινῶν καὶ μὴ δεινῶν ἐπιστήμονι, ὃν ἐγὼ ἀνδρεῖον καλῶ;

(b) Parse: τὸ ὑγιαίνειν, ἀναστῆναι, τεθνάναι, τουτι.

(c) Compare: μᾶλλον, κρεῖττον, πλέον.

4. Give a brief outline of the life of Plato and describe his style.

5. What was the subject proposed for discussion in the Laches? To what conclusion did the writer come in reference to the proposed subject?

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EXAMINATIONS MAY, 1893.

PREVIOUS PHYSIOLOGY.

1. When the whole circulatory system is full of blood, explain minutely what happens when the first step in the pulsation of the heart occurs and the auricles contract.

2. If a drop of human blood be placed under a microscope "the corpuscles will be found to be of two kinds." Explain fully.

3. What is meant by the excessive accumulation of carbonic acid in the blood? What are the dangers of an increase of carbonic acid in the air? How does carbonic oxide act on the system?

4. Give an account of the different glands, and their uses.

5. Draw a diagram of a horizontal section of the eyeball; and discuss color-blindness.
(a) What is the *optic axis*? What is the *macula lutea*?

6. Give a diagram illustrating the arrangement of the parts of the brain and the origin of the nerves.
(a) Explain fully: "the anterior nerve roots are commonly called *motor*, and the posterior *sensory*"; and "a sensory nerve is *afferent*; while a motor nerve is *efferent*."

7. What is meant by the "sympathetic system"?

8. How are food-substances classified by Huxley? Explain fully the statement, "proteid matter is a very disadvantageous and uneconomical food."

9. Determine specimens A and B under the microscope.

10. Draw diagrams of transverse and longitudinal sections of bone.

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EXAMINATIONS, MAY, 1893.

PREVIOUS.

JULIUS CÆSAR AND MERCHANT OF VENICE.

1. "It is scarcely an exaggeration to say that the whole story of the play of Julius Cæsar is to be found in Plutarch."

Illustrate this statement fully, and mention the particulars in which Shakespeare has deviated from history.

2. Contrast the characters of Brutus and Cassius. Mention the schools of philosophy which they severely represent, and discuss the question whether they are made to act in accordance with these.

3. In what sense, now obsolete, are these words used:—ceremony, alchemy, carrion, physical, fond, element and climate.

4. Paraphrase the following passages with as little amplification as possible, so as to bring out the force of the less usual expressions:—

(*a*) "Between the acting of a dreadful thing
And the first motion, all the interim is
Like a phantasma, or a hideous dream:
The genius, and the mortal instruments,
Are then in council; and the state of man,
Like unto a little kingdom, suffers then
The nature of an insurrection.—(II, 1. 63.)

(*b*) Enjoy the honey-heavy dew of slumber:
Then hast no figures nor no fantasies
Which busy care draws in the brains of men."
—(II. 1. 230.)

5. What persons, places or events are alluded to in these phrases:—"There was a Brutus once—Feast of Lupercal—Pompey's theatre—The day he overcame the Nervii—The Ides of March.

6. (*a*) Sketch the character of Antonio, and give allusions made to him by others in the play.

(*b*) "The female characters of this play are nicely discriminated." Illustrate this statement.

(*c*) "Gobbo materially aids the completeness of the work." Point out in what ways this is true.

7. Paraphrase and scan the following passages:—

"So doth the greater glory dim the less:
A substitute shines brightly as a king
Until the king be by, and then his state
Empties itself, as doth an inland brook
Into the main of waters."—(V. 1. 93.)

"For the commodity that strangers have
With us in Venice, if it be denied,
Will much impeach the justice of his state;
Since that the trade and profit of the city
Consisteth of all nations."—(III. 3. 28.)

"The dearest friend to me, the kindest-man,
The best-condition'd and unwearied Spirit
In doing courtesies, and one in whom
The ancient Roman honour more appears
Than any that draws breath in Italy."—(III. 2. 288.)

The following are for Scholarships:—

8. Explain and annotate the following words, phrases and sentences; state by whom, of whom, and to whom, and on what occasions they were uttered:—

"Many Jasons come in quest of her
'Tis to peize the time—Did Thisbe fearfully o'er step the dew—
Nothing is good without respect—Forgive a moiety of the principal—So is Alcides beaten by his page—
A golden mind stoops not to shows of dross—
Builds in the weather on the outward wall—
These blessed candles of the night."

9. Give examples from either play of—
(*a*) double negatives, (*b*) double imperatives,
(*c*) double comparatives, (*d*) compound adjectives,
(*e*) use of nouns and adjectives as verbs.

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EXAMINATIONS MAY, 1893.

PREVIOUS.

I. RHETORIC AND COMPOSITION.

1. Punctuate and capitalize :—

oh you must come and look at the loch it is a long time since you will see a loch and away she went through the thick breckan holding on the swaying leash that held the galloping grayhound and running swiftly as though she had been making down for the shore to get out the maigh dean mhara sheila called her husband dont be foolish sheila called ingram have pity on an old man suddenly she stopped.

2. Paraphrase :—

(*a*) " As imagination bodies forth
The forms of things unknown, the poet's pen
Forms them to shapes, and gives to airy nothing
A local habitation and a name."

(*b*) "About him exercised heroic games
The unarmed youth of heaven ; but nigh at hand
Celestial armory, shields, helms, and spears,
Hung high, with diamond flaming and with gold."

3. Write out a summary of :—

"The words nearly stuck in his throat ; and indeed had any other addressed such a phrase to one of his kith and kin there would have been an explosion of rage ; but now he was determined to show to Sheila that her husband had some cause for objecting to this girl sitting down with his friends."

But neither husband or father could make Sheila forswear allegiance to what her own heart told her was just and honorable and generous ; and indeed her father at this moment was not displeased to see her turn around on himself with just a touch of indignation in her voice. "Mairi is my guest, papa, she said. It is not like you to think of having her at home."

"Oh, it was of no consequence," said old Mackenzie, carelessly ; indeed he was not sorry to have met with this rebuff. "Mairi is a ferry good girl—oh, yes—but then there are many

who would not forget she is a servant-lass, and would not like to be always taking her with them. And you hef lived a long time in London ?"

"I have not lived long enough in London to make me forget my friends or insult them," Sheila said, with proud lips, and yet turning to the window to hide her face.—*A Princess of Thule.*

4. Write three successive paragraphs of three sentences each on "Sheila—the princess of Thule."

5. Re-arrange the sentences of the following paragraph in their proper order :—

"This publication saved Johnson's character for honesty but added nothing to the fame of his abilities and learning. The best specimen is the note on the character of Polonius. But here praise must end. Nothing so good is to be found even in Wilhelm Meister's admirable examination of Hamlet. The most valuable notes are those in which he had an opportunity of showing how attentively he had during many years observed human life and human nature. It would be difficult to have a more slovenly, a more worthless, edition of any great classic. The preface though it contains some good passages, is not in his best manner."—*Macaulay's Essay on Johnson.*

II. ESSAY.

Write an essay of thirty lines on one of the following subjects :—

(1). "We think that as civilization advances poetry almost necessarily declines."

(2). "The poetry of Milton acts like an incantation."

(3). "Among the members of Johnson's club was James Boswell, a young Scotch lawyer heir to an honorable name and a fair estate."

NOTE.—Neatness, accuracy, style and development of the subject will all be taken into account in estimating the value of the Essay.

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EXAMEN, MAI, 1893.

PREMIER EXAMEN.

RHÉTORIQUE.

1. Enumérez les parties qui peuvent entrer dans le discours. Quand peut-on supprimer la réfutation ?

2. Pourquoi l'orateur doit-il toujours s'attendre à une résistance ? Où celle-ci a-t-elle son principe, en général ?

3. Quelle est le double objet de la réfutation ? Comment se réfute le mensonge, le sophisme, lorsqu'il repose sur un faux principe ?

4. L'orateur est-il tenu de répondre à toutes les objections qui peuvent se présenter ? Motivez votre réponse.

5. Quand la réfutation doit-elle venir dès le début? Quand doit-elle se fondre dans le corps du discours ?

6. Définissez la péroraison, et dites nous quelle est son but. Comment se fait-elle en général ?

7. Comment l'orateur achèvera-t-il de convaincre et de persuader ?

8. Qu'est-ce que le mouvement oratoire ? En quoi consiste la préparation du mouvement ?

9. Qu'est-ce que l'élocution oratoire, et comment doit-elle varier dans la chaire, le barreau, la tribune ?

10. Qu'est-ce que la confirmation ? Comment peut-on disposer les preuves dans l'argumentation ?

11. Définissez le prosyllogisme, l'enthymème et l'épicherène. Quel est l'usage de ce dernier dans le discours?

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EXAMEN, MAI, 1893.

PREMIER EXAMEN.

"ATHALIE" ET "LE CID."

1. Par quoi le début d'Athalie est-il remarquable ?

2. D'où est tirée Athalie ? Quels faits sont fournis par l'Ecriture ?

3. Quelle est la couleur générale de la pièce ?

4. Voila donc votre roi, votre unique espérance,
J'ai pris soin jusqu'ici de vous le conserver ;
Ministres du Seigneur, c'est à vous d'achever.
Bientôt de Jézabel la fille meurtrière,
Instruite que Joas voit encor la lumière,
Dans l'horreur du tombeau viendra le replonger.
Déjà sans le connaître elle veut l'égorger.
Prêtres saints, c'est à vous de prévenir sa rage.
Il faut finir des Juifs le honteux esclavage,
Venger vos princes morts, relever votre loi,
Et faire aux deux tribus reconnaître leur roi.
L'entreprise, sans doute, est grande et périlleuse.
J'attaque sur son trône une reine orgueilleuse
Qui voit sous ses drapeaux marcher un camp nombreux,
De hardis étrangers, d'infidèles Hébreux.
Mais ma force est en Dieu dont l'intérêt me guide.
Songez qu'en cet enfant, tout Israel réside.
Déjà ce Dieu vengeur commence à la troubler ;
Déjà trompant ses soins, j'ai su vous rassembler.
Elle vous croit ici sans armes, sans défense,
Couronnons, proclamons Joas en diligence.
De là, du nouveau prince intrépides soldats.
Marchons en invoquant l'Arbitre des combats ;
Et réveillant la foi dans les cœurs endormie,
Jusque dans son palais cherchons notre ennemie.
Et quels cœurs si plongés dans un lâche sommeil,
Nous voyant avancer dans ce saint appareil,
Ne s'empresseront pas à suivre notre exemple ?
Un roi que Dieu lui-même a nourri dans son temple,

Le successeur d'Aaron de ses prêtres suivi,
Conduisant au combat les enfants de Lévi,
Et dans ces mêmes mains des peuples révérées,
Les armes du Seigneur par David consacrées!
Dieu sur ses ennemis répandra sa terreur.
Dans l'infidèle sang, baignez-vous sans horreur....
Ne descendez-vons pas de ces fameux lévites....
Qui de leurs chers parents saintement homicides,
Consacrèrent leurs mains dans le sang des perfides? ..
Mais je vois que déjà vous brulez de me suivre.
Jurez donc avant tout, sur cette auguste livre,
A ce roi que le ciel vous redonne aujourd'hui,
De vivre, de combattre et de mourir pour lui.

Analysez ce discours.

(*a*) A quelle espèce appartient l'exorde?

(*b*) Où est la proposition? Citez-la.

(*c*) Comment Joad montre-t-il que l'entreprise est grande et périlleuse?

5. Dites le caractère de Joad. Quel en est le trait saillant?

6. Il donne aux fleurs leur aimable peinture;
Il fait naitre et murir les fruits.
Il leur dispense avec mesure,
Et la chaleur des jours et la fraicheur des nuits;
Le champ qui les reçut les rend avec usure.

(*a*) En quel genre de style est écrit ce passage?

(*b*) Indiquez nous les principales figures qui ornent ces quelques vers.

7. Le premier chœur sert-il à l'impression dramatique?

8. Quelle fut le succès du Cid? Quelle querelle littéraire s'éleva à l'endroit de ce drame?

9. Quelle fut la conduite de Richelieu?

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EXAMINATIONS, MAY, 1893.

PREVIOUS.

GERMAN GRAMMAR AND COMPOSITION.

1. When is the definite article used in German as opposed to the English usage?

2. Explain the use of the pronouns *Du, Er, Sie,* and *Ihr* as pronouns of address.

3. Give rules for the construction of a principal sentence.

4. Decline throughout in German:
   (a) Poor old man.
   (b) Such a thing.
   (c) We two.

5. Name and give the uses of the relative pronouns, giving an illustrative sentence in German in each case.

6. How are adjectives and adverbs compared? Give three examples of irregular or defective comparison.

7. Write out in full the singular of the present indicative active of: *essen, laufen, schmelzen, fahren.*

8. Translate into German:
   (a) Such animals as sleep in the winter-time.
   (b) There are good books and bad ones.
   (c) They sing and dance much in Germany.
   (d) I was just about correcting your exercise when your father came to see me.
   (e) With noble warmth did they defend the memory of the Prince of Orange, by relating the true causes which had brought on this war and had rendered the provinces disloyal to the Spanish crown.
   (f) They would not do so while they could; now could they not if they would.

9. Translate into English:

"Eines Abends, als ich shon laengere Zeit auf meinem Lieblingsplaetzchen geruht hatte, kamen zwei gut gekleidete,

aeltliche Frauen und setzten sich auf eine Bank, die nur durch eine schmale dichtbelaubte Hecke von der meinigen getrennt war. Ich hielt nicht fuer noethig, ihnen meine Naehe, die sie nicht zu ahnen schienen, zu erkennen zu geben. Neugierde war es uebrigens nicht, was mich abhielt, denn ich kannte keine Seele in jener Stadt, also konnten mir ihre Reden hoechst gleichgueltig sein. Aber stellen sie sich mein Erstaunen vor, Verehrteste, also ich folgendes Gespraech vernahm."

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EXAMINATIONS MAY, 1893.

GERMAN—PREVIOUS YEAR.

DIE JOURNALISTEN UND DIE BELAGERUNG VON ANTWERPEN.

1. Translate :—

Bolz(feierlich).—Bellmaus, als wir Dir die Ehre erwiesen, Dich mit Verfertigung der Nippesachen fuer dieses Blatt zu betrauen, da war die Meinung nicht, dasz Du die ewige grosze Seeschlange durch die Spalten unserer Zeitung waelzen solltest! — —Wie konntest Du die abgedroschene Luege wieder hineinsetzen?

Bellmaus.—Sie paszte gerade, es fehlte an sechs Zeilen.

Bolz.—Das ist eine Entsculdigung, aber keine gute. Erfinde Deine eignen Geschichten, wozu bist Du Journalist? Mache ein kleines "Eingesandt", z. B. Eine Betrachtung ueber Menschenleben im allgemeinen, oder ueber das Umherlaufen von Hunden auf der Strasze, oder suche eine haarstraeubende Geschichte heraus, vielleicht einen Meuchelmord aus Hoeflichkeit, oder wie ein Hamster sieben schlafende Kinder erbissen hat oder so etwas.—Es gibt so vieles, was geschieht, und so ungeheuer vieles, was nicht geschieht, dasz es einem ehrlichen Zeitungsschreiber nie an Neuigkeiten fehlen darf.

2. Give the composition of Nippesachen, Entschuldigung, haarstraeubende, Meuchelmord, with the meaning of the component words.

3. Give the Nom. Sing. and Plur. with Gender of Blatt, Spalten, Luege, Betrachtung, Zeilen, Neuigkeiten.

4. Give the force of the preformatives in erwiesen, and in betrauen, and give three examples of each in which the like force is seen.

5. Distinguish the conjugation of fehlen and its compounds.

6. Translate :—

Bolz.—Da fast mich eine Menschenhand am Genick, ein Seil wird mir unter die Arme geschlungen und eine kraeftige Faust hebt mich vom Boden. Im Augenblick darauf war ich

auf der Leiter, halb gezogen, halb getragen, mit brennendem Hemd und ohne Bewustsein kam ich auf dem Steinpflaster an. —Ich erwachte in dem Zimmer des jungen Gelehrten. Auszer einigen kleinen Brandwunden hatte ich nichts in die neue Wohnung herueber gebracht. Alle meine Habe war verbrannt. Der fremde Mann pflegte mich und sorgte fuer mich, wie ein Bruder fuer den andern.—Erst als ich wieder ausgehen konnte, erfuhr ich, dasz dieser Gelehrte, der mich bei sich aufgenommen hatte, derselbe Mann war, der mir in jener Nacht auf der Leiter seinen Besuch gemacht hatte.— Sehen Sie, der Mann hat das Herz auf dem rechten Fleck, und deshalb wuensche ich ihm, dasz er jetzt Deputierter werde, und deshalb koennte ich fuer ihn thun, was ich fuer mich selbst nicht thaete : ich koennte fuer ihn werben, intriguieren und ehrliche Leute zum Besten haben.—Dieser Mann ist der Professor Oldendorf.

7. Distinguish, der Leiter and die Leiter, Bewusztsein, and Bekenntnisz, Besuch and Gesuch, werben and erwerben.

8. Koennte, why in the subjunctive ?

9. Translate :—

Bolz —Mein voelliger Ernst. Warum soll ich mich ihnen anders zeigen, als ich bin ? Wir Zeitungsschreiber fuettern unsern Geist mit Tagesneuigkeiten, wir muessen alle Gerichte welche Satan fuer die Menschen kocht, in den allerkleinsten Bissen durchkosten, darum muessen Sie uns schon etwas zu gute halten. Der taegliche Aerger ueber das Verfehlte und Schlechte, die ewigen kleinen Aufregungen ueber alles moegliche, das arbeitet in dem Menschen. Im Anfange ballt man die Faust, spaeter gewoehnt man sich darueber zu spotten. Wer immer fuer den Tag arbeitet, ist es bei dem nicht auch natuerlich, dasz er in den Tag hinein lebt ?

10. Give the root with signification of fuettern, Gerichte, Aufregungen.

11. Translate :—

Aber der Herzog von Parma kannte seine Kraefte, und seinen entschlossenen Muth konnte nur das unmoegliche bezwingen. Nachdem er sowohl die Breite als die Tiefe des Stroms hatte ausmessen lassen, und mit zweien seiner Geschicktesten Ingenieurs, *Barocci* und *Plato* darueber zu Rath gegangen war, fiel der Schlusz dahin aus, die Bruecke zwischen *Kalloo* in Flandern und *Ordam* in Brabant zu erbauen. Man erwaehlte diese Stelle deswegen, weil der Strom hier die

wenigste Breite hat, und sich etwas zur Rechten kruemmt, welches die Schiffe aufhaelt, und sie noethigt, den Wind zu veraendern. Zu Bedeckung der Bruecke wurden an beiden Enden derselben starke Basteien aufgefuehrt, wovon die eine auf dem Flandrischen Ufer das Fort St. Maria, die andre auf dem Brabantischen, dem Koenig zu Ehren, das Fort St. Phillip genannt wurde.

12. „Zweien", what cases of the word are inflected and when ?

13. „Ingenieurs"—Give the root and account for the form of the Plural—Is there any other in use ?

14. „Welches", what is the antecedent ?

15. Translate :—

Aber schrecklicher als alles dies war die Niederlage, welche das moerderische Werkzeug unter den Menschen anrichtete. Fuenfhundert, nach anderen Berichten sogar achthundert Menschen wurden das Opfer seiner Wuth ; diejenigen nicht einmal gerechnet, welche mit verstuemmelten oder sonst beschaedigten Gliedern davon kamen ; und die entgegengesetztesten Todesarten vereinigten sich in diesem entsetzlichen Augenblick. Einige wurden durch den Blitz des Vulkans, andre durch das kochende Gewaesser des Stroms verbrannt ; noch andre erstickte der giftige Schwefeldampf ; jene wurden in den Fluthen, diese unter dem Hagel der geschleuderten Steine begraben, viele von den Messern und Haken zerfleischt, oder von den Kugeln zermalmt, welche aus dem Bauch der Maschine sprangen. Einige, die man ohne alle sichtbare Verletzung entseelt fand, muszte schon die blosze Lufterschuetterung getoedtet haben. Der Anblick, der sich unmittelbar nach Entzuendung der Mine darbot, war fuerchterlich. Einige staken zwischen dem Pfahlwerk der Bruecke, andere arbeiteten sich unter Steinmassen hervor, noch andre waren in den Schiffseilen haengen geblieben ; von allen Orten und Enden her erhub sich ein herzzerschneidendes Geschrei nach Huelfe, welches aber, weil jeder genug mit sich selbst zu thun hatte, nur durch ein ohnmaechtiges Wimmern beantwortet wurde.

16. Give the derivation with signification of roots, of verstuemmelten, Schwefeldampf, geschleuderten, zermalmt.

17. Conjugate the verbs in kochende, begraben, darbot, staken, erhub.

18. Give a brief account of the causes which led to the siege of Antwerp.

University of Manitoba.

EXAMINATIONS MAY, 1893.

PREVIOUS EXAMINATION

FRENCH AUTHORS.

Time 3 hours.

I.

1. Translate:

J'ai reçu le lendemain de notre entrevue, Maxime, la nouvelle de la mort de cet individu: je me suis mis en route immédiatement pour le château de Laroque, et j'ai demandé pour vous l'emploi vacant. J'ai fait valoir votre titre d'avocat, et plus particulièrement vos qualités morales. Pour me conformer à votre désir, je n'ai point parlé de votre naissance: vous n'êtes et ne serez connu dans la maison que sous le nom de Maxime Odiot. Vous habiterez un pavillon séparé où l'on vous servira vos repas, lorsqu'il ne vous sera pas agréable de figurer à la table de famille. Vos honoraires sont fixés à six mille francs par an. Cela vous convient-il?

2. Parse, giving the five principal parts of the verbs: Me suis mis, valoir, serez connu, servira.

3. When is the form *l'on* used?

4. Write in full the present subjunctive of valoir, serez connu.

5. Who is the speaker?

II.

6. Translate:

Quelques jours après mon arrivée, comme j'assistais à un de ces dîners de cérémonie qui, dans cette saison, sont ici presque quotidiens, mon nom fut prononcé sur un ton interrogatif par le gros sous-préfet de la petite ville voisine, qui était assis à la droite de la dame châtelaine. Mme. Laroque, qui est assez sujette à ces sortes de distractions, oublia que je n'étais pas loin d'elle, et bon gré, mal gré, je ne perdis pas un mot de sa réponse:—Mon Dieu! ne m'en parlez pas! il y a là misère inconcevable.... Nous pensons que c'est quelque prince déguisé.

7. Parse était assis, and write in full the present and the past indefinite indicative, and the present subjunctive of this verb.

III.

8. Translate:

Le calcul des probabilités n'est jamais plus vain que lorsqu'il s'exerce au sujet des pensées et des sentiments d'une femme. Ne me souciant pas de me trouver de sitôt en présence de Mlle Marguerite après la scène pénible qui avait eu lieu entre nous, j'avais passé deux jours sans me montrer au château : j'espérais à peine que ce court intervalle eût suffi pour calmer les ressentiments que j'avais soulevés dans ce cœur hautain. Cependant avant-hier matin, vers sept heures, comme je travaillais près de la fenêtre ouverte de ma tourelle, je m'entendis appeler tout à coup sur le ton d'un enjouement amical par la personne même dont je croyais m'être fait une ennemie.

9. Soulevés, ouverte. Give rules for agreement.

10. Parse même. When is this word variable? When invariable?

11. Write the present indicative of appeler, and give the rule for doubling the "l."

12. Scène pénible. What scene?

13. Translate:

Je feignis de ne pas l'entendre. Mlle Marguerite lui dit deux mots brusques à voix basse.—Je m'incline, mademoiselle, reprit-il alors d'un ton plus élevé; qu'il me soit permis seulement d'exprimer le regret sincère que j'éprouve de n'avoir pas le droit d'intervenir ici.

Je me levai aussitôt.—Monsieur de Bévallan, dis-je en me plaçant à deux pas de lui, ce regret est tout à fait superflu, car si je n'ai pas cru devoir obéir aux ordres de mademoiselle, je suis entièrement aux votres,.... et je vais les attendre.

14. Write in full the present and imperfect subjunctive of feignis, ai cru, devoir.

15. Parse tout. When is it variable? When invariable?

16. Aux vôtres. What orders?

V.

17. Translate:

Hier soir, à neuf heures environ, comme j'étais accoudé sur ma fenêtre ouverte, je fus surpris de voir une faible lumière s'approcher de mon logis à travers les plus sombres allées du

parc, et dans une direction que les gens du château n'avaient pas coutume de suivre. Un instant après, on frappa à ma porte, et Mlle de Porhoët entra toute haletante.—Cousin, me dit-elle, j'ai affaire à vous.

18. (*a*) Give the rules for the gender of adjectives with *gens*
(*b*) Why is this form of *toute* used here ?
(*c*) Affaire. Explain reference.

19. Give a brief character sketch of each of the following persons mentioned in these extracts, and show in each the correspondence between character and destiny :
Maxime Odiot, Mme. Laroque, Marguerite, M. de Bévallan, Mlle de Porhoet.

VI.

20. MADAME RATINOIS. Eh bien, messieurs vous nous laissez seules ?. .

RATINOIS. Ah ! voilà ma femme! Approchez, madame.

MALINGEAR, *à sa femme sévèrement.* Approches, madame.

MADAME RATINOIS. Quoi ?. .

MADAME MALINGEAR. Qu'y a-t-il ?

RATINOIS, *à sa femme.* Mère coupable. . et bouffie de vanité !. . Mais c'est la mode aujourd'hui !

MALINGEAR. On fait la roue !

RATINOIS. On se gonfle comme des ballons !

MALINGEAR. Et l'on ne craint pas de sacrifier l'avenir, le bonheur de ses enfants !

RATINOIS. Car ils s'aiment. . Mais on répond : Qu'est-ce que cela fait ? Et voilà des mères ! Bonsoir.

21. What stage in the play does this scene represent ? Describe the character of Mr. Malingear, Mme. Ratinois, and Robert.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PREVIOUS.

FRENCH GRAMMAR AND COMPOSITION.

1. (*a*) Name the Substantitives having two plurals, and give their respective meanings.

(*b*) What is the plural of *l'animal le chacaal*, and the singular of *bals, beaux, baux?*

2. Give the chief rules about the plural of Compound Substantitives and write the plural of *un chef-lien, d'œuvre, un passe-port, un passe-partout.*

3. Form the feminine of bénin, malin, sec, frais, caduc, turc, grec, las, sot, gentil, tiers, muet, mou, favori, franc, faux, roux, vieux.

4. Distuinguish:

(*a*) { Voici le loup qui tua le garçon
Voici le loup que tua le garçon

(*b*) { Je cherche quelqu'un qui me rende ce service
Je cherche quelqu'un qui me renda ce service.

(*c*) { Je crains qu'il ne tombe
Je crains qu'il ne tombe pas.

5. Translate the following into French, giving in each case the reason for the mood and tense used in the subordinate clause:—

(*a*) I wish you to speak to me.

(*b*) What did you wish me to do?

(*c*) I hope that he will not come next week.

(*d*) Do you think that you will come with me?

(*e*) This is the only coat I have.

6. What are the rules for the agreement of the Past Participle when followed by an infinitive? Illustrate your answer with two or three examples.

7. Write out in full the imperative of *savoir* and the present and imperfect subjunctive of *aller*, *venir*, *vendre*, and *devoir*.

8. Translate into French :—

Your brother is very long in changing his mind. If he gave attention to business, and had his clothes made after the English fashion, and became acquainted with my friends, and did his best to please them, and did not pretend to play the poor man so much, he might marry a cousin of mine. My youngest sister has been married to your eldest brother. It was in vain for me to remonstrate with her. The Rev. Mr. H. married them. Have the goodness to tell the young man not to resign his place. He longs to escape from work, and does not think of his conduct. He has sold me his watch. He could not help it. And though I wind it up every night, it loses half an hour a day. I often put it right but no matter, it does not go well. I am not a good judge of watches, and I have a grudge against your brother for deceiving me.

9. Translate into English :—

Cette vie, je l'ai en grande partie parcourue ; j'en connais les promesses, les réalités, les déceptions. Vous pourriez me rappeler comment on l'imagine ; je veux vous dire comment on la trouve, non pour briser la fleur de vos nobles espérances (la vie est parfaitement bonne à qui en connaît le but) mais pour prévenir des méprises sur ce but même, et pour vous apprendre, en révélant ce qu'elle peut donner, ce que vous avez à lui demander et de quelle manière vous devez vous en servir.

On la croit longue, jeunes élèves ; elle est très courte : car la jeunesse n'en est que la lente préparation, et la vieillesse que la plus lente destruction. Dans sept à huit ans, vous aurez entrevu toutes les idées fécondes dont vous êtes capables, et il ne vous restera qu'une vingtaine d'années de veritable force pour les realiser. Vingt années ! c'est-à-dire une éternité pour vous, en réalité un moment ! Croyez-en ceux pour qui ces vingt années ne sont plus : elles passent comme une ombre, et il n'en reste que les œuvres dont on les a remplies.

University of Manitoba.

EXAMINATIONS. MAY, 1893.

PREVIOUS, PASS AND GENERAL B. A.

TRIGONOMETRY.

1. Prove that the circumference of a circle varies as the radius. If the circumference $= 2\pi r$, show that π is greater than 3.

Give some of the approximate values of π.

Find the length of an arc of a circle subtending an angle 50 grades at the centre, if the radius $= 4$ feet.

2. Define a degree, a grade, and the unit of circular measure, and show that they are to one another as

$$\frac{1}{180} : \frac{1}{200} : \frac{1}{\pi}$$

Express in sexagesimal measure the angles $29^g.75'$ and $\frac{\pi}{4}$

Show that an angle expressed in French or centesimal minutes may be expressed in sexagesimal minutes by multiplying by $\cdot 54$.

3. Define the sine, cosine and tangent of an angle. Name their respective reciprocals and prove the following relations:

$$\text{Sin}^2 A + \cos^2 A = 1$$

$$\text{Tan } A = \frac{\sin A}{\cos A}$$

$$\frac{1}{\text{Tan}^2 A + 1} + \frac{1}{\text{Cot}^2 A + 1} = 1.$$

4. Find sin 30° and tan 45°. Given $\cos A = \frac{12}{13}$, find the other trigonometrical ratios of A.

Write down the values of sin 1470° and tan $\frac{9\pi}{4}$.

5. What are the complements of $45°, 150^g.50', \frac{5\pi}{4}$ and the supplements of $90°, -100^g, -\frac{\pi}{6}$.

Trace the changes in the sign and magnitude of tan A, as A changes from 30° to 45°, 45° to 60°, 60° to 90°, 90° to 135°, 135° to 180°, and 180° to 225°.

6. A man who is walking on a level plain towards a church spire observes at a certain point that the elevation of the top of the spire is 15°, and after going 100 yards nearer that the elevation is 30°. Find the height of the spire and his distance from it when he made his second observation.

7. Prove $\sin(-A) = -\sin A$, $\cos(-A) = \cos A$, $\sin(A+B) = \sin A \cos B + \cos A \sin B$.

Deduce the expressions for $\sin(A-B)$, $\sin 2A$, $\sin 75°$.

8. *(a)* Prove that (1) $1-\tan^2 A \tan^2 B = \dfrac{\cos^2 B - \sin^2 A}{\cos^2 A \cos^2 B}$

(2) $1+\dfrac{\tan^2 a}{1+\sec a} = \sec a.$

and that if $A+B = 45°$

$\tan A + \tan A \tan B + \tan B = 1.$

(b) Solve the equations:

(1) $\text{Tan}\ \theta = 3 \cot \theta.$

(2) $2\cos^2\theta + \sqrt{2}\sin\theta = 2.$

9. Define a logarithm. What are the characteristic and the mantissa? State the advantages of the common system of logarithms.

Write down the values of $\log_{10} 1000$, $\log_{100} 10$, $\log_{2} 8$.

Given $\log 2 = \cdot 3010300$, $\log 7 = \cdot 8450980$, find $\log 28$ and $\log \left(\frac{343}{4}\right)^{\frac{1}{2}}$.

Given $\log 25819 = 4\cdot 4119394$, $\log 25820 = 4\cdot 4119562$, find $\log 258\cdot 192$.

10. Prove the following formulæ for triangles:

(1) $\text{Sin}\ A : \sin B : \sin C :: a : b : c.$

(2) $\text{Tan}\ \dfrac{A-B}{2} = \dfrac{a-b}{a+b} \cot \dfrac{C}{2}.$

11. *(a)* Given L. tan 9° 38′ = 9 2297735, L. tan 9° 37′ = 9·2290071, find the angle whose L. tan is 9·2292211.

(b) Given in a triangle $a = 90$, $b = 70$. $C = 72° 48' 30''$ L cot $36° 24' 15'' = 10 \cdot 13231111$, find (with the aid of logarithms given elsewhere in this paper) the angles A and B.

12. With what data is there an ambiguity in the solution of triangles? Explain this by a geometrical figure.

Given in a triangle $B = 30°$, $c = 150$, $b = 50\sqrt{3}$; show that of the two triangles which satisfy the data, one is isosceles, and the other right-angled. Find the third side in each case.

Universite de Manitoba.

EXAMEN, MAI, 1893.

EXAMEN PREMIER ET DU B.A. GÉNÉRAL.

TRIGONOMÉTRIE.

1. Prouvez que la circonférence d'un cercle varie avec le rayon. Si la circonférence d'un cercle est égale à $2\pi r$, montrez que π est plus grand que 3.

Donnez quelques valeurs approchées de π.

Trouvez la longueur de l'arc qui soutient au centre un angle de 50 grades, si le rayon est de 4 pieds.

2. Donnez la définition d'un dégré, d'un grade, de l'unité de mesure circulaire, et montrez qu'ils sont entre eux comme

$$\frac{1}{180} : \frac{1}{200} : \frac{1}{\pi}$$

Exprimez en mesure circulaire les angles $29^g.\ 75'$ et $\frac{\pi}{4}$

Démontrez que la multiplication par ·54 transforme un angle exprimé en minutes centésimales en minutes sexagésimales.

3. Donnez la définition du sinus, du cosinus, de la tangente d'un angle ; nommez-en les réciproques respectifs, et prouvez les relations suivantes :

$$\text{Sin}^2\ \text{A} + \cos^2\ \text{A} = 1$$

$$\text{Tan A} = \frac{\sin \text{A}}{\cos \text{A}}$$

$$\frac{1}{\text{Tan}^2\ \text{A} + 1} + \frac{1}{\text{Cot}^2 \text{A} + 1} = 1.$$

4. Trouvez sin 30° et tan 45°. Cos A étant égal à $\frac{12}{13}$, trouvez les autres fonctions trigonométriques de A.

Donnez les valeurs de sin 1470° et de tan $\frac{9\pi}{4}$.

5. Quels sont les compléments de $45°, 150^g.\ 50', \frac{5\pi}{4}$ et les suppléments de $90°, -100^g, -\frac{\pi}{6}$.

Tracez les variations de tan A en signe et en grandeur quand A change de 30° à 45°, de 45° à 60°, de 60° à 90°, de 90° à 135°, de 135° à 180°, et de 180° à 225°.

6. Un homme qui s'avance vers un clocher d'église, remarque à un certain point que l'élévation du sommet du clocher est de 15°, et 100 verges plus loin il remarque que l'élévation est maintenant de 30°. Trouver la hauteur du clocher, et de combien il en était éloigné quand il fit sa seconde observation.

7. Prouvez: $\sin(-A) = -\sin A$, $\cos(-A) = \cos A$, $\sin(A+B) = \sin A \cos B + \cos A \sin B$.

Trouvez les expressions pour $\sin(A-B)$, $\sin 2A$, $\sin 75°$.

8. *(a)* Prouvez que (1) $1 - \tan^2 A \tan^2 B = \dfrac{\cos^2 B - \sin^2 A}{\cos^2 A \cos^2 B}$

$$(2)\quad 1 + \frac{\tan^2 a}{1+\sec a} = \sec a.$$

et que si $A+B = 45°$, alors

$$\tan A + \tan A \tan B + \tan B = 1.$$

(b) Résolvez les équations :

(1) $\text{Tan}\ \theta = 3 \cot \theta$.

(2) $2\cos^2\theta + \sqrt{2}\sin\theta = 2$.

9. Donnez la définition d'un logarithme. Qu'est-ce que la caractérisque—la mantisse ? Indiquez les avantages du système ordinaire des logarithmes.

Ecrivez les valeurs de $\log_{10} 1000$, $\log_{100} 10$, $\log_{2} 8$.

Log 2 = ·3010300, log 7 = ·8450980, trouvez log 28 et $\log\left(\frac{343}{4}\right)^{\frac{1}{2}}$.

Log 25819 = 4·4119394, log 25820 = 4·4119562, trouvez log 258·192.

10. Prouvez ces formules relatives aux triangles :

(1) Sin A : sin B : sin C :: $a : b : c$.

(2) $\text{Tan}\ \dfrac{A-B}{2} = \dfrac{a-b}{a+b} \cot \dfrac{C}{2}$.

11. *(a)* Etant donné L. tan 9° 38′ = 9 2297735, L. tan 9° 37′ = 9·2290071, trouvez l'angle dont L. tan est 9·2292211.

(b) Dans un triangle $a = 90$, $b = 70$. C = 72° 48′ 30″ L cot 36° 24′ 15″ = 10·13231111, trouvez, à l'aide des logarithmes ci-dessus, les angles A et B.

12. Avec quelles données un ambiguité se presente-t-il dans la solution des triangles ? Expliquez ceci par une figure géométrique.

Dans un triangle $B = 30°$, $c = 150$, $b = 50\sqrt{3}$; démontrez que des deux triangles, qui correspondent aux données, l'un est isoscèle et l'autre rectangle. Trouvez le troisième côté dans chaque cas.

University of Manitoba.

EXAMINATIONS MAY, 1893.

FOR SCHOLARSHIPS.

PREVIOUS CHEMISTRY.

1. A vessel of air is closed at normal temperature and pressure and then placed in boiling water. What pressure will the enclosed air exert on the sides of the vessel? At what temperature will oxygen have the same density as hydrogen at zero?

2. The system of atomic weights of Berzelius was based partly on the hypothesis that "the atomic weights are to each other as the specific gravities of the vapors." Examine fully into this hypothesis.

3. A chloride of tin is found to contain 45.43 per cent. of tin. The specific heat of tin is ·0562. Assuming the atomic weight of chlorine to be 35.37, calculate from these data the atomic weight of tin.

4. How may sulphuretted hydrogen be prepared? Express the reaction by means of an equation, and write equations showing the action of sulphuretted hydrogen on solutions of (*a*) copper sulphate, (*b*) antimonious chloride, (*c*) ferric chloride, and (*d*) potassium bichromate.

5. Give a short account of the chemistry of (*a*) chlorine, and (*b*) chromium.

6. Make a list of the salt-forming oxides of sulphur, chromium, maganese and iron, distinguishing between those which are basic and those which are acid. Discuss fully the classification of these elements and their relations to the other elements.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PREVIOUS CHEMISTRY.

1. Give a full account of the distribution in nature, the preparation and the properties of the element nitrogen.

2. What substances should we have to employ to obtain respectively (*a*) hydrogen, and (*b*) chlorine, from hydrochloric acid. Mention the chief physical and chemical properties of hydrogen and chlorine and carefully compare the two.

3. Give a short account of the chemistry of *any four of* the following elements:—*potassium, zinc, aluminium, silicon, chromium, manganese, bromine, iron.*

4. Write equations expressing the chemical changes which take place when the following substances are treated with sulphuric acid:—zinc, zinc oxide, zinc hydroxide, potassium chloride, potassium sulphide, potassium sulphite, copper, alcohol.

5. Write an account of the chemical relations of plants and animals to the atmosphere, and explain how, through the agency of plants, animals derive their energy from the sun.

6. How do the metals differ from the non-metals in their oxidation products? How is (*a*) the metallic character of an element, and (*b*) its "oxygen valency," related to the atomic weight?

7. Dalton found that olefiant gas and carburetted hydrogen contained respectively 83.3 and 71.4 per cent of carbon. Explain how a consideration of these figures first suggested to him the idea of atoms.

8. Give a brief account of Avogadro's Law, and deduce from it the relation between the specific gravities and molecular weights of gases.

9. What volume of carbon dioxide would be evolved from a Seidlitz powder containing 3 grammes of bicarbonate of soda, $NaHCO_3$? If we write x for the volume at 15°., what will the volume be at 37°C.?

10. Explain *exactly how far* a knowledge of the specific heat of an element enables us to determine its atomic weight.

[Na = 23 C = 12 O = 16].

Universite de Manitoba.

EXAMEN, MAI, 1893.

PREMIER EXAMEN.

CHIMIE.

1. Rendez compte en détail des propriétés de l'Azote, de sa diffusion dans la nature, de sa préparation.

2. De quelles substances faudrait-il se servir pour obtenir de l'acide hydrochlorique (1) de l'hydrogène, (2) du chlore. Indiquez les principales propriétés physiques et chimiques de ces deux éléments et faites en une comparaison.

3. Donnez un aperçu de quatre éléments quelconques des suivants : Potassium, zinc, aluminium, silicon, chrome, manganèse, brome, fer.

4. Ecrivez les équations qui expriment les réactions qui ont lieu quand l'on traite à l'acide sulphurique les substances suivantes : Zinc, oxide de zinc, hydrate de zinc, chlorure de potassium, sulphure de potassium, sulphite de potassium, cuivre, alcool.

5. Décrivez les relations chimiques que les plantes et les animaux ont avec l'atmosphère, et expliquez comment par l'entremise des plantes le règne animal tire toutes ses énergies du soleil.

6. Comment les métaux diffèrent-ils des autres éléments si l'on considère que leurs combinaisons avec l'oxygène ? Comment les propriétés métalliques et la valence par rapport à l'oxygène sont elles reliées avec le poids atomique ?

7. Dalton a remarqué que le gaz éthylène contenait 83.3 p.c. de carbone, et le gaz des marais 71.4 p. c. de carbone. Montrez comment la considération de ces nombres a-t-il pu lui suggérer l'idée de l'existance des atomes.

8. Esquissez la loi d'Avogadro et concluez-en à la relation entre la densité et le poids moléculaire des gaz.

9. Quel volume de bioxide de carbone peut-on retirer d'une poudre de Sedlitz dont 3 grammes sont du bicarbonate de soude ($Na\ H\ C\ O_3$) ?

10. Expliquez clairement jusqu'à quel point la connaissance de la chaleur spécifique d'un corps peut nous rendre capables de déterminer son poids atomique ?

Na = 23. C = 12. O = 16.

University of Manitoba.

EXAMINATIONS MAY, 1893.

PREVIOUS HISTORY.

1. Account for the difficulties which the Synod of Whitby was convened to settle. When was the Synod held and what was the effect of its decisions on the constitution of the Church in England ?

2. "It is to the victory of Bouvines that England owes her Great Charter." Discuss this statement and give the main provisions of the Charter.

3. What were the main effects of the Restoration on the life of the English people ?

4. Give a short account of the "Trial of the Seven Bishops."

5. Give a brief sketch of the character of William, Prince of Orange.

6. Give a short account of the literary work of any *four* of the following:—Cædmon, Bæda, Gerald of Wales, Layamon, Francis Bacon, Thomas Hobbes.

7. Trace the growth of the English Drama from its rise till the death of Shakspeare.

8. To what causes may the literary greatness of Elizabeth's reign be traced ?

9. Write brief notes on the following:— Witenagemot, English Chronicle, doom-book, The Interdict, scutage, scholasticism, euphuism.

Universite de Manitoba.

EXAMEN, MAI, 1893.

PREMIER RXAMEN.

HISTOIRE DE FRANCE.

Temps—Trois heures.

1. Racontez la troisième croisade.

2. Faites un parallèle détaillé entre Philippe-Auguste et Richard Cœur-de-Lion.

3. Racontez la guerre contre l'Angleterre en 1194, et dites nous les causes qui l'ont amenée.

4. Faites connaître en détail la bataille de Bouvines.

5. Donnez-nous quelques détails sur les dernières années du règne de Philippe-Auguste.

6. Racontez la "Saint-Barthélemy" et montrez que cet attentat fut un crime purement politique.

7. Quels sont les principaux évènements du règne de Philippe-Le-Bel ?

8. Dites-nous ce qu'était la féodalité. Quand cessa-t-elle d'exister en Europe ?

9. Donnez un court résumé des guerres de Napoléon 1er.

10. Quels évènements se passèrent en Europe pendant les "Cent-jours ?"

11. Racontez brièvement la guerre de 1870 entre la France et la Prusse.

Universite de Manitoba.

EXAMEN, MAI, 1893.

PREMIER EXAMEN.

DISCOURS FRANÇAIS.

Temps—Une heure et demie.

Développez un des sujets suivants :

(*a*) Depuis deux jours le vaisseau d'Hatteras était environné de glaciers. L'équipage découragé se mutinait. Une révolte était imminente. Hatteras réunit ses hommes sur le tillac. et leur fait connaître les motifs qui l'engagent à continuer l'expédition. Faire ce discours. Il montre 1o. l'inutilité de leurs fatigues, et quelles fatigues ! 2o. La honte d'un retour stérile ; 3o. La gloire d'avoir été plus loin que tous les navigateurs ; 4o. La facilité du retour au printemps. Et ils n'ont qu'à regarder les montagnes de glace qui les environnent de toutes parts pour voir l'impossibilité d'un retour immédiat.

(*b*) Le Lieutenant prend alors la parole, et propose de tourner, sans tarder, le cap vers l'Angleterre, 1o. Parceque la difficulté du retour ne fera que grandir en proportion de leurs retards. L'hiver arrive : ces glaciers épars vont former autour du vaisseau un cercle infranchissable ; 2o. Impossibilité de se procurer les vivres, le logement, le combustible pour un hiver de neuf mois ; 3o. Comment dégager le vaisseau que l'hiver aura enseveli dans les glaces ? 4o. On parle de gloire, de fatigues inutiles. Et à quoi nous servira la gloire si nous périssons ? Nos fatigues ne seront-elles pas également inutiles ? Je propose un retour immédiat.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PREVIOUS EXAMINATION.

PROBLEM PAPER.

Take any two problems out of each of the divisions A. B. C.

Time : 1½ hours

A.

1. Two circles touch externally at O, and a third circle is described on the line joining the two centres as diameter, show that (a) the three circles will have a common tangent; (b) the tangent at O to the first two circles will intersect the common tangent on the third circle.

2. From a fixed point P without a circle draw PAB and PCD, cutting off any equal segments AB and CD, then BC and AD will intersect in the chord of contact of tangents from P.

3. Show how to construct geometrically the straight line represented by $\sqrt[4]{3}$ and that represented by $3^{\frac{1}{2^n}}$

4. Draw the four common tangents to two circles outside of one another, and show that of the six points of intersection, two lie in the line passing through the centres, and the other four lie on the circumference of a circle which passes through the centres.

B.

5. Solve the equations $\frac{y+z}{a}=\frac{z+x}{b}=\frac{x+y}{c}$, and $x^2+y^2+z^2=1$.

6. If four quantities be proportionals show that the sum of the greatest and least is always greater than the sum of the other two.

7. If $x^2+2ayz=y^2+z^2$; $y^2+2bzx=z^2+x^2$; and $z^2+2cxy=x^2+y^2$, show that

$$x(a+bc)=y(b+ca)=z(c+ab),$$ and also

$$(a+bc)\sqrt{1-a^2}=(b+ac)\sqrt{1-b^2}=(c+ab)\sqrt{1-c^2}.$$

8. Resolve $(a-b)^5+(b-c)^5+(c-a)^5$ into five factors.

C.

9. Prove the following formulas:

(a) $\dfrac{\cot A-\tan A}{\cot 2A}=2.$

(b) $\text{Sin}(\alpha-\beta)\cos(\alpha+\beta)+\sin(\beta-\gamma)\cos(\beta+\gamma)+\sin(\gamma-\alpha)\cos(\gamma+\alpha)=0.$

10. Prove that in a triangle ABC, right-angled at C, $AB-AC=BC.\tan\dfrac{A}{2}$.

11. If the base BC of the isosceles triangle ABC is produced to D and AD joined, show that the tangent from D to the circle circumscribing $ABC=\sqrt{AD^2-AC^2}$.

12. C being a right angle solve the triangle having given $b=33$, $c=65$

$\cos 59°.29'=\cdot 5077890$, $\cos 59°30'=\cdot 5075384$.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PREMIER EXAMEN.

PROBLÈMES.

Temps—1½ heures.

Ne tentez que deux questions dans chaque categorie A, B, C.

A

1. Deux cercles se touchent extérieurement à O, un troisième a pour diamètre la ligne unissant les deux centres, prouvez que (*a*) les trois cercles ont une tangente commune, (*b*) que la tangente à O aux deux premiers cercles rencontre la tangente commune sur le troisiéme cercle.

2. Par un point fixe (P) en dehors d'un cercle tracez les lignes PAB et PCD, coupant deux segments égaux AB et CD sur la circonférence prouvez que BC et AD se rencontreront dans la corde de contact des tangentes menées par P.

3. Montrez comment on peut construire géométriquement la droite représentée par $\sqrt[4]{3}$, aussi celle représentée par $\frac{1}{3^{2/3}}$

4. Tracez les quatre tangentes communes à deux cercles l'un extérieure à l'autre, et prouvez que des six points d'intersection, deux sont dans la ligne des centres, et les autres points sont sur la circonférence d'un cercle qui passe par les deux centres.

B

5. Résoudre le système

$$\frac{y+z}{a}=\frac{z+x}{b}=\frac{x+y}{c},\quad x^2+y^2+z^2=1.$$

6. Si quatre quantités sont proportionelles, prouvez que la somme de la plus grande et de la plus petite est toujours plus grande que la somme des deux autres.

7. Si $x^2+2ayz=y^2+z^2$, $y^2+2bzx=z^2+x^2$, et $z^2+2cxy=x^2+y^2$, prouvez que $x(a+bc)=y(b+ca)=z(c+ab)$, et que $(a+bc)\sqrt{1-a^2}=(b+ac)\sqrt{1-b^2}=(c+ab)\sqrt{1-c^2}$

8. Resolvez $(a-b)^5+(b-c)^5+(c-a)^5$ en cinq facteurs.

C

9. Prouvez les équations suivantes :

(*a*) $\dfrac{\cot A-\tan A}{\cot 2A}=2.$

(*b*) Sin (A−B) cos (A+B) + sin (B−C) cos (B+C) + sin (C−A) cos (C+A)=0.

10. Prouvez que dans un triangle ABC dont l'angle C est droit, $AB-AC=BC\tan\dfrac{A}{2}$

11. Si la base BC du triangle isocèle ABC est prolongée en D, et si l'on trace AD, montrez que la tangente menée de D au cercle circonscrit au triangle ABC= $\sqrt{AD^2-AC^2}$

12. Résoudre le triangle ABC, dont C est un angle droit, $b=33$ et $c=65$.

Cos 59°29=.5077890, Cos 59°30′=.5075384.

University of Manitoba.

EXAMINATIONS. MAY, 1893.

PREVIOUS

EUCLID.

1. Define the different kinds of triangles, considering (1) the sides, (2) the angles.

Enunciate the three theorems of Euclid on the equality of the sides and angles of two triangles, having given the base, one of the angles at the base and the sum of the sides.

2. Shew that any two sides of a triangle are greater than the third side.

Deduce therefrom (1) a property of a straight line, (2) any side of a trangle is greater than the difference of the other two, (3) the sum of the distances of any point from the three angles of a triangle is greater than half the sum of the sides.

3. If a straight line cut two parallel straight lines, state and prove what angles are equal.

Shew that all lines drawn through the middle point of the intercepted part and terminated by the parallel lines will likewise be bisected at that point.

4. If a straight line be divided into two equal parts, and also into two unequal parts, the rectangle contained by the unequal parts, together with the square on the line between the points of section, is equal to the square of half the line.

Shew by the same figure that the difference of the squares on two unequal lines is equal to the rectangle contained by their sum and difference.

Divide a line into two parts so that the rectangle contained by them may be the greatest possible.

5. Divide a given straight line into two parts so that the rectangle contained by the whole and one of the parts is equal to the square on the other part.

Shew that the rectangle contained by the sum and difference of the parts, is equal to the rectangle contained by the parts.

6. Define *arc*, *sector*, *segment*.

Prove that the angles in the same segment of a circle are equal to one another.

7. The opposite angles of any quadrilateral in a circle being together equal to two right angles, discuss the limitations under which the following problem is possible: Inscribe in a circle a quadrilateral, one of whose angles equals a given angle, one of the opposite sides being equal to a given straight line.

8. If two straight lines cut one another within a circle, the rectangle contained by the segments of one of them shall be equal to the rectangle contained by the segments of the other.

Enunciate and illustrate by a figure what rectangles are equal if the lines intersect outside the circle.

9. Give the geometrical definition of proportion, and illustrate it by an example in algebraical symbols. What is a *mean proportional*, *compound ratio* and the processes *invertendo*, *dividendo*, *componendo*?

10. If the vertical angle of a triangle be bisected by a straight line which also cuts the base, prove that the segments of the base are in the same ratio as the other sides of the triangle. Prove the corresponding theorem when the exterior vertical angle is bisected.

Universite de Manitoba.

EXAMEN, MAI, 1893.

PREMIER EXAMEN.

GÉOMETRIE.

1. Définissez les diverses espèces de triangles, considérant (1) les côtés, (2) les angles.

Enoncez les trois théorème d'Euclide sur l'égalité des côtés et des angles de deux triangles; prouvez un quelconque de ces théorèmes.

Construisez un triangle, étant donné la base, un des angles à la base et la somme des côtés.

2. Montrez que la somme de deux côtés d'un triangle est plus grand que le troisième côté. De là déduisez :

(1) Une propriété d'une ligne droite.

(2) Qu'un côté quelconque d'un triangle est plus grand que la différence des deux autres côtés.

(3) Que la somme des distances d'un point des trois points angulaires d'un triangle est plus grande que la demi-somme des côtés.

3. Si une droite coupe deux droites parallèles, dites quels sont les angles égaux et prouvez l'assertion. Prouvez que toutes les lignes menées par le milieu de la partie interceptée et terminées par les parallèles, seront pareillement divisées en deux parties égales au même point.

4. Si l'on divise une ligne droite en deux parties égales et aussi en deux parties inégales, le rectangle formé par les deux parties inégales avec le carré sur la ligne entre les points de section égale le carré de la moitié de toute la ligne. Montrez par la même figure que la différence des carrés sur deux lignes inégales égale le rectangle formé par la somme et la différence de ces lignes.

Divisez une droite en deux parties de façon que le rectangle formé par ces parties soit le plus grand possible.

5. Partagez une droite en deux parties de sorte que le rectangle formé par toute la ligne et une des parties soit égale au carré sur l'autre partie; déduisez de là que le rectangle formé par la somme et la différence des parties égale le rectangle formé par les parties.

6. Définissez arc, segment, secteur.

Prouvez que les angles dans un segment d'un cercle sont égaux.

7. La somme des angles opposés d'un quadrilatère inscrit dans un cercle étant égale à deux angles droits, déterminer les limites dans lesquelles le problème suivant est possible: inscrire dans un cercle un quadrilatère dont un angle soit égale à un angle donné et un côté opposé soit égale à une droite donnée.

8. Si deux droites se coupent à l'intérieur d'un cercle, le rectangle formé par les segments de l'un est égal au rectangle formé par les segments de l'autre

Montrez avec figure quels rectangles sont égaux, si les lignes se rencontrent à l'extérieur du cercle.

9. Donnez la définition géométrique de "proportion" et donnez-en un exemple en symboles algébriques. Qu'est-ce qu'un moyen proportionnel, une raison composée?

Quels sont les procédés dits *invertendo, dividendo, componendo.*

10. Si dans un triangle quelconque l'angle vertical est divisé en deux parties égales par une ligne droite qui coupe la base, prouvez que les segments de la base sont entre eux comme les autres cotés du triangle.

Prouvez le théorème correspondent pour le cas où l'on partage en deux parties égales l'angle vertical extérieur.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PREVIOUS.

ALGEBRA.

1. If $A = BQ + R$ where A, B, R, Q stand for expressions arranged according to powers of some common letter, prove that the common factors of A and B are exactly the same as the common factors of B and R.

Hence deduce the rule for finding the H, C, F of two algebraical expressions; and find the H, C, F of

$$x^5 - 2x^4 - 2x^3 + 8x^2 - 7x + 2 \text{ and } x^4 - 4x + 3.$$

2. Define an algebraical fraction; and from the definition given prove that $\frac{a}{b} \times \frac{c}{d} = \frac{ac}{bd}$

Simplify the following:—

1. $$\frac{(2+\frac{x}{y})(1+\frac{y}{x})}{1+\frac{x}{y}+\frac{y}{x}} + \frac{3(1+\frac{y}{x})}{\frac{x^3}{y^3}-1}$$

2. $$\frac{3}{3+\sqrt{6}} + \frac{2\sqrt{3}}{\sqrt{3}+\sqrt{2}} - \frac{3\sqrt{6}}{\sqrt{6}+2}$$

3. State and prove the fundamental index law for positive exponents, and assuming it to be general find the meaning of $a^{\frac{4}{3}}, a^{-3}$

Find the square root of

$$x^{\frac{2}{3}} + y^{\frac{2}{3}} - x^{\frac{1}{6}} y^{\frac{1}{6}} (x^{\frac{1}{3}} + y^{\frac{1}{3}}) \sqrt{2} + \tfrac{5}{2} x^{\frac{1}{3}} y^{\frac{1}{3}}$$

and of $2+\sqrt{3}$, and simplify

$$\frac{2+\sqrt{3}}{\sqrt{2}+\sqrt{2+\sqrt{3}}} + \frac{2-\sqrt{3}}{\sqrt{2}-\sqrt{2-\sqrt{3}}}$$

4. Shew that the quadratic equation $ax^2 + bx + c = 0$ has

two and only two roots, and determine the condition that the roots may be real and different.

If the roots of the equation $ax^2+bx+c=0$ are the reciprocals of the roots of $a_1x^2+b_1x+c_1=0$, shew that $aa_1=cc_1$ and $ab_1=bc_1$.

5. Define *ratio, proportion, direct variation,* and *inverse variation,* and shew that if four quantities are proportionals, they will be proportional if taken dividendo.

If $2x+3y:2x-3y=2a^2+3b^2:2a^2-3b^2$, then will x have to y the duplicate ratio that a has to b.

6. Define an arithmetical series, a geometrical series, and a harmonic series; and shew that the geometric mean of two quantities is the geometric mean of the arithmetic and harmonic means of the quantities.

Find the sum of

(1.) $25+20+15+\ldots\ldots$ to 10 terms.
(2.) $25+20+17+\ldots\ldots$ to 8 terms.
(3.) $1\frac{1}{4}-1+\frac{4}{5}\ldots\ldots$ to infinity.

7. A carrier charges 3 cents each for parcels not exceeding a certain weight; and on heavier parcels he makes an additional charge for every pound above that weight. The charge for a parcel of 14 lbs. is 12 cents and the charge for a parcel of 12 lbs. is twice that for a parcel of 7 lbs. What is the scale of charges?

8. Solve the equations :—

1. $ax+by=mxy=px+qy$.
2. $(b-c)x^2+(c-a)x+(a-b)=0$.
3. $\sqrt{x+3}-\sqrt{5x-7}=\sqrt{2}$.
4. $\left.\begin{aligned} x^2+3xy+2y&=12 \\ xy+4y^2+x&=8 \end{aligned}\right\}$

9. If a, b, c are in A. P., b, c, d in G. P. and c, d, e in H. P., shew that a, c, e are in G. P.

10. (a) Extract the cube root of

$$x^6+x^{-6}-6\,(x^4+x^{-4})+15\,(x^2+x^{-2})-20.$$

(b) Determine when x^n-y^n is exactly divisible by $x+y$, and when it is not exactly divisible.

(c) Show that if $\dfrac{x}{b+c-a}=\dfrac{y}{c+a-b}=\dfrac{z}{a+b-c}$

then will $(b-c)x+(c-a)y+(a-b)z=0$.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

ALGÈBRE.

PREMIER EXAMEN.

1. Si $A = BQ + R$ quand A, B, R, Q réprésentent des expressions arrangées suivant les puissances d'une lettre qui leur est commune, prouvez que les facteurs communs de A et de B sont précisement les mêmes que les facteurs de B et de R.

De là déduisez la règle pour trouver le plus grand facteur commun des expressions algébriques; et trouvez le plus grand facteur commun de

$$x^5 - 2x^4 - 2x^3 + 8x^2 - 7x + 2 \text{ et de } x^4 - 4x + 3.$$

2. Donnez la définition d'une fraction algébrique; et prouvez d'après cette définition que $\frac{a}{b} \times \frac{c}{d} = \frac{ac}{bd}$

1. $$\frac{(2+\frac{x}{y})(1+\frac{y}{x})}{1+\frac{x}{y}+\frac{y}{x}} + \frac{3(1+\frac{y}{x})}{\frac{x^3}{y^3}-1}$$

2. $$\frac{3}{3+\sqrt{6}} + \frac{2\sqrt{3}}{\sqrt{3}+\sqrt{2}} - \frac{3\sqrt{6}}{\sqrt{6}+2}$$

3. Enoncez et prouvez la loi fondamentale des indices pour le cas des exposants positifs, et en le supposant generale, montrez ce que signifie $a^{\frac{4}{3}}, a^{-3}$

Trouvez la racine carrée de

$$x^{\frac{2}{3}} + y^{\frac{2}{3}} - x^{\frac{1}{6}} y^{\frac{1}{6}} (x^{\frac{1}{3}} + y^{\frac{1}{3}}) \sqrt{2} + \tfrac{5}{2} x^{\frac{1}{3}} y^{\frac{1}{3}}$$

de $2+\sqrt{3}$, et simplifiez

$$\frac{2+\sqrt{3}}{\sqrt{2}+\sqrt{2+\sqrt{3}}} + \frac{2-\sqrt{3}}{\sqrt{2}-\sqrt{2-\sqrt{3}}}$$

4. Montrez que l'équation du second dégré $ax^2 + bx + c = 0$ a deux racines ni plus ni moins, et déterminez la condition pourque les racines soient réelles et différentes.

Si les racines de l'équation $ax^2+bx+c=0$ sont les réciproques des racines de $a_1x^2+b_1x+c_1=0$ montrez que $aa_1=cc_1$ et $ab_1=bc_1$.

5. Qn'est qu'un *rapport, une proportion*, que veut dire *varier directement, inversement*, et montrez que si quatre quaetités sont proportionelles entre elles, elles le seront encore étant prises dividendo.

Si $2x+3y:2x-3y=2a^2+3b^2:2a^2-3b^2$, alors $x:y=a^2:b^2$

6. Qu'est-ce qu'une progression arithmétique, géométrique, harmonique ? Montrez que la moyenne géométrique de deux quantités est la mo enne géométriques des moyennes arithmétiques et harmoniques de ces quantités.

Trouvez la somme de

$25+20+15+\ldots\ldots$ jusqu'à 10 termes.
$25+20+17+\ldots\ldots$ " 8 termes.
$1\frac{1}{4}-1+\frac{4}{5}\ldots\ldots$ jusqu'à l'infini.

7. Un facteur exige 3 centins pour chaque paquet qui ne depasse pas un certain poids ; le taux augmente pour chaque livre en sus. Pour un paquet de 14 livres il faut payer 12 centins, et pour un paquet de 12 livres il faut payer deux fois autant que pour un paquet de 7 livres. Quelle règle le taux suit-il ?

8. Resolvez les équations :

1. $ax+by=mxy=px+qy.$
2. $(b-c)x^2+(c-a)x+(a-b)=0.$
3. $\sqrt{x+3}-\sqrt{5x-7}=\sqrt{2}.$
4. $\left.\begin{array}{l} x^2+3xy+2y=12 \\ xy+4y^2+x=8 \end{array}\right\}$

9. Si a, b, c sont en progression arithmétique, b, c, d en progression géométrique, et c, d, e en progression harmonique, montrez que a, c, e sont en progression géométrique.

10. (a) Extrayez la racine cubique de

$$x^6+x^{-6}-6\,(x^4+x^{-4})+15\,(x^2+x^{-2})-20.$$

(b) Déterminez quand x^n-y^n est divisible sans reste par $x+y$, et quand il ne l'est pas.

(c) Prouvez que si $\frac{x}{b+c-a}=\frac{y}{c+a-b}=\frac{z}{a+b-c}$

on aura $(b-c)x+(c-a)y+(a-b)z=0.$

University of Manitoba.

EXAMINATIONS MAY, 1893.

PRELIMINARY AND MEDICAL ENTRANCE.

VIRGIL.

1. Translate:
Traduisez:

(*a*) Cymothoe simul et Triton *adnixus* acuto
Detrudunt naves scopulo; levat ipsi tridenti,
Et vastas *aperit* syrtes, et temperat æquor;
Atque rotis summas *levibus perlabitur* undas.
Ac veluti magno in populo quum sæpe coorta est
Seditio, *sævitque* animis ignobile vulgus,
Jamque *faces* et saxa volant; furor arma ministrat:
Tum, pietate gravem ac meritis si *forte* virum quem
Conspexere, *silent*, arrectisque auribus adstant;
Ille regit dixit animos, et pectora *mulcet*:
Sic cunctus pelagi *cecidit* fragor, æquora postquam
Prospiciens genitor, cœloque invectus aperto,
Flectit equos, curruque volans dat *lora* secundo.

(*b*) Sic Venus; et veneris contra sic filius *orsus*:
Nulla tuarum audita mihi neque visa sororum,
O! quam te *memorem*, virgo? namque haud tibi vultus
Mortalis, nec vox hominem *sonat*; O! Dea certe
(An Phœbi soror? an Nympharum sanguinis una?),
Sis felix, nostrumque *leves*, quæcumque, laborem;
Et, quo sub cœlo tandem, quibus *orbis* in oris
Jactemur, doceas. Ignari hominumque locorumque
Erramus, vento huc et vestis fluctibus acti.
Multa tibi ante aras nostrâ *cadet* hostia dextrâ.

(*c*) At Cytherea novas artes, nova pectore versat
Consilia; ut, faciem mutatus et *ora*, Cupido
Pro dulci Ascanio veniat, donisque *furentem*
Incendat reginam, atque *ossibus implicet* ignem;
Quippe domum timet ambiguam Tyriosque *bilingues*:
Urit atrox Juno, et sub noctem cura recursat.
Ergo his *aligerum* dictis affatur Amorem:
Nate, patris summi qui tela Typhoia temnis;
Ad te confugio, et supplex tua *numina* posco.
Frater ut Æneas pelago tuus omnia circum
Litora jactetur, *odiis* Junonis iniquæ,
Nota tibi; et nostro *doluisti* sæpe dolore.

2. Parse the words in italics of the extracts (*a*) and (*b*).
Analysez les mots en italiques des extraits (*a*) et (b).

3. Explain the moods in :
Donnez la raison d'être du mode :

Jactemur, doceas, memorem.

Account for the cases of :
Pourquoi les cas suivant :

Scopulo, pietate, mihi.

4. Scan the last six lines of extract (*b*). Note and explain any peculiarities in the scansion.
Scandez les 6 dernières lignes de l'extrait (*b*). Notez et expliquez les particularités de la scansion.

5. Translate into Latin :

Hector, the son of Priam and Hecuba was the bravest man at Troy. He married Andromache by whom he had one son, who, being very young when the city of Troy was taken, was saved in his mother's arms from the flames. Hector was of such valor that he was appointed leader of all the Trojan forces. Not to mention other things which he did, let me tell you how he acted on just one occasion. When Achilles had repulsed all the other Trojans, Hector, too great to flee, waited the approach of his enemy near the Scaean gates, even though his father and mother were endeavoring to prevent him from exposing himself to so great a danger. He had, however, at last to flee, followed by Achilles by whom he was soon killed. His lifeless body was dragged by his conqueror round the tomb of Patroclas, but was at last given up at his father's request to his friends to be buried.

Traduisez en latin :

Hector, le fils de Priam et d'Hécube, était le plus brave guerrier qu'il y eut à Troie. Il maria Andromaque, de laquelle il eut un fils qui étant très jeune quand la ville de Troie fut prise, fut sauvé des flammes dans les bras de sa mère. Hector avait une telle valeur qu'il fut nommé commandant de toutes les forces des Troyens. Pour ne faire mention d'aucune autre circonstance, laissez-moi vous raconter ce qu'il fit dans une seule occasion. Quand Achille eut repoussé tous les autres Troyens, Hector, trop brave pour fuir, attendit l'approche de son ennemi près des portes Scaemes, bien que son père et sa mère fissent tous leurs efforts pour l'empêcher de s'exposer à un si grand danger. Il lui fallut pourtant fuir enfin, poursuivi par Achille duquel il reçut bientôt la mort. Son corps inanimé fut trainé par son vainqueur autour du tombeau de Patrocles, mais, à la demande de son père, il fut enfin remis à ses amis pour être enterré.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PRELIMINARY—PRÉLIMINAIRE.

CÆSAR.

CÉSAR.

1. Translate :
Traduisez :

Qui, ubi pro perfuga ad eos venit, timorem Romanorum *proponit* : "quibus angustiis ipse Cæsar a Venetis *prematur*," docet : "neque longius abesse, quin proxima nocte Sabinus clam ex castris exercitum educat, et ad Cæsarem auxilii ferendi causa proficiscatur." Quod ubi auditum est, conclamant omnes, occasionem negotii bene *gerendi* amittendam non esse, ad castra iri *opertere*. Multæ res ad hoc consilium Gallos hortabantur : superiorum *dierum* Sabini cunctatio, perfugæ confirmatio, inopia cibariorum, qui rei parum diligentur ab iis erat provisum, spes Venetici belli, et quod fere libenter homines id, quod *volunt*, credunt. His rebus adducti, non prius Viridovicem reliquosque duces ex concilio dimittunt, quam ab his *sit concessum*, arma uti capiant et ad castra contendant. Qua re concessa, læti, ut explorata victoria, sarmentis virgultisque *collectis*, quibus fossas Romanorum *compleant*, ad castra *pergunt*.

2. Parse the italicised words.
Analysez les mots en italiques.

3. *Auxilii ferendi causa* : Express the same meaning by as many different constructions as possible.
Auxilii ferendi causa : Exprimez le même sens en autant de manières différentes que possible.

4. Translate :
Traduisez :

Cæsar *questus*, quod cum ultro in continentem legatis missis pacem ab se petissent, bellum sine causa intulissent, *ignoscere* imprudentiæ dixit obsidesque imperavit : quorum illi partem statim dederunt, partem, ex *longinquioribus* locis *arcessitam*, paucis diebus sese, *daturos* dixerunt. Interea suos remigrare in agros jusserunt, principesque undique con-

venire et se civitatesque suas Cæsari commendare *cœperunt*.

His rebus pace confirmata, post diem quartum, quam est in Britanniam ventum, naves octodecim, de quibus supra demonstratum est, quæ equites *sustulerant*, ex superiore portu leni vento solverunt. Quæ cum appropin quarent Britanniæ, et ex castris viderentur, tanta tempestas subito *coorta est*, ut nulla earum cursum tenere posset, sed aliæ eodem, unde *erant profectæ*, *referrentur*; aliæ ad *inferiorem* partem insulæ, quæ est propius *solis* occasum, magno *sui* cum periculo dejicerentur: quæ tamen, anchoris jactis cum fluctibus complerentur, necessario adversa nocte in altum *provectæ*, continentem *petierunt*.

5. Parse the italicised words.
Analysez les mots en italiques.

6. Account for the case of: Imprudentiæ, partem (partem ex longinquioribus locis), quam, Britanniæ.
Donnez la raison d'être des cas de: Imprudentiæ, partem (partem ex longinquioribus locis), quam, Britanniæ.

7. Decline fully: Adversa nocte.
Déclinez au complet: Adversa nocte.

8. Compare all the adjectives and adverbs in the second extract which are susceptible of comparison.
Donnez les degrés de comparison des adjectifs et des adverbes du second extrait, là où ils peuvent être comparés.

9. Translate:
Traduisez:

(Not for medical entrance.)

Hac pugnâ pugnatâ, Romam profectus est, nullo resistente: in propinquis urbis montibus moratus est. Quum aliquot ibi dies castra habuisset, et reverteretur Capuam, Q. Fabius Maximus, dictator Romanus, in agro Falerno ei se objecit. Hinc, clausus locorum angustiis, noctu, sine ullo detrimento exercitus, se expedivit. Fabio, calidissimo imperatori, dedit verba; namque, obductâ nocte, sarmenta in cornibus jumentorum deligata incendit, ejusque generis multitudinem magnam dispalatam immisit. Quo repentino objectu viso, tantum terorem injecit exercitui Romanorum, ut egredi extra vallum nemo sit ausus. Hanc post rem gestam, non ita multis diebus, M. Minucium Rufum, magistrum equitum, pari ac dictatorem imperio, dolo perductum in proelium, fugavit.

Calidissimo—very hasty or fiery—irréfléchi.
Dedit verba—to impose upon—en imposer.
Dispalatam—to wander—courir ça et là.

University of Manitoba.

EXAMINATIONS MAY, 1893.

PRELIMINARY.

LATIN GRAMMAR.

1. Decline fully: *Jusjurandum, apes, celer* (masc.), *bos, vas,* and *alius-a-ùd.*

2. Compare; *magnus, parvus* and *bonus.* Are these compared regularly? Give the rules for the comparison of adjectives with the exceptional classes. Illustrate each case by an example.

3. Give *(a)* in all the tenses of the Subjunctive Mood, the 2nd person singular and plural of:—*moneo, debeor, laudo, amor, dico, regor, rapio, accipior.*

(b) All the persons in the singular and plural of the Present and Future Simple Indicative of:—*nolo, fero* and *eo.*

(c) The Imperative Present of:—*fio, praedico, duco, differo.*

4. Name, giving three examples, three verbs governing the genitive case, three governing the dative, and three governing the ablative.

5. What is the rule for the mood of the verb after: *(a) qui, (b) quum, (c) ut.* Give an example for each case.

6. Give the rules for the sequence of tenses.

GRAMMAIRE LATINE AU PRÉLIMINAIRE.

1. Déclinez au complet: *Jusjurandum, apes, celer* (masc.), *bos, vas,* et *alius-a-ud.*

2. Donnez les degrés de comparaison de:—*Magnus, parvus* et *bonus.* Cette formation est-elle régulière? Donnez les règles pour la formation des degrés de comparaison dans les adjectifs en faisant mention des classes lesquelles font exception. Donnez un exemple pour chaque cas.

3. Donnez *(a)* à tons les temps du mode Subjonctif la 2nd personne du singulier et du pluriel de:—*moneo, debeor, laudo, amor, dico, regor, rapio, accipior.*

(b) Toutes les personnes du singulier et du pluriel du Présent et du Future Simple Indicatif de :—*nolo, volo* et *eo.*

(c) l'Impératif présent de :—*fio, prædico, duco, differo.*

4. Nommez, en donnant des exemples, trois verbes gouvernant le génitif, trois gonvernant le datif, et trois gouvernant l'ablatif.

5. Quel est la règle relative au mode après :—*(a) qui, (b) quum, (c) ut.* Donnez un exemple pour chaque cas.

6. Quelle est la règle de la correspondance des temps des verbes dépendant les uns des antres. Donnez des exemples.

University of Manitoba.

EXAMINATIONS. MAY, 1893.

LATIN.—PRELIMINARY

FOR SCHOLARSHIPS.

1. Translate:

(*a*) Quum venit, aulæis jam se regina superbis
Aurea composuit sponda mediamque locavit:
Jam pater Æneas, et jam Trojana juventus
Conveniunt, stratoque super discumbitur ostro.
Dant famuli manibus lymphas, Cereremque canistris
Expediunt, tonsisque ferunt mantelia villis.
Quinquaginta intus famulæ, quibus ordine longam
Cura penum struere, et flammis adolere penates;
Centum aliæ, totidemque pares ætate ministri,
Qui dapibus mensas onerent, et pocula ponant.

Traduisez:

(*b*) Rationem pontis hanc instituit. Tigna bina sesquipedalia, paulum ab imo præacuta, dimensa ad altitudinem fluminis, intervallo pedum duorum inter se jungebat. Hæc quum machinationibus immissa in flumen defixerat, fistucisque adegerat, non sublicæ modo directa ad perpendiculum, sed prona ac fastigata, ut secundum naturam fluminis procumberent; iis item contraria bina, ad eundem modum juncta, intervallo pedum quadragenum, ab inferiore parte, contra vim atque impetum fluminis conversa statuebat. Hæc utraque insuper bipedalibus trabibus immissis, quantum eorum tignorum junctura distabat, binis utrimque fibulis ab extrema parte, distinebantur.

2. Parse:
Analysez:
Tonsis, mantilia, villis, adolere, pares, fistucis, fibulis.

3. Decline fully:
Déclinez au complet:
Æneas, penum, dapibus.

4. Turn into Latin:
In the 3rd and 4th books of Cæsar which we have read during this year we have been informed how he conquered

the Germans and some of the nations of Gaul. The former thought that Cæsar would be prevented from fighting them by the river Rhine, and the latter relying on their multitude of men, hoped for a very easy victory. The Roman general, however, showed that the river was not too great for him to cross. And when he had crossed his army, most of the German states sent ambassadors to ask for peace. Cæsar, to gain time, was not the man to lose this opportunity for delay. The Gauls he defeated in several battles, and after receiving hostages from them, advised them to remain in allegiance with the Romans. Being a fickle nation, however, and very fond of revolution they formed many conspiracies. On one occasion they attacked Cæsar's scattered winter quarters and killed not a few of his men.

Traduisez en Latin :

Dans le 3ième et le 4ième livre de César que nous avons lu durant cette année, nous avons appris qu'il vainquit les Germains et quelques unes des nations de la Gaule. Les premiers crurent que César ne pourrait les combattre sur le Rhin, et les autres forts de leur nombre espéraient remporter la victoire facilement. Le général Romain cependant prouva que la rivière n'était pas trop large pour qu'il ne pût la traverser, et quand il l'eut traversée avec son armée, la plupart des états germains lui envoyèrent des ambassadeurs pour demander la paix. César pour gagner du temps n'était pas l'homme à refuser cette opportunité de délai. Il défit les Gaulois dans plusieurs combats, et après avoir reçu d'eux des otages il leur conseilla de rester fidèles à leur serment d'allégéance aux Romains. Cependant comme ils étaient une nation inconstante et très avide de révolution, ils formèrent plusieurs complots. Dans une occasion ils attaquèrent les quartiers d'hiver de César, lesquels étaient dispersés, et ils lui tuèrent bon nombre de soldats.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PRELIMINARY.

XENOPHON.

1. Translate: Traduisez:

(a) *Οἱ δε Καρδοῦχοι, ὡς ἑωρων τοὺς ὀπισθοφύλακας τοῦ ὄχλου ψιλουμένους, καὶ ὀλίγους ἤδη φαινομένους, θᾶττον δὴ ἐπῆεσαν, ᾠδάς τινας ᾄδοντες. Ὁ δὲ Χειρίσοφος, ἐπεὶ τὰ παρ' αὐτῷ ἀσφαλῶς εἶχε, πέμπει παρὰ Ξενοφῶντα τοὺς πελταστὰς καὶ σφενδονήτας καὶ κελεύει ποιεῖν ὅ τι ἂν παραγγέλλῃ. Ἰδὼν δὲ αὐτοὺς διαβαίνοντας ὁ Ξενοφῶν, πέμψας ἄγγελον κελεύει αὐτοῦ μεῖναι ἐπὶ τοῦ ποταμοῦ, μὴ διαβάντας. Ὅταν δ' ἄρξωνται αὐτοι διαβαίνειν, ἐναντίους ἔπιθεν καὶ ἔνθεν σφῶν ἐμβαίνειν ὡς διαβησομένους, διηκυλωμένους τοὺς ἀκοντιστάς, καὶ ἐπι βεβλημένους τοὺς τοξότας· μὴ πρόσω δὲ τοῦ ποταμοῦ προ βαινειν.*

(b) *Ἐντεῦθεν δὲ τὴν ἐπιοῦσαν ἡμέραν ὅλην ἐπορεύοντο διὰ χιόνος, καὶ πολλοὶ τῶν ἀνθρώπων ἐβουλιμίασαν. Ξενοφῶν δ' ὀπισθοφυλακῶν, καὶ καταλαμβάνων τοὺς πίπτοντας τῶν ἀνθρώπων, ἠγνόει, ὅ τι τὸ πάθος εἴη. Ἐπειδὴ δὲ εἶπέ τις αὐτῷ τῶν ἐμπείρων ὅτι σαφῶς βουλιμῶσι, κἂν τι φάγωσιν ἀναστήσονται, περιὼν περὶ τὰ ὑποζύγια, εἴ πού τι ὁρᾷῃ βρωτὸν ἢ ποτόν, διεδίδου, καὶ διέπεμπε διδόντας τοὺς δυναμένους παρατρέχειν τοῖς βουλιμῶσιν. Ἐπειδὴ δέ τι ἐμφάγοιεν, ἀνίσταντο καὶ ἐπορεύοντο. Πορευομένων δέ, Χειρίσοφος μὲν ἀμφὶ κνέφας πρὸς κώμην ἀφικνεῖται, καὶ ὑδροφορούσας ἐκ τῆς κώμης πρὸς τῇ κρήνῃ γυναῖκας καὶ κόρας καταλαμβάνει ἔμπροσθεν τοῦ ἐρύματος. Αὗται ἠρώτων αὐτοὺς τίνες εἶεν.*

(c) *Εἶχον δὲ καὶ κνημῖδας, καὶ κράνη, καὶ παρὰ τὴν ζώνην μαχαίριον, ὅσον ξυήλην Λακωνικήν, ᾧ ἔσφαττον, ὧν κρατεῖν δύναιντο· καὶ ἀποτέμνοντες ἂν τὰς κεφαλὰς ἔχοντες ἐπορεύοντο· καὶ ᾖδον, καὶ ἐχόρευον, ὁπότε οἱ πολέμοι αὐτοὺς ὄψεσθαι, ἔμελλον. Εἶχον δὲ καὶ δόρυ ὡς πεντεκαίδεκα πηχῶν, μίαν λογχην ἔχον. Οὗτοι ἐνέμενον ἐν τοῖς πολίσμασιν. Ἐπεὶ δὲ παρέλθοιεν οἱ Ἕλληνες, εἵποντο ἀεὶ μαχόμενοι. Ὤκουν δὲ ἐν τοῖς ὀχυροῖς· καὶ τὰ*

ἐπιτήδεια ἐν τούτοις ἀνακεκομισμένοι ἦσαν, ὥστε μηδὲν λαμβάνειν αὐτόθεν τοὺς Ἕλληνας, ἀλλα διετράφησαν τοῖς κτήνεσιν, ἃ ἐκ τῶν Ταόχων ἔλαβον.

2. Parse: Analysez: ἑώρων, θᾶττον, ἐπῆεσαν, ἄδοντες, σφῶν, βεβλημένους, ἐπιοῦσαν, ἠγνόει, ἐμπείρων, φάγωσιν, κράνη, ᾖδον, δόρυ, πηχῶν, εἵποντο, κτήνεσιν, πάθος, ᾧ, κνέφας, διετράφησαν.

3. Explain the augment in: Expliquez l'augment:
ἑώρων, εἶχε, διέδιδου, ἠρώτων.
Compare: Donnez les degrés de comparaison:
ὀλίγους, πρόσω σαφως.

4. Decline fully: Declinez au complet:
τοὺς τοξότας, μίαν λόγχην.

5. Derive: Donnez l'étymologie: ὀπισθοφύλακας, ἀσφαλῶς, πάθος, ἐμπείρων, ὑδροφορούσας, ἐρύματος, ἐνέμενον.

6. Explain the reference in each extract, (a), (b), (c).
A quels incidents chacun des extraits, (a), (b), (c). a-t-il rapport.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PRELIMINARY EXAMINATION.
EXAMEN PRÉLIMINAIRE.

HOMER.

1. Translate: Traduisez:

(a) *Ὣς ἔφατ' εὐχομενος, τοῦ δ' ἔκλυε Φοίβος Ἀπόλλων,*
βῆ δὲ κατ' Οὐλύμποιο καρήνων χωόμενος κῆρ,
τόξ' ὤμοισιν ἔχων ἀμφηρεφέα τε φαρέτρην.
Ἔκλαγξαν δ' ἄρ' ὀϊστοὶ ἐπ' ὤμων χωομένοιο,
αὐτοῦ κινηθέντος· ὁ δ' ἤϊε νυκτὶ ἐοικώς.
Ἕζετ' ἔπειτ' ἀπάνευθε νεῶν, μετὰ δ' ἰὸν ἕηκεν·
δεινὴ δὲ κλαγγὴ γένετ' ἀργυρέοιο βιοῖο.
Οὐρῆας μὲν πρῶτον ἐπῴχετο καὶ κύνας ἀργοὺς,
αὐτὰρ ἔπειτ' αὐτοῖσι βέλος ἐχεπευκὲς ἐφιεὶς
βάλλ'· αἰεὶ δὲ πυραὶ νεκύων καίοντο θαμειαί.

(b) *Τὸν δ' ἄρ' ὑποβλήδην ἠμείβετο δῖος Ἀχιλλεύς·*
"Ἦ γάρ κεν δειλός τε καὶ οὐτιδανὸς καλεοίμην,
εἰ δὴ σοὶ πᾶν ἔργον ὑπείξομαι, ὅττι κεν εἴπῃς·
ἄλλοισιν δὴ ταῦτ' ἐπιτέλλεο, μὴ γὰρ ἔμοιγε
[σήμαιν'· οὐ γὰρ ἔγωγ' ἔτι σοι πείσεσθαι ὀΐω].
Ἄλλο δέ τοι ἐρέω, σὺ δ' ἐνὶ φρεσὶ βάλλεο σῇσιν·
χερσὶ μὲν οὔτοι ἔγωγε μαχήσομαι εἵνεκα κούρης
οὔτε σοὶ οὔτε τῳ ἄλλῳ, ἐπεί μ' ἀφέλεσθέ γε δόντες·
τῶν δ' ἄλλων ἃ μοί ἐστι θοῇ παρὰ νηὶ μελαίνῃ,
τῶν οὐκ ἂν τι φέροις ἀνελὼν ἀέκοντος ἐμεῖο.
Εἰ δ' ἄγε μὴν, πείρησαι, ἵνα γνώωσι καὶ οἵδε·
αἶψά τοι αἷμα κελαινὸν ἐρωήσει περὶ δουρί."

(c) Ὡς φάτο, μείδησεν δὲ θεὰ λευκώλενος Ἥρη·
μειδήσασα δὲ παιδὸς ἐδέξατο χειρὶ κύπελλον.
Αὐτάρ ὁ τοῖς ἄλλοισι θεοῖς ἐνδέξια πᾶσιν
οἰνοχόει, γλυκὺ νέκταρ ἀπὸ κρητῆρος ἀφύσσων.
Ἄσβεστος δ' ἄρ' ἐνῶρτο γέλως μακάρεσσι θεοῖσιν,
ὡς ἴδον Ἥφαιστον διὰ δώματα ποιπνύοντα.
Ὡς τότε μὲν πρόπαν ἦμαρ ἐς ἠέλιον καταδύντα
δαίνυντ', οὐδέ τι θυμὸς ἐδεύετο δαιτὸς ἐίσης,
οὐ μὲν φόρμιγγος περικαλλέος, ἣν ἔχ' Ἀπόλλων,
Μουσάων θ', αἳ ἄειδον ἀμειβόμεναι ὀπὶ καλῇ.

2. Parse the underlined words in the three extracts.
2. Analysez les mots soulignés dans les trois extraits.

3. Derive: Donnez l'étymologie de:
ἀμφηρεφέα, ἀργυρέοιο, ἐχεπευκὲς, οὐτιδανὸς, λευκώλενος, καταδύντα.

4. Give the reference in each extract.
4. À quels incidents chacun des extraits ci-dessus a-t-il rapport?

5. Write notes on: Ecrivez des notes sur:
Φοῖβος Ἀπόλλων, Ἀχιλλεύς, Ἥρη, Μουσάων.

6. Scan the first six lines of extract (b).
6. Scandez les six premières lignes de l'extrait (b).

University of Manitoba.

EXAMINATIONS MAY, 1893.

PRELIMINARY.
PRÉLIMINAIRE.

GREEK GRAMMAR.
GRAMMAIRE GRECQUE.

1. Decline : Déclinez :

στρατιώτης, Ἀτρείδης, ὁδός, πούς, ῥῆτωρ.

2. Decline *βουλέυων* and *εἷς* in the singular and *πάς* in plural.
2. Déclinez *βουλέυων* et *εἷς* au singulier et *πάς* au pluriel.

3. Compare : *μέγας, ῥᾴδιος, ἀληθής, φίλιος, μέλας* and *σώφρων.*
3. Donnez les degrés de comparaison de: *μέγας, ῥᾴδιος, ἀληθής, φίλιος, μέλας* et *σώφρων.*

4. What verbs take no augment? How is the augment formed in compound verbs? Illustrate each by examples.
4. Quels sont les verbes qui ne prennent pas d'augment? Comment se forme l'augment dans les verbes composés? Donnez des exemples pour chaque cas.

5. Give the third sing. Indicative, Subjunctive and Optative of *λύω* in all tenses and voices.
5. Donnez la 3nd personne du singulier aux modes Indicatif, Subjonctif et Optatif de *λύω* à tous les temps et à toutes les voix.

6. Write out the Perfect Indicative, active and passive, of *λέπω* and *γράφω.*
6. Ecrivez le Parfait Indicatif, actif et passif, de *λέπω* et *γράφω.*

7. What verbs govern the Genitive?
7. Quels sont les verbes qui gouvernent le Génitif?

8. Translate into Greek :
   (a) The enemy have broken the truce.
   (b) The judge was giving his opinion.
   (c) The orators had expressed their opinions.

(d) Will you show me those letters ?

(e) The servants of the good queen were silent.

(f) The general of the Athenians conquered the king of the Persians.

(g) I will send a messenger into the city in the course of the tenth day.

8. Traduisez en Grec :

(a) Les ennemis ont brisé la cloture.

(b) Le juge donnait son opinion.

(c) Les orateurs avaient exprimé leurs opinions.

(d) Voulez-vous me montrer ces lettres-la ?

(e) Les servantes de la bonne reine gardaient le silence.

(f) Le général des Athéniens vainquit le roi des Perses.

(g) J'enverrai un messager à la ville dans le cours du dixième jour.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PRELIMINARY.

FRENCH GRAMMAR AND COMPOSITION.

1. Give the plural of the following: nez, bateau, genou, bail, corail, trou, égal, fou, monsieur, madame, lui, celui, cette, auquel, quelqu'un.

2. With what words is the verb *avoir* used idiomatically in French?

3. Write from ten to twenty in French, and translate into French:

(*a*) What day of the month is it to day? To-day is the tenth.

(*b*) To-morrow will be the eleventh of May.

(*c*) I have only six francs, but my mother has more than twenty-one.

(*d*) I will go away on Friday the ninth day of June.

(*e*) How old are you? I am more than ten.

(*f*) What o'clock is it? It is half past nine.

4. Write in full the present subjunctive of punir, the past definite of manger, the conditional of recevoir, the imperfect subjunctive of vendré.

5. Write out in full the simple tenses of the indicative, and subjunctive of falloir and s'en aller.

6. Translate into French:

(*a*) What will you send to the doctor?

(*b*) I must send him my dog. His own is sick.

(*c*) How much is your dog worth?

(*d*) It is worth one franc.

(*e*) I gave him the letter which I have received.

7. Translate into French:

I am going home to-day. Come with me. I am not ashamed to speak to you, you are right, do not be afraid. I intend to

go to the concert if I have time. Will you send me a ticket? I have just found some money in my purse, and I will go and fetch the musician home with me, I will take off my white cloak and put on my black coat if the tailor has not spoiled it. I am going to have a new coat and vest made immediately.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PRELIMINARY EXAMINATION.

FRENCH AUTHORS.

Time—Three hours.

I.

1. Translate:

Tu as bien fait, répondit Annibal. C'est juste; il faut toujours secourir l'être qui souffre, celui-là serait-il un chien: Dieu l'a fait.

Scipion respira comme si on le déliait, et il courut près de la bête qui gisait, soufflante, geignant tout bas. Il la souleva, compta ses plaies, les lava, y versa l'huile du bon samaritain, et cela avec des délicatesses de main exquises, comme une femme qui aurait soigné un enfant. Même il l'apaisait, lui marmottant des paroles douces, des bégayements de nourrice; il l'appelait:

—Mamette, Mamette! ma mie!....

Puis il faillit pleurer parce que la bête, enfin soulagée, lui lécha les mains.

—*Les Frères Colombe.*

2. Parce celui-là, tout, faut, souffre, courut, geignant, faillit, (old form and new form.)

3. Give the present and imperative subjunctive of faut, and all the parts of gisait that are used.

4. Soufflante; geignant; why do these words not both end in *ant*? Account for this difference.

5. What parts of *appelait* double the "*l*"?

6. Compare bien, bon, douce.

7. Account for the form mie.

II.

8. Translate:

On dîna mal le soir de cette explication. Même Manon s'étant mise à manger du bout des lèvres, personne n'eut faim. Alors maman Pion fit un coup d'État.

—Si nous allions au spectacle ? dit-il brusquement.

—Oh ! oui, oui, cria Manon subitement égayée ; allons au théâtre. . . . Vous voulez bien, papa Nibal ? . . . .

Annibal hochait gravement la tête, hésitant. Mais Scipion fit signe à Manon d'aller s'habiller, et, dès qu'elle eut disparu dans sa chambre, il dit à son frère :

—Tu comprends qu'elle ne s'amuse guère, enfermée toute la journée seule, ici. Il faut la distraire. On aime les plaisirs à son âge. Si elle allait s'ennuyer avec nous !

—*Les Frères Colombe.*

9. Parse allions, dit, voulez, eut disparu, distraire.

10. Give the rules for the agreement of mise and enfermée.

11. Write in full the present subjunctive of allions and voulez.

12. Annibal, Scipion, Manon. Describe briefly each of these persons.

III.

13. Translate :

Je suis une heureuse vieille, comme vous voyez, monsieur de Comminges ; j'ai toujours sous les yeux un miroir qui s'obstine à me rendre mes quinze ans. . Mais, voyons, quitte à choquer la délicatesse de vos mœurs, il faut, si nous voulons dîner, que j'achève de mettre ce couvert moi-même.

—*La Fée.*

14. Parse voyez, achève, quitte, mettre, ce, vos.

15. Heureuse, vieille. Give masculine forms with rule for formation of feminine if possible.

16. Yeux. Give the other form of the plural and its meaning.

IV.

17. Translate :

Sérieusement, Monsieur, en conscience, j'ai remarqué une chose très importante. Monsieur, il y a deux espèces de phénomènes dans la nature, ceux qui sont naturels—et ceux qui ne sont pas naturels. Cette sombre forêt, cette tempête effroyable, cette maison isolée,—cette dame majestueuse qui fait tranquillement de la tapisserie,—tenez, regardez comme ses yeux brillent, Monsieur. . . . A son âge, est-ce naturel, je vous le demande ? . . d'où je conclus . .

—*La Fée.*

18. Give a brief sketch of the author of La Fée.

19. Translate:

Il était un homme qui avait de belles maisons à la ville et à la campagne, de la vaisselle d'or et d'argent, des meubles en broderie et des carosses tout dorés. Mais, par malheur, cet homme avait la barbe bleue; cela le rendait si laid et si terrible, qu'il n'était femme ni fille qui ne s'enfuît devant lui.

Une de ses voisines, dame de qualité, avait deux filles parfaitement belles. Il lui en demanda une en mariage, en lui laissant le choix de celle qu'elle voulait lui donner. Elles n'en voulaient point toutes deux, et se le renvoyaient l'une à l'autre, ne pouvant se résoudre à prendre un homme qui eût la barbe bleue. Ce qui les dégoûta encore, c'est qu'il avait déjà épousé plusieurs femmes, et qu'on ne savait ce que ces femmes étaient devenues.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PRELIMINARY

GERMAN AUTHORS.

1. Translate:—

(*a*) Da brausete aber einmal just im bedenklichsten Zeitpunkt das wilde Heer der Kinder in die Halle. Jetzt war alle Muehe vernichtet, Thasso *fuhr* wie *besessen* zwifchen die Kinder und dann zwischen die Beine der Kaeufer, als *wolle* er die verhaltene Lust nun doppelt zuegellos *genieszen*. Den Kindern bekam's uebel. Mit furchtbarem Schelten wurden sie hinauf zur Mutter geschickt und die beiden Knaben schon anderen *Tages* dem Schulmeister zur schaeferen Zucht uebergeben. Auch das Lungern und Balgen auf der Gasse ward ihnen strengstens untersagt. „Sie haben den Hund zu tausend Unarten verfuehrt," meinte Meister Richwin, „und wie kann man ueberhaupt *umtobt* von so wilden Kindern einen jungen Hund erziehen?" Er beschlosz von nun an seinen boesen *Rangen* den Daumen scharf aufs Auge zu druecken, damit der Hund Ruhe *habe* und unverfuehrt bleibe.

(*b*) Allein die Spaeher kamen nicht wieder, sondern statt *ihrer* ein Bote des Ritters, *vermeldend*, sein Herr habe jene drei auf verdaechtigen Wegen ertappt und festgenommen, sei aber bereit, sie gegen sehr billiges Loesegeld auszuliefern. *Wolle ihm* der Rath statt des Metzgers ein paar fette Mastochsen, statt des Schusters ein paar fette Schweine und statt des Schneiders, *der* gar leicht und mager sei, ein paar zarte junge Zicklein *senden*, nebst sechs Maltersaecken Korn als Brot zum Fleische, dann koenne er die drei Bursche im Stadtwald gegen Quittung wieder in Empfang *nehmen*.

2. Give the principal parts of (*a*) *fuhr, genieszen, erziehen;* (*b*) *vermeldend, senden, nehmen.*

3. Parse giving full construction: (*a*) *besessen, Tages, umtobt, Rangen;* (*b*) *ihrer, ihm, der.*

4. Account for the subjunctive: (*a*) *wolle, habe; wolle.*

5. Translate:—

Nun erschrack er freilich ueber das gestern dem Hofmarschall gegebene Wort und hielt seine Genesung fast fuer zu theuer erkauft. Doch nach kurzem Besinnen bisz er die Lippen zusammen, sprach zu sich selbst: „Ein Mann, ein Wort!" und verfuegte die Bestallung eines Leibmedikus. Trotz solches mannhaft ehrlichen Sinnes lauerte aber dennoch der Schalk im Hintergrund. Denn waehrend der Hofmarschall seinen Freunden bereits triumphierend ins Ohr fluesterte, dasz das neue System gebrochen sei und der alte Hofstaat wieder erstehe, sann der Fuerst, wie er durch die Person des Leibarztes selber den leibaerztlichen Posten zu e.tel Trug und Schein machen wollte

6. Translate :—

Wohl manches Fahrzeug, vom Strudel gefaszt,
Schosz gaeh in die Tiefe hinab:
Doch zerschmettert nur rangen sich Kiel und Mast
Hervor aus dem *alles* verschlingenden Grab—
Und heller und heller, wie Sturmes Sausen,
Hoert man's naeher und immer naeher brausen.

Und es wallet und siedet und brauset und zischt,
Wie wenn Wasser mit Feuer sich mengt,
Bis zum Himmel spritzet der dampfende Gischt
Und Well' auf Well' sich ohn' Ende draengt,
Und wie mit des fernen *Donners* Getose
Entstuerzt es bruellend dem finstern Schoosze.

7. Parse: *Wahl, alles, Donners.*

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EXAMINATIONS MAY, 1893.

PRELIMINARY GERMAN—GRAMMAR.

1. Give Gen. Sing. of der Christ, der Friede, das Auge, der Freund, Louise.

Give Nom. Plur. of die Mauer, der Strahl, das Licht, das Herz, der Bauer, der Arm.

2. (*a*) Give First Per. Sing. of the Present, Imp., Perf., Pluperf., and Imp. Subjunctive of sein.

(*b*) Give the Present Indicative throughout of duerfen and of moegen.

3. Render into German, "of the good friend," "of a good friend," "of good wine," "of dark night," "the industrious scholars," "the large beautiful trees."

4. Compare reich, kurz, gern and hoch.

5. Give Gen. Sing. and Plur. of Ich and Er.

6. Mention instances in which the Definite Article is used in German where it is not in English.

7. Give some verbs which require the Auxiliary "sein", where in English "have" is used.

8. What is the meaning and government of um, auf, waehrend, zu, gegen.

9. Conjugate the following verbs, heiszen, stoszen, heben, weichen, liegen, hauen, schwoeren, and give the signification of each verb.

10. Conjugate and give meaning of

(*a*) zeihen, ziehen and zeigen.
(*b*) bitten, beten and bieten.
(*c*) hangen and haengen.

11. Render in German

(*a*) We have seen the castle of the Emperor, it is beautiful.

(*b*) It rains, our friends will get wet.
(*c*) Read something good and useful.
(*d*) What kind of a pen have you? mine is bad.
(*e*) People who are not industrious, do not become rich.
(*f*) The man in whose house we lived is the brother of our neighbor.
(*g*) One must love one's neighbor as oneself—
(*h*) Here is good fresh water and also good white wine.
(*i*) Both the women have gone to the city.
(*k*) I have cut my finger, what am I to do?
(*l*(I could not do it myself and no one has helped me.
(*m*) I ought to have written this exercise better.

University of Manitoba.

EXAMINATIONS. MAY, 1893.

PRELIMINARY ROMAN AND ENGLISH HISTORY.

1. Give the chief events in the third or last period of the second Punic War. Name the leaders on each side and describe the battle which closed it.

2. Give a summary of the laws of Caius Gracchus.

3. Who were the Curule Magistrates at Rome? Explain the duties of the Roman Censors.

4. Compare Pompey and Cæsar *(a)* as soldiers, *(b)* as civil administrators.

5. Sketch the policy and conduct of Octavian after the death of Cæsar.

6. "The Declaration of Rights was turned into the Bill of Rights by the Convention." Explain how this affected the character of Monarchy in England.

7. Explain the nature of the changes introduced by Sunderland into the English Cabinet that had the effect (as Greene says) of forming the First English Ministry.

8. Write short notes on any two of the following:—Lord Clive, Warren Hastings, the second Pitt, Walpole.

9. Mention the circumstances which immediately led to the union of Ireland in 1800. Give the terms of the Union.

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EXAMEN, MAI, 1893.

EXAMEN PRÉLIMINAIRE.

HISTOIRE DE FRANCE ET HISTOIRE ROMAINE.

Temps—Deux heures.

1. Donnez un résumé du régne de Louis XIV.

2. Nommez les principaux écrivains du dix-septième siècle, et indiquez la spécialité de chacun.

3. Quel était le caractère de Louis XVI ? Racontez ses infortunes et sa mort.

4. Faites-nous connaître les principaux évènements de l'empire sous Napoléon III. (A grands traits.)

5. Comment s'écroula cet empire ? (En peu de mots.)

6. Quels sont les évènements les plus remarquables de la seconde guerre punique, dans sa troisième et dernière phase ? Donnez les noms des chefs de chaque nation, et racontez la bataille qui termina la guerre.

7. Rappelez, en peu de mots, les lois proposées par Caius Gracchus.

8. Dites-nous ce qu'étaient, à Rome, les magistrats curules. Quels étaient les devoirs des "Censeurs" romains ?

9. Faites un parallèle entre Pompée et César, (1) comme guerriers, (2) comme administrateurs.

10. Faites une courte esquisse de la politique et de la conduite d'Octave, après la mort de César. Racontez la bataille de "Philippes."

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EXAMINATIONS, MAY, 1893.

PRELIMINARY AND MEDICAL ENTRANCE.

BOTANY.

1. State the resemblances between the Buttercup, Hepatica, and Marsh Marigold, and show why your author groups them under Ranunculaceæ.

2. What is meant by "staminate flower" and "pistillate flower" respectively? Name the terms used to describe their being on one or on different plants.

3. Describe a gamopetallous corolla. Give the varieties of such corollas, and name the varieties of irregular gamopetallous corollas.

4. Distinguish minutely the legume of a pea from the silique of a Cruciferous plant.

5. Illustrate by diagram, after your author, the differences in (1) Hypogynous, (2) Perigynous, (3) Epigynous flowers.

6. Give the three kinds of dehiscence of syncarpous plants, and illustrate by diagram.

7. Write notes on (1) stomata, (2) chlorophyll, (3) Trichomes, (4) forms of cells, (5) contents of cells.

8. Describe the reproduction of the true mosses.

9. Give the varieties of (1) general outline, (2) margin, (3) apex, (4) base of leaf specimens A, B, and C.

10. Write a full description of specimens G and H.

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EXAMINATIONS MAY, 1893.

PRELIMINARY

CANADIAN HISTORY AND GEOGRAPHY.

I. Sketch the career of Champlain in Canada.

II. Write a short account of the Company of Merchants, Company of One Hundred Associates, Hudson's Bay Company, North West Company of Canada.

III. Explain the different systems of tenure, under which land has been held in Canada, and tell when the present system was introduced in Ontario and Quebec.

IV. Describe in detail the events of the first year in the war of 1812.

V. State the provisions of the "British North America Act," with respect to (*a*) the government of Canada (*b*) the government of each province (*c*) the admission of other provinces into Confederation. Give the date for the admission of each.

VI. Tell as fully as you can how the "Coal Measures" have been formed. To what period do we trace them? What was the main form of life in the Cainozoic period?

VII. What are the main causes of ocean currents? Mention a few cases where climate is modified by their influence.

VIII. Name the principal minerals of North America and the district where each is chiefly found?

IX. Draw a map of the great chain of Lakes and the St. Lawerence River, including the various tributaries which fall into them from the Canadian side.

X. Name the Coast waters and the islands on the North and West of Europe.

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EXAMINATIONS MAY, 1893.

EXAMEN PRÉLIMINAIRE.

HISTOIRE DU CANADA ET GÉOGRAPHIE.

Temps—Deux heures.

1. Par qui, en quelle année et dans quelles circonstances fut fondée la compagnie dite des "Cent-Associés"?
Quels furent ses privilèges et ses engagements?

2. Donnez un résumé de l'administration de Mr. de Mésy.
Faites connaître ses difficultés avec Mgr. de Laval.

3. En quelle année et sous quel gouverneur fut découvert le Mississipi? Racontez brièvement cette découverte.

4. Quels sont les principaux faits accomplis sous le gouvernement du général Murray?

5. Expliquez en détail le mode de formation des mines de charbon. A quelle période géologique rattache-t-on leur origine? Quels sont les principaux êtres vivants de la période cénozoique?

6. Quelles sont les principales causes des courants océaniques? Dans quels pays modifient-ils le climat?

7. Nommez les principaux minéraux de l'Amérique du Nord, et dites nous les régions où on les trouve.

8. Dessinez une carte qui nous montre la chaîne des grands lacs et le St. Laurent avec les affluents qui s'y jettent du coté Canadien.

9. Nommez les mers qui baignent l'Europe au Nord et à l'Ouest, ainsi que les îles adjacentes.

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EXAMINATIONS, MAY, 1893.

PRELIMINARY.

ALGEBRA.

1. Define the following: Factor, coefficient, square root, surd, like terms, binomial, and give an illustration of each.

2. What is the Index Law? State the rule of signs in multiplication.

Multiply $9x^2+9y^2+z^2+3yz-3xz+9xy$ by $3x-3y+z$.

3. Set down the factors of x^2-4y^2; $\frac{1}{8}a^3+\frac{1}{27}b^3$;

$14x-x^2-33$; $780x^2-73x+1$; $m^4+4m^2n^2+16n^4$; and prove that

$$(\sqrt{3}-1)(\sqrt{3}+2)(3+\sqrt{2})(2-\sqrt{2})=(\sqrt{3}+1)(4-\sqrt{2}).$$

4. Define highest common measure and lowest common multiple.

Find the H. C. M. of

$$6x^4+x^3y-8x^2y^2+4xy^3-3y^4 \text{ and}$$
$$8x^4+6x^3y-13x^2y^2-4xy^3+3y^4$$

and the L. C. M. of

$$x^2+x-2,\ x^2+x-6,\ x^2+x-12 \text{ and } x^4-13x^2+36.$$

5. What equations are said to be of the first degree, and what of the second?

Solve the equation $\frac{x-2}{1}-\frac{x-3}{2}+\frac{x-4}{3}-\frac{x-5}{4}=0$,

explaining each step in the operation.

6. What is the present price of certain shares if a reduction of 10 per cent. in the price would enable me to buy 5 more shares with $4,050?

7. Explain the method of solving simultaneous equations of two or three unknowns.

Solve $\frac{11x-5y}{22}=\frac{3x+y}{32}$, $8x-5y=1$.

Also $3x+3\frac{1}{2}y=10$, $7y+3\frac{1}{2}z=8\frac{4}{5}$, $15z+3\frac{1}{2}x=20\frac{1}{6}$.

8. Simplify $2.\frac{x-3y}{3}-3.\frac{2x-y}{4}+4.\frac{3x-y}{5}-5.\frac{y-x}{6}$.

Also $\frac{x}{x-a}-\frac{x}{x+a}-\left\{\frac{x+a}{x-a}-\frac{x-a}{x+a}\right\}\div\left\{\frac{x+a}{x-a}+\frac{x-a}{x+a}\right\}$.

9. Deduce from the index law the meanings of $a^{\frac{1}{n}}$, $a^{\frac{m}{n}}$, a^{o}, a^{-m}, and divide $a+1$ by $a^{\frac{1}{3}}+1$.

Find the square root of

$$m^{\frac{6}{5}}-4m^{\frac{4}{5}}n^{\frac{1}{5}}+6m^{\frac{3}{5}}n^{\frac{2}{5}}+4m^{\frac{2}{5}}n^{\frac{2}{3}}-12m^{\frac{1}{5}}n+9n^{\frac{4}{3}}.$$

10. If $a+\sqrt{b}=x+\sqrt{y}$, prove $a=x$, $b=y$, where a and x are rational and $\sqrt{b}$, $\sqrt{y}$ are surds.

Rationalize the denominators of $\frac{2\sqrt{3}}{3\sqrt{2}}$, $\frac{3}{2-\sqrt{3}}$.

and find the square root of $43-30\sqrt{2}$.

11. Show how to solve a quadratic equation of one unknown quantity (a) by the method of factors, (b) when the factors cannot be found by inspection, giving an example of each.

Solve $x^2-\frac{7}{12}x=1$; $4x^2+4ax=b^2-a^2$.

12. Find two numbers whose sum is twelve times their difference, and whose product is less by unity than the square of half their sum.

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EXAMEN, MAI, 1893.

EXAMEN PRÉLIMINAIRE.

ALGÈBRE.

1. Définissez: Facteur, coefficient, racine carrée, sourde, termes semblables, trinome, et donnez un exemple de chacun.

2. Enoncez la loi des exposants. Quelle est la règle des signes dans la multiplication ?

Multipliez $9x^2+9y^2+z^2+3yz-3xz+9xy$ par $3x-3y+z$.

3. Ecrivez les facteurs de x^2-4y^2 ; $\frac{1}{8}a^3+\frac{1}{27}b^3$; $14x-x^2-33$; $780x^2-73x+1$; $m^4+4m^2n^2+16n^4$; et prouvez que $(\sqrt{3}-1)(\sqrt{3}+2)(3+\sqrt{2})(2-\sqrt{2})=(\sqrt{3}+1)(4-\sqrt{2})$.

4. Définissez le plus grand commun diviseur et le plus petit commun multiple.

Trouvez le *p. g. c. d.* de $6x^4+x^3y-8x^2y^2+4xy^3-3y^4$ et $8x^4+6x^3y-13x^2y^2-4xy^3+3y^4$; et le *p. p. c. m.* de x^2+x-2, x^2+x-6, x^2+x-12 et x^4-13x^2+36.

5. Qu'est-ce que l'équation du premier degré ? du second degré ?

Résoudre l'équation $\frac{x-2}{1}-\frac{x-3}{2}+\frac{x-4}{3}-\frac{x-5}{4}=0$

Expliquez tous les détails de l'opération.

6. Trouvez la valeur actuelle de certaines actions si par une reduction de 10% dans le prix je peux en acheter cinq de plus que je n'en ai maintenant pour $4050.

6. Expliquez la manière de résoudre un système de plusieurs équations du premier degré.

Résoudre $\frac{11x-5y}{22}=\frac{3x+y}{32}$, $8x-5y=1$, et aussi

$$3x+3\tfrac{1}{2}y=10,\ 7y+3\tfrac{1}{2}z=8\tfrac{4}{5},\ 15z+3\tfrac{1}{2}x=20\tfrac{1}{6}.$$

8. Simplifiez 2. $\frac{x-3y}{3}$ — 3. $\frac{2x-y}{4}$ + 4. $\frac{3x-y}{5}$ — 5. $\frac{y-x}{6}$ et aussi $\frac{x}{x-a}-\frac{x}{x+a}-\left\{\frac{x+a}{x-a}-\frac{x-a}{x+a}\right\}\div$

$$\left\{\frac{x+a}{x-a}+\frac{x-a}{x+a}\right\}$$

9. De la loi des exposants déduire les significations de $a^{\frac{1}{n}}, a^{\frac{m}{n}}, a^{o}, a^{-m}$ et diviser $a+1$ par $a^{\frac{1}{3}}+1$. Extraire la racine carrée de $m^{\frac{6}{5}} - 4\,m^{\frac{4}{5}}\,n^{\frac{1}{3}} + 6\,m^{\frac{3}{5}}\,n^{\frac{2}{3}} + 4\,m^{\frac{2}{5}}\,n^{\frac{2}{3}} - 12\,m^{\frac{1}{5}}n + 9\,n^{\frac{4}{3}}$

10. Si $a+\sqrt{b}=x+\sqrt{y}$, prouvez $a=x$, $b=y$, quand a et b sont rationelles, et $\sqrt{x}$, $\sqrt{y}$ sont sourdes.

Rendre rationels les dénominateurs de $\frac{2\sqrt{3}}{3\sqrt{2}}$, $\frac{3}{2-\sqrt{3}}$ et trouver la racine carrée de $43-30\sqrt{2}$.

11. Expliquez les méthodes pour résoudre une équation du 2nd degré à un inconnu (a) en trouvant les facteurs, (b) quand on ne peut écrire les facteurs sans calcul et donnez un exemple de chaque méthode.

Résoudre $x^2 - \frac{7}{12}x = 1$, $4x^2+4ax=b^2-a^2$

12. Trouvez deux nombres dont la somme est douze fois leur différence, et leur produit est moins par un que le carré de la moitié de leur somme.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PRELIMINARY MATHEMATICS.

PROBLEMS.

N. B.—Not more than two questions in each division must be sent up. Questions marked (*a*) or (*b*) count only as half questions.
Time—1½ hours.

(A).

1. *(a)* There is a race-course two miles in length. A started when B had run 116 yards, but he overtook him 40 yards from the end of the course. By how many feet would A win if both ran uniformly all the time?

(b) Twelve men or eighteen boys can dig two acres of ground in 12 days; but, if only 8 men are available, how many boys will be required to assist that 4 acres may be dug in 18 days?

2. A house is built by three carpenters, A, B, and C. If they had worked separately they would have required respectively 32, 48, and 60 days. They received $594 for the job. In how many days did they do the work and what did each receive, if they were paid according to their power of working?

3. Two men, A and B, start together from the corner of a rectangular field, whose sides are 1320 and 550 yards. A crosses the field diagonally and then returns, but B walks close to the boundary of the field all the way. Both walk at the same rate. B took 3¾ minutes more than A to reach the opposite corner. They walked both of them continually till they were together at the corner from which they started. Find—

(1) How many miles per hour they make
(2) For what time they walked.

4. A man, who invested £1864 11 4 in three different kinds of stocks, received from each £24 8s. He made one investment in 3 p. c. stock, when it was at 95. He made another in 4 p. c. stock, when at 119. What per centage did he obtain from his third investment?

(B).

1. *(a)* On the equal sides AB, AC of an isosceles triangle ABC the points D, E are respectively taken, such that AD, AE are equal, and BE, CD intersect in F. Shew that the triange BFC is isosceles.

(b) In a triangle ABC the side AC is produced to D and the angles BAC, BCD are bisected by straight lines, which meet in F; shew that they contain an angle equal to half the angle at B.

2. ABC is a triangle and D is any point in AB. Draw through D a straight line DE to meet BC produced in E, so that the triangle DBE may be equal to the triangle ABC.

3. A straight line AB is divided in C and D so that AC is equal to DB; prove that the squares on AB, CD are together double of the sum of the squares on AC, CB.

4. A circle touches the sides of a triangle in D, E, F. A straight line PEQ bisected at E, meets the same sides or the sides produced in P, E, and Q respectively. Shew that twice the sum of the squares on PD and QF is equal to the square on PQ.

(C).

1. *(a)* If $A=a^2-bc$, $B=b^2-ca$, $C=c^2-ab$; then
$$aA+bB+cC=(a+b+c)(A+B+C).$$

(b) If a, a^2 be the roots of the Equation, $x^2+px+q=0$; then $p^3-(3p-1)q+q^2=0$.

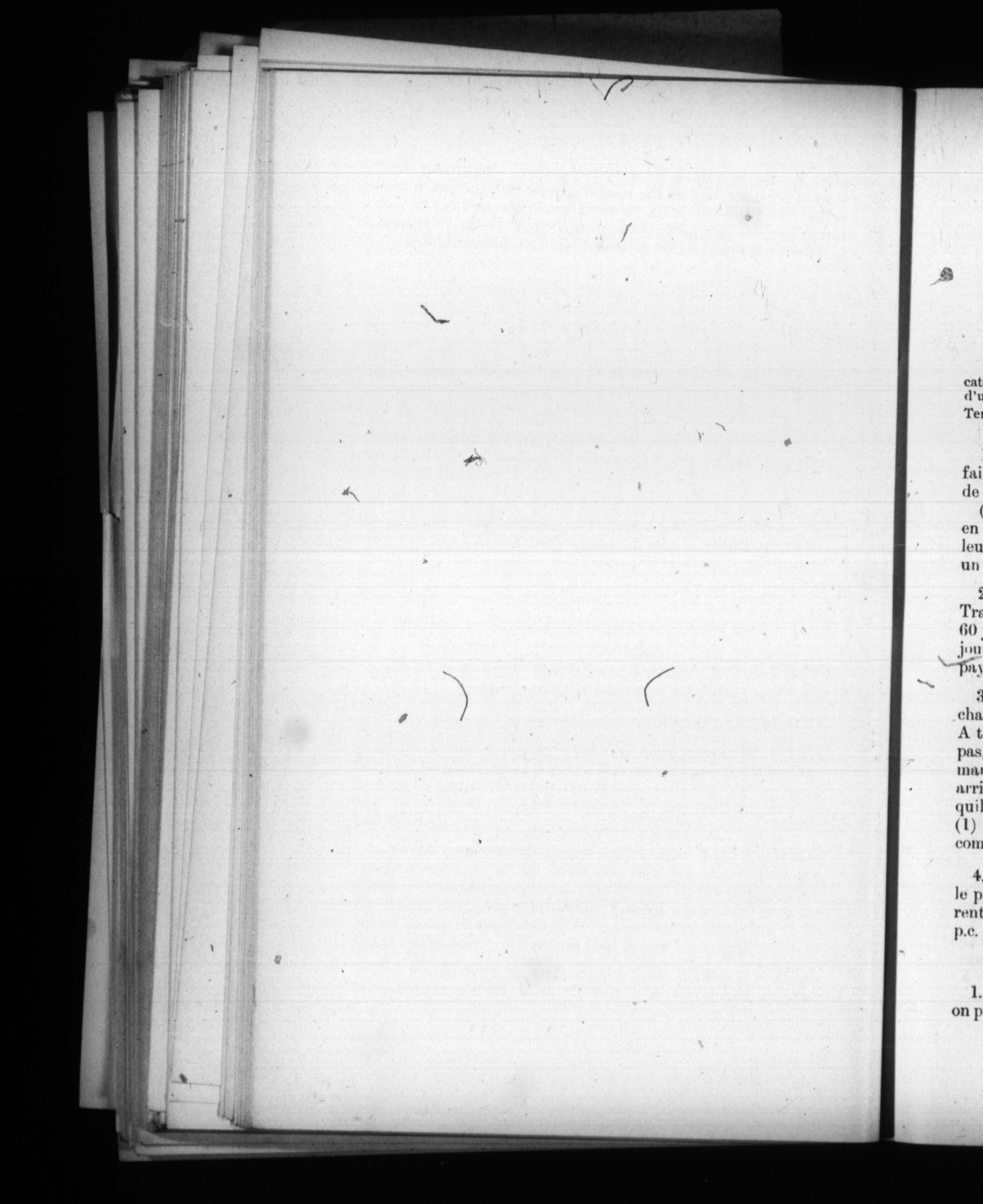
2. If $\sqrt[3]{a}+\sqrt[3]{b}+\sqrt[3]{c}=0$; then $(a+b+c)^3=27abc$.

3. *(a)* A man requiring a loan of money, was offered by a friend a certain sum at 4 p. c. But as he needed $200 more, he was obliged to borrow the whole at 5 p. c. This made him pay one-third more interest. What was the sum he borrowed?

(b) A man bought a house and the cost of putting it into repair was 4 p. c. of the price he paid for it. But on the house remaining empty for a year he sold it, receiving $2384. He found that after crediting himself with 5 p. c. on his whole outlay in purchase and repairs, he gained 10 p. c. on the price he paid. What was that price?

4. A and B drive at uniform rates from Winnipeg to Headingly church, a distance of 12 miles. A starts half an hour

after B, but they reach Headingly together. Returning they started together, but, as the road was very bad, they each travelled two miles per hour slower than before and A stopped for an hour at Sturgeon Creek—still they reach Winnipeg together. What the rate of travelling of each per hour?



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EXAMEN, MAI, 1893.

PRÉLIMINAIRE.

PROBLÈMES.

On ne doit pas presenter plus que deux problemes dans chaque categorie. Les questions (a) ou (b) ne comptent que pour la moitie d'une question.

Temps—1½ heures.

A

1. (*a*) Une course est de 2 miles; A part quand B a déjà fait 116 verges et le dépasse à 40 verges du but. De combien de pieds A aurait-il dépasser B si l'on était parti ensemble?

(*b*) Douze hommes ou 18 garçons peuvent bêcher 2 arpents en 12 jours, mais on ne peut disposer que 8 hommes; combien leur faut-il adjoindre de garçons pour que l'on puisse bêcher un champ de 4 arpents en 18 jours?

2. Trois charpentiers A, B et C bâtissent une maison. Travaillant seuls il leur aurait fallu respectivement 32, 48, et 60 jours. L'ouvrage leur apporte $594. Dans combien de jours le feront-ils, et combien chacun recevra-t-il si chacun payé selon sa capacité?

3. Deux hommes partent ensemble d'un des coins d'un champ rectangulaire dont les côtés sont 1320 et 550 verges; A traverse le champ selon la diagonale et puis revient sur ses pas, B marche le long des limites du champ; tous deux marchent au même pas. B prend 3¾ minutes plus que A pour arriver au coin opposé; ils continuent à marcher jusqu'à ce quils se retrouvent ensemble dans le coin d'où ils sont partis. (1) Combien de miles ont-ils faits par heure? (2) Pendant combien de temps ont-ils marché.

4. Un capital de £1864,11,4 a fourni trois placements dont le premier est en rentes de 3 p.c. au taux de 95, le second en rentes de 4 p.c. au taux de 119 p.c. Quel est le rendement p.c. du troisième placement?

B

1. (*a*) Sur les côtés égaux AB, AC d'un triangle isocèle ABC, on prend des points D et E tels que AD, AE sont égaux; BE,

CD passent par le point F. Montrer que le triangle BFC est isoscèle.

(*b*) Dans un triangle ABC le côté AC est prolongé en D, montrer que les bisectrices des angles BAC, BCD passant par F, contiennent un angle égal à la moitié de l'angle à B.

2. ABC est un triangle, D est un point en AB, menez par D une droite DE qui rencontre le prolongement de BC en E, de sorte que le triangle DBE soit égal au triangle ABC.

3. Une droite AB est divisée en C et en D de manière que AC soit égal à DB ; prouver que la somme des carrés sur AB et CD est double de la somme des carrés sur AC, CB.

4. Un cercle *rencontre* les côtés d'un triangle en D, E, et F, une droite PEQ divisée en deux parties égales en E rencontre ces mêmes côtés ou leur prolongements en P, E, et Q respectivement. Montrer que deux fois la somme des carrés sur PD et QF est égale au carré sur PQ.

C

1. (*a*) Si $A=a^2-bc$, $B=b^2-ca$, $C=c^2-ab$, alors $a\,A+b\,B+c\,C=(a+b+c)(A+B+C)$.

(*b*) Si a et a^2 sont les racines de l'équation $x^2+px+q=0$ alors $p^3-(3p-1)q+q^2=0$.

2. Si $\sqrt[3]{a}+\sqrt[3]{b}+\sqrt[3]{c}=0$ alors $(a+b+c)^3=27\,abc$.

3. (*a*) Un particulier cherche à emprunter de l'argent, un ami lui offre une certaine somme à 4 p.c., mais comme il lui faut $200 de plus il se trouve obligé d'emprunter le tout à 5 p.c., ce qui fait qu'il paie $\frac{1}{3}$ de plus en intérêt. Quelle est la somme qu'il a empruntée ?

(*b*) Un homme achète une maison pour la réparer il encourt une dépense qui est 4 p.c. du prix. Après que la maison est demeurée inoccupée pendant une année, il la vend pour $2384 Il trouve qu'après s'être attribué 5 p.c. du prix d'achat et du prix des réparages, il lui reste encore 10 p.c, du prix de la maison. Quel a été ce prix ?

4. A et B vont en voiture, chacun avec une vitesse uniforme, de Winnipeg à Headingly, éloigné de 12 miles. A part une demie heure après B ; mais ils arrivent ensemble à Headingly. Ils partent ensemble pour le retour ; mais comme les chemins sont bien mauvais la vitesse de chaque voiture est diminuée de deux miles par heure, et A s'arrête pendant une heure à Sturgeon Creek. Néanmoins ils arrivent ensemble à Winnipeg. Quelle est la vitesse de chacun ?

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PRELIMINARY.

EUCLID.

1. Define a plane surface, a plane rectilineal angle, an acute angled triangle. When are two magnitudes equal?

If two triangles have the three sides of the one equal to the three sides of the other, each to each; then the angle which is contained in by any two sides of the one triangle shall be equal to the angle contained by the two sides equal to them of the other triangle.

Prove that the straight lines which bisect the angles of a triangle meet in a point.

2. Prove that any two sides of a triangle are together greater than the third side.

3. Define parallel straight lines, a parallelogram, and quote the 12th axiom or its equivalent.

Parallelograms upon the same base and between the same parallels are equal to one another.

The straight lines bisecting the angles at the base of an isosceles triangle meet the sides in D and E; show that DE is parallel to the base.

4. Define a square and quote the third postulate.

In any right-angled triangle the square which is described on the side subtending the right angle is equal to the sum of the squares described on the sides containing the right angle.

If from a point P within a triangle ABC, perpendiculars PX, PY, PZ are dropped an the sides opposite the angles A, B, C, respectively; prove that

$$BX^2+CY^2+AZ^2=CX^2+AY^2+BZ^2.$$

5. Define a rectangle, and a gnomon.

If a straight line be divided into any two parts, the squares on the whole line and on one of the parts are together equal to twice the rectangle contained by the whole line and that part together with the square on the other part. (Euc. II. 7.)

If a straight line AB be bisected in C and divided unequally in D, prove that $AD^2+DB^2=2\ AD.\ DB+4CD^2$.

6. To divide a straight line into two such parts that the rectangle contained by the whole line and one of the parts shall be equal to the square on the other part.

7. Define a circle, and state when a straight line is said to touch a circle.

The diameter is the greatest straight line in a circle and of the others that which is nearer to the centre is greater than the one more remote, and the greater is nearer to the centre than the less.

Three circles touch each other externally at A, B, C; the chords AB, AC, of two of them are produced to meet the third again in the points D and E; prove that DE is a diameter of the third circle, and is parallel to the line joining the centres of the other.

8. Define a segment of a circle, an angle in a segment, and a sector of a circle.

If a straight line touch a circle and from the point of contact a straight line be drawn cutting the circle, the angles which this line makes with the touching line shall be equal to the angles in the alternate segments of the circle.

If two circles touch, and any two lines be drawn through the point of contact, cutting both circles again, the chords joining their points of intersection with one circle is parallel to the chord joining their points of intersection with the other.

9. If from a point without a circle there be drawn two straight lines, one of which cuts the circle and the other meets it; and if the rectangle contained by the whole line which cuts the circle and part of it without the circles be equal to the square on the line which meets the circle; the line which meets shall touch the circle.

A, B, C, D, are four points in the same straight line, and EF, is a common tangent to the circles described on AB and CD as diameters; prove that the triangles AEB, CFD are equiangular.

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EXAMEN, MAI, 1893.

EXAMEN PRÉLIMINAIRE.

GÉOMÉTRIE.

1. Définir une surface plane, un angle plan rectiliniaire, un triangle à angle aigu. Quand deux grandeurs sont-elles égales ?

Si deux triangles ont les trois côtés de l'un égaux aux trois côtés de l'autre, chacun à chacun ; alors l'angle contenu par deux côtés quelconques de l'un des triangles sera égal à l'angle contenu par les deux côtés qui leur sont égaux de l'autre triangle. Prouvez que les trois lignes bisectrices des angles d'un triangle se rencontrent dans un point.

2. Prouvez que la somme de deux côtés quelconques d'un triangle est plus grande que le troisième côté.

3. Définir droites parallèles, parallelogramme ; citer le douzième axiome ou son équivalent.

Les parallelogrammes sur la même base et entre les mêmes parallèles sont égales entre elles.

Les droites bisectrices des angles à la base d'un triangle isoscèle rencontre les côtés en D et E ; montrez que DE est parallèle à la base.

4. Définir un carré et citer la troisième postulatum.

Dans un triangle rectangle quelconque, le carré sur le côté opposé à l'angle droit est égale à la somme des carrés sur les côtés qui contiennent l'angle droite.

D'un point P à l'intérieure d'un triangle ABC des perpendiculaires PX, PY, PZ, sont menés aux côtés opposés aux angles A, B, C respectivement ; prouvez que

$$BX^2+CY^2+AZ^2=CX^2+AY^2+BX^2$$

6. Définir un rectangle, un gnomen.

Si l'on divise une droite en deux parties, la somme du carré sur toute la ligne et le carré sur une des parties, est égale à deux fois le rectangle contenu par toute la ligne et cette partie, plus le carré sur l'autre partie (Euc. 11, 7.)

Une droite AB est divisé en deux parties égales au point C et en deux parties inégales en D, prouver que $AD^2+DB^2=2.AD.DB+4CD^2$.

6. Diviser une droite en deux parties telles que le rectangle contenu par toute la droite et une des parties sera égale au carré construit sur l'autre partie.

7. Définir un cercle; quand dit-on qu'une droite touche un cercle? Le diamètre est la plus grande droite dans un cercle, et des autres droites, la plus rapprochée du centre est plus grande qu'une autre droite plus éloignée, et une plus grande est plus rapprochée qu'une droite plus petite.

Trois cercles se touchent en ABC; les cordes AB, AC de deux de ces cercles sont prolongées pour rencontrer de nouveau le troisième en D et E; prouver que DE est un diamètre du troisième cercle, et est parallèle à la droite qui joint les centres des autres.

8. Définir un segment de cercle, l'angle dans un segment, secteur de cercle.

Si une droite touche un cercle, et si une droite menée du point de contact coupe le cercle, les angles entre ces deux droites seront égaux aux angles dans les segments alternes du cercle. Si deux cercles se touchent, et deux droites quelconques menées par le point de contact, coupent les cercles de nouveau, la corde qui joint leurs points de rencontre avec l'un des cercles sera parallèle à la corde qui joint leurs points de rencontre avec l'autre cercle.

9. Si d'un point en dehors d'un cercle on mène deux droites, dont l'une coupe le cercle et l'autre le touche; et si le rectangle contenu par toute la droite qui coupe le cercle et la partie en dehors du cercle est égale au carré sur la droite qui rencontre le cercle; la droite qui rencontre le cercle le touchera.

A, B, C, D sont quatre points dans la même droite, EF est tangente commune aux deux cercles décrits sur AB, CD comme diamètre; prouver que les triangles AEB, CFD sont équiangles.

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EXAMINATIONS. MAY, 1893.

PRELIMINARY AND MEDICAL ENTRANCE.

I.

ENGLISH GRAMMAR AND RHETORIC.

Time: One hour and a half.

1. Give an example of an independent clause; also of a dependent clause.

(*b*) Write out a sentence made up of three co-ordinate clauses.

(*c*) Make a sentence containing a substantive clause, an adjective clause, and an adverb clause.

2. Explain, with examples, diphthong, silent letter, syllable.

(*b*) Divide the following into syllables: Articulation, beautiful, grammarian and thereby.

3. What are the two forms of infinitives? Write out an infinitive phase, and a participle phase.

4. A foreigner by accident fell into the water and cried "I will drown, and no one shall save me." Criticize.

5. "We see *but* darkly
Even when we look *behind* us, and best things
Are not so pure by nature that they *needs*
Must keep to all, *as* fondly all believe,
Their highest *promise*."

(*a*) Write out (1) each clause. (2) each phrase, (3) naming them.

6. Where errors occur in the following sentences correct them, giving reasons for your corrections.

(*a*) Come here.
(*b*) Brandon is further away than Portage la Prairie.
(*c*) It was him; it is me.
(*d*) He reads his book, like I do.
(*e*) The wages of sin is death.
(*f*) That was the most unkindest cut of all.
(*g*) He wont speak.
(*h*) She or I is going.
(*i*) He dont go to school no more.

7. Write out a balanced sentence, then change it to be periodic; and write out a long and loose sentence.

8. Punctuate and put in correct form, in all respects, the following letter:

Winnipeg April 30 dear brother john take a few dollars in your pocket come in your waggon and bring some shammy leather with you for our good mothers sake who is very fond of you I trust that you will see that there are no disappointment as the mail is subject to continuous interruptions her summons I am persuaded are worthy of notice your loving brother robert Brown.

9. Divide the following passage into paragraphs: then draw up a scheme of its topics and sub-topics:

I had hoped to gather some traditionary anecdotes of the bard from these ancient chroniclers; but they had nothing new to impart. The long interval, during which Shakespeare's writings lay in comparative neglect, has spread its shadow over history; and it is his good or evil lot, that scarcely anything remains to his biographers but a scanty handful of conjectures. The sexton and his companion had been employed as carpenters, on the preparations for the celebrated Stratford jubilee, and they remembered Garrick, the prime mover of the fête, who superintended the arrangements, and who, according to the sexton, was "a short punch man, very lively and bustling." John Ange had assisted also in cutting down Shakespeare's mulberry-tree, of which he had a morsel in his pocket for sale; no doubt a sovereign quickener of literary conception. I was grieved to hear these two worthy wights speak very dubiously of the eloquent dame who shows the Shakespeare house. John Ange shook his head when I mentioned her valuable and inexhaustible collection of relics, particularly her remains of the mulberry-tree; and the old sexton expressed a doubt as to Shakespeare having been born in her house. I soon discovered that he looked upon her mansion with an evil eye, as a rival to the poet's tomb. We approached the church through the avenue of limes, and entered by a Gothic porch, highly ornamented with carved doors of massive oak. The interior is spacious, and the architecture and embellishments superior to those of most country churches. There are several ancient monuments of nobility and gentry, over some of which hang funeral escutcheons, and banners dropping piecemeal from the walls. The tomb of Shakespeare is in the chancel.

II.

COMPOSITION.

Time—one hour and a half.

Write a composition of forty lines on one of the following subjects:

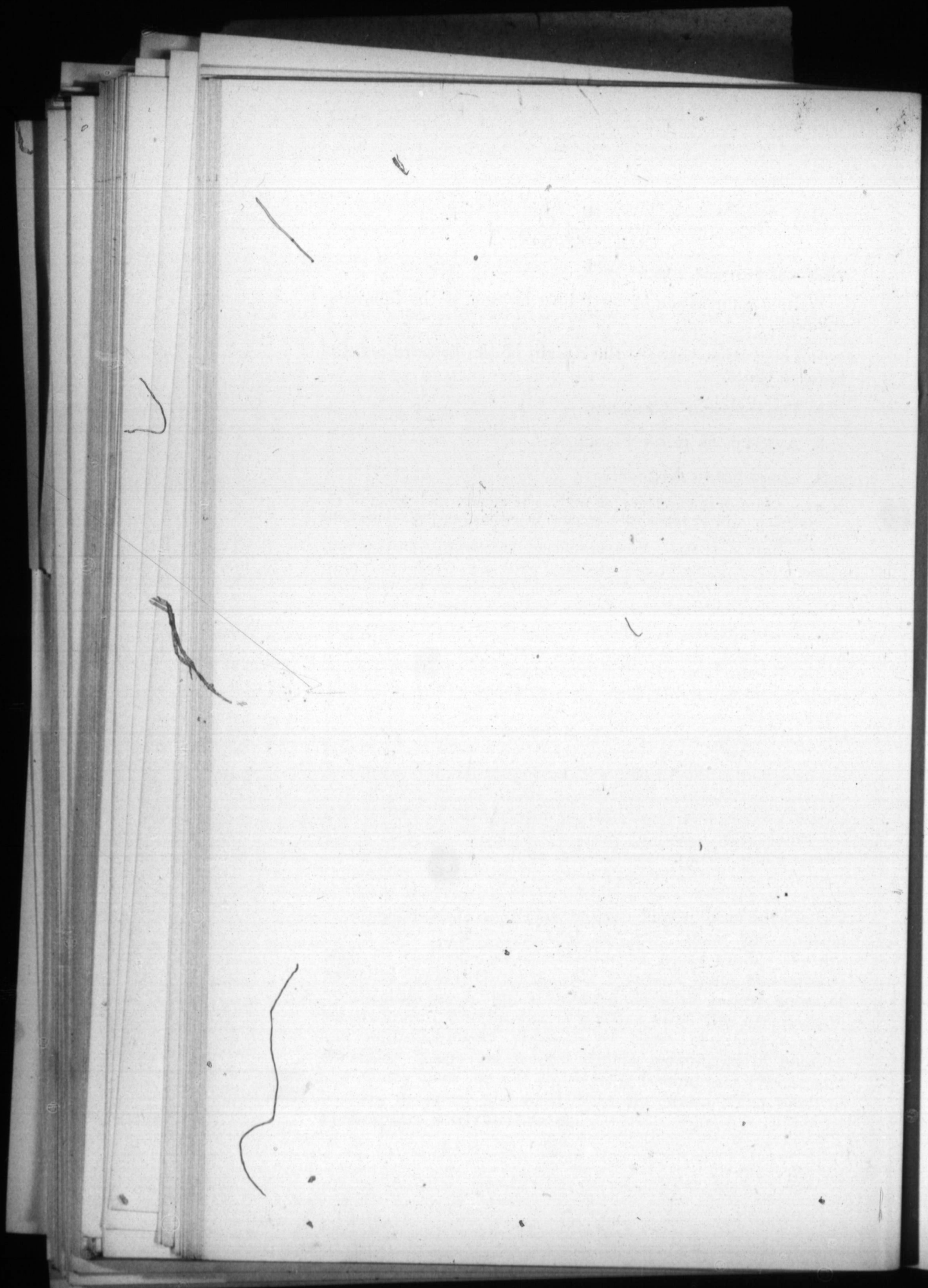
1. The combat between the Knight of the Leopard and the Saracen Chief.

2. The character of Saladin.

3. A sketch of Edith Plantagenet.

4. Christmas in England.

NOTE.—Neatness and accuracy, as well as treatment and power of expression, will be taken into account in estimating the value of the composition.



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EXAMINATIONS, MAY, 1893.

WORDSWORTH—PRELIMINARY.

1. Give a brief account of the life of Wordsworth.

2. State Wordsworth's theory of poetry. What was his manner of viewing nature and quote illustrations of it.

3. What are the chief excellencies and defects of Wordsworth's poetry and quote or refer to passages to illustrate these.

4. Show in what way the poem "Hart-Leap Well" is an illustration of Wordsworth's theory of poetry and of his manner of viewing nature.

5. What is the central thought of each of the following poems:—We are Seven, Lucy Gray, The Leech Gatherer, To the Daisy, The Fountain, Stepping Westward.

6. Alas! where'er the current tends,
Regret pursues and with it blends—
Huge Criffel's hoary top ascends
By Skiddaw seen:
Neighbors we were, and loving friends
We might have been!

True friends though diversely inclined;
But heart with heart and mind with mind,
Where the main fibres are entwined,
Through nature's skill,
May even by contraries be joined
More closely still.

(*a*) Paraphrase these stanzas.

(*b*) Point out and explain the figures of speech and allusions.

(*c*) Scan the first stanza, explain the metre, and state what led to the adoption of this form of verse by Wordsworth.

7. Our birth is but a sleep and a forgetting:
The soul that rises with us, our life's star,
Hath had elsewhere its setting,
And cometh from afar;

Not in entire forgetfulness,
And not in utter nakedness,
But trailing clouds of glory do we come
From God, who is our home.
Heaven lies about us in our infancy;
Shades of the prison-house begin to close
Upon the growing boy,
But he beholds the light, and whence it flows,
He sees it in his joy;
The youth, who daily farther from the East
Must travel, still is nature's priest,
And by the vision splendid
Is on his way attended;
At length the man perceives it die away,
And fade into the light of common day.

(*a*) What is the teaching of Wordsworth as regards the soul, in the poem from which this is taken?

(*b*) Write a paraphrase of the passage.

(*c*) Point out and explain the figures of speech.

8. State concisely your views as to the effect of Wordsworth's poetry on the lives of his readers and admirers.

University of Manitoba.

EXAMINATIONS. MAY, 1893.

PRELIMINARY.

COMPOSITION.

NOTE.—Candidates are to write on one subject only. The essay should consist of not less than *one* nor more than *two* pages of foolscap. Legible writing and correct spelling and punctuation will be regarded as indispensable, and special attention will be paid to the structure of sentences and paragraphs.

1. Such character, as depicted by Irving

2. The character of Richard Cœur de Leon.

3. The combat between the Knight of the Leopard and Saladin.

4. Edith Plantagenet.

5. Friendship.

U

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Boileau.

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6. "
M
D
Brébeu

Universite de Manitoba.

EXAMEN, MAI, 1893.

EXAMEN PRÉLIMINAIRE.

OEUVRES DE BOILEAU.

1. Donnez une courte appréciation de "l'art poétique" de Boileau.

2. Est-il supérieur à celui d'Horace ?

3. Dites en peu de mots ce que contient le chant premier.

4. C'est en vain qu'au Parnasse un téméraire auteur
Pense de l'art des vers atteindre la hauteur ;
S'il ne sent point du ciel l'influence secrète,
Si son astre en naissant ne l'a formé poëte,
Dans son génie étroit il est toujours captif ;
Pour lui Phaebus est sourd et Pégase rétif.

Quelles sont les qualités, quel est le défaut de ce début ?

5. Un auteur quelquefois trop plein de son objet
Jamais sans l'épuiser n'abandonne un sujet.
S'il rencontre un palais, il m'en dépeint la face,
Il me promène après de terrasse en terrasse ;
Ici s'offre un perron ; là règne un corridor ;
Là, ce balcon s'enferme en un balustre d'or.
Il compte des plafonds les ronds et les ovales.
Ce ce sont que festons, ce ne sont qu'astragales.
Je saute vingt feuillets pour en trouver la fin
Et je me sauve à peine au travers du jardin
Fuyez de ces auteurs l'abondance stérile
Et ne vous chargez pas d'un détail inutile.
Tout ce qu'on dit de trop est fade et rebutant,
Et l'esprit rassasié le rejette à l'instant.

(*a*) Quel défaut critique ici le poëte ?
(*b*) Cette critique des vers de Scudery est-elle exagérée ?

6. "Mais n'allez pas aussi sur les pas de Brébeuf
Même en une Pharsale entasser sur les rives,
De morts et de mourants, cent montagnes plaintives."

Brébeuf mérite-t-il cette colère de Boileau ?

7. Gardez qu'une voyelle, à courir trop hâtée,
Ne soit d'une voyelle en son chemin heurtée.
Que toujours dans vos vers le sens, coupant les mots,
Suspende l'hémistiche, en marque le repos.

(*a*) Appréciez ces vers.
(*b*) Donnez les préceptes qu'ils renferment.

8. Donnez une courte appréciation du "Passage du Rhin."

9. Des villes que tu prends les noms durs et barbares
N'offrent de toutes parts que syllabes bizarres;
Et, l'oreille effrayée, il faut depuis l'Yssel.
Pour trouver un beau mot courir jusqu'au Tessel.
Oui, partout de son nom chaque place munie,
Tient bon contre le vers, en détruit l'harmonie.
Et qui peut sans frémir aborder Woerden?
Quel vers ne tomberait au seul nom de Heusden?
Quelle muse à rimer en tous lieux disposée,
Oserait approcher des bords du Zuyderzée?
Comment en vers heureux assiéger Doesbourg
Zutphen, Wageminghen, Harderwic, Knotzembourg?
Il n'est fort entre ceux que tu prends par centaines,
Qui ne puisse arrêter un rimeur six semaines.

(*a*) Faites ressortir le sel de ce passage.
(*b*) Donnez-en les principales figures.

10. Dites nous ce que vous pensez de l'épitre VIII., "Au roi," qui commence ainsi:

"Grand roi, cesse de vaincre, ou je cesse d'écrire."

University of Manitoba.

EXAMINATIONS. MAY, 1893.

EXAMEN PRÉLIMINAIRE.

COMPOSITION FRANÇAISE.

Développez un des sujets suivants :

(a) Le cheval.

Faire une prosopographie de cet animal. Exposez ensuite dans une éthopée, ses qualités principales. Intrépidité sur les champs de bataille ; sa douceur, sa docilité. Il parait content de sa captivité. Regardez-le chargé, épuisé, etc. Il ne songe pas à fuir. Qu'il est beau à l'état sauvage ! Troupeaux de chevaux sauvages de l'Amérique du Nord, etc.

(b) Prix de la vertu.

Dites où est le prix de la vertu et ce dont elle n'a pas besoin pour frapper les regards. Dites ce qu'elle est au sein des dignités, ce qu'elle ressent pour les applaudissements, pour les richesses, pour les éloges empruntés. Dites de quoi elle est fière, et ce qu'elle fait dans l'élévation où elle est placée. Prouvez cela par des exemples tirés de l'histoire, (Cincinnatus, Caton, Lucrèce, Regulus, etc.)

(c) Décrire un lac de l'Ile d'Elbe, et un monticule couvert de forêts. En 1814, Napoléon fut jeté dans cette solitude par les orages politiques. Un jour, perdu dans ses réflexions, il s'égare, et arrive au bord du lac, à la cabane d'un berger qui expose à l'empereur le bonheur de la vie des champs et de la solitude en opposant son état à celui de Napoléon. Le berger ignore qu'il parle à l'empereur lui-même.

Universite de Manitoba.

EXAMEN, MAI, 1893.

EXAMEN PRÉLIMINAIRE.

GRAMMAIRE ET LITTÉRATURE FRANÇAISES.

Temps—Une heure et demie.

1. Comment se fait le pluriel dans les mots composés suivants: passe-droit, abat-jour, serre-frein, cure-dent, coupe-gorge, gagne-pain, crêve-cœur, arc-boutant, basse-cour, cerf-volant?

2. Quelle est la règle à ce sujet?

3. Les phrases suivantes sont-elles correctes?
"Tout honnête homme qu'il soit, ne le hantez pas."
"Je me suis laissé aller à des tristesses toutes humaines."

4. Donnez la différence entre:
Voici et voilà, auprès de et au prix de, à travers et au travers de.

5. Qu'est-ce que la précision du style?
En quoi diffère-t-ellle de la concision et du laconisme?

6. La "jeune captive" d'André Chénier, s'écrie:
Est-ce à moi de mourir? Tranquille je m'endors
Et tranquille je veille, et ma veille au remords
Ni mon sommeil ne sont en proie....
Mon beau voyage encore est si loin de sa fin!
Je pars, et des ormeaux qui bordent le chemin
J'ai passé les premiers à peine.
Au banquet de la vie à peine commencé,
Un instant seulement mes lèvres ont pressé
La coupe en mes mains encor pleine.
Quelle est ici la qualité la plus saillante du style?

7. Que dites-vous des vers suivants:
Donc vous vous figurez qu'une bête assommée
Tienne votre fortune en son ventre enfermée,
Et que des animaux les sales intestins
Soient un temple adorable où parlent les destins!

8. Définissez la métaphore et donnez les règles qui président à son emploi. Je dis d'une jeune personne:

"Cette tendre fleur mourut dans des sentiments de tendre dévotion." Critiquez cette phrase d'après les règles de la métaphore.

9. Définissez l'hyperbole, la litote et l'entithèse.

10. Quelles sont les parties de la narration ? Se trouvent-elles dans toute narration ?

11. Quelles sont les qualités du style épistolaire en général et de la lettre d'affaires en particulier ?

University of Manitoba.

MEDICINE.

ORDER OF EXAMINATIONS.

TO BE

HELD IN MANITOBA MEDICAL COLLEGE.

FRIDAY, MARCH 24th, 1893.

FORENOON—PASS.		AFTERNOON—HONORS.	
9—1.	Practical Anatomy. Pass & Honor.	1—5.	Surgical Anatomy. Pass & Honor.

SATURDAY, 25th.

9—12.	Medicine.	2—5.	Medicine.

MONDAY, 27th.

9—12.	Materia Medica.	2—5.	Materia Medica.

TUESDAY, 28th.

9—12.	Medical Jurisprudence.	2—5.	Medical Jurisprudence.

WEDNESDAY, 29th.

9—12.	Obstetrics.	2—5.	Obstetrics.

THURSDAY, 30th.

9—12.	Anatomy—Theoretical.	2—5.	Anatomy—Theoretical.

FRIDAY, 31st.

9—12.	Sanitary Science.	2—5.	Sanitary Science.

SATURDAY, APRIL 1st.

9—12.	Surgery.	2—5.	Surgery.

MONDAY, 3rd.

9—12.	Physiology.	2—5.	Physiology.

TUESDAY, 4th.

9—12.	Botany.		
9—12.	Histology.	2—5.	Histology.
9—12.	Pathology.	2—5	Pathology.

WEDNESDAY, 5th.

9—2.	Practical Chemistry. P. & H.	1—6.	*Clinical Surgery. P. & H.

THURSDAY, 6th.

9—2.	Practical Chemistry. P. & H.	1—6.	*Clinical Medicine. P. & H.

FRIDAY, 7th.

9—12.	General Chemistry.	2—5.	General Chemistry.

SATURDAY 8th.

9—1.	†Orals. P. & H.	1—5.	†Orals. P. & H.

MONDAY, 10th.

9—12.	Operative Surgery for C.M. Degree.	2—5.	Thesis for C. M. Degree.

* Winnipeg General Hospital.
† University Rooms, McIntyre Block.

University of Manitoba.

EXAMINATIONS, MAY, 1893.

PHYSICS.

MEDICAL ENTRANCE.

1. Define the terms : *force, mass* and *weight, work, temperature, specific heat.*

2. Describe an experiment to show that a body immersed in a liquid loses in weight exactly as much as an equal volume of the liquid weighs.

3. State Newton's Second Law of Motion.

A stone falls from the top of a railway carriage which is moving at the rate of one-half a mile per minute. Find what horizontal and what vertical distance the stone will have passed through in one second, disregarding the resistance of the air.

4. Distinguish between *conduction, convection,* and *radiation* of heat.

5. Explain clearly the principle of *freezing-mixtures,* giving examples.

6. Give the laws of *reflection* and of *refraction* of light. What is total reflection ? When will it take place ?

7. Show by neat diagrams the position and relative size of the image of an object when the object is (*a*) outside of the centre of curvature of a concave mirror, (*b*) between the mirror and the principal focus.

8. Musical sounds are distinguished by *pitch, intensity* and *timbre.* State clearly the physical cause of each of these. Can noises have these characteristics ?

9. Describe the Leyden Jar and explain how a large charge of electricity may be stored up in it.

10. What is meant by *current induction ?* State the laws.

11. Calculate the current obtained from 30 cells, the E. M. F. of each being 1.5 volts and the resistance being 3 ohms, against an external resistance of 14 ohms, when the cells are connected *in series.*

Universite de Manitoba.

EXAMEN, MAI, 1893.

EXAMEN PRÉLIMINAIRE ET DE MATRICULATION EN MEDECINE.

ARITHMÉTIQUE.

1. Donnez une explication complète de la signification de $\frac{2}{5}$ de $\frac{7}{8}$; quelle est la différence entre $\frac{5}{6}$ de $\frac{27}{3}$ et $\frac{17}{32+19}$ de $\frac{3}{5}$; quel changement de valeur a subi la fraction $\frac{1}{7}$ par l'addition de 3 à son dénominateur?

Simplifiez:

(1) $$\frac{1\frac{1}{2}+3\frac{1}{4}\,(1-\frac{13}{21})}{1\frac{1}{4}+2\frac{1}{8}\,(1+\frac{13}{21})}$$

(2) $$\frac{2\frac{1}{5\frac{2}{4}}+\frac{1}{8}-\frac{1}{2\frac{1}{16}}+\frac{1}{12}}{\frac{1}{2}+\frac{1}{3}-\frac{1}{6}}$$

Le prix d'un billet d'aller et retour à l'exposition de Chicago est de $24; ce qui équivaut a $1\frac{1}{3}$ le billet ordinaire. Quel est le prix du billet ordinaire.

2. Indiquer quelques uns des avantages de l'emploi des fractions décimales. Changer $1\frac{7}{8}$ et $\frac{5}{6}$ en fractions décimales, et 0,1564 en une fraction ordinaire réduite à sa plus simple expression; changez $0.\dot{6}\dot{3}$ et $0.1\dot{3}\dot{6}$ en fractions ordinaires.

On présente deux sujets d'examen à un candidat, pour passer il doit obtenir au moins la moitié des points; il peut gagner sur le premier sujet la moitié plus de points que sur le second. Sur le premier il remporte 58 pour cent du maximum des points dans le premier sujet; sur le second il gagne 43 pour cent du maximum des points du second sujet. A t-il réussi, oui ou non?

3. Effectuer l'opération indiquée par $\sqrt[3]{\sqrt{396.01}}$ à un centième près; peut-on voir sans calcul si la racine carrée de .125 peut être extraite exactement. Un pepinieriste veut planter de petits arbres, également espasés, dans un terrain carré de 234 mètres de côté. S'il plantait ses arbres à 1^m20 de distance il lui en manqueraient 3000. Combien le pepinieriste a-t-il de ces petits arbres, et combien en aurait-il de reste s'il les plantait à la distance de 1^m30?

4. Combien devrait-on payer pour faire peinturer les murs et le plafond d'une chambre dont la hauteur est de 12 pieds 6 pouces, la longeur de 27 pieds 4 pouces, et la largeur de 20 pieds, à 36 centins la verge carrée. Les portes et les fenêtres, qui réprésentent une surface de $9\frac{1}{2}$ verges carrées, ne doivent pas être peintes.

5. Une personne place $\frac{1}{5}$ de sa fortune à 5 p.c.; $\frac{2}{3}$ du reste à 4.5 p.c. et le reste à 6 p.c. Son revenu est de $4538.60. Quel a été le montant de chaque placement ?

L'intérêt composé d'une certaine somme à 4 p.c. pendant deux ans dépasse de $6, l'intérêt simple de la même somme pendant le même temps et au même taux. Quel est cette somme ?

Trouvez la différence entre l'escompte de $1622.50 pour 14 mois à 7 pour cent et l'intérêt pendant 15 mois à 6 p.c. par an.

6. Un particulier achète à 80 pour $5000 d'obligations turques. Il les vend quand elles sont à 104 et achète à 18 des actions de chemin de fer de $20 chacune qui donnent un dividende de $4\frac{1}{2}$ p.c. Trouvez le changement que subit son revenu.

7. La poudre pour la chasse contient 78 p.c. de salpètre, 12 p.c. de charbon de bois et 10 p.c. de soufre. Combien de chaque ingrédient faut-il pour faire 50 livres de cette poudre ?

8. Un marchand expédies certaine marchandises en province; la commission de l'agent qui les vend est de $4\frac{1}{2}$ p.c. Combien en faut-il vendre pour que l'agent puisse acheter des denrées pour $1910 et percevoir une commission de 2 p.c. sûr l'achat ?

9. A et B s'associent pour une entreprise dans laquelle A a mis $20,000 et B $30,000. Les recettes pendant une année sont de $12,800, on prend le $\frac{1}{8}$ de ceci pour payer les employés, et $120 pour l'assurance. Les associés sont convenus que A doit recevoir 8 p.c. de sa mise, B 4 p.c. de la sienne, et le surplus doit être réparti en proportion de la mise d'un chacun. Combien A et B reçoivent-ils ?

10. Dans la construction d'un pont, un des caissons fait trois voies d'eau ; la première à elle seule remplirait le caisson dans $1\frac{1}{4}$ heures, la deuxième dans $2\frac{3}{4}$ heures, la troisième en $4\frac{4}{7}$ heures. Sans les voies d'eau la pompe peut vider le caisson en $2\frac{7}{5}$ heures. Si le caisson est déjà aux $\frac{7}{16}$ plein, en combien de temps se remplira-t-il pendant que la pompe marche ?

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EXAMINATIONS MAY, 1893.

MEDICAL ENTRANCE.

EUCLID.

1. Define a right angle, a circle, and quote the first and second postulates.

The angles at the base of an isosceles triangle are equal to each other, and if the equal sides be produced the angles upon the other side of the base are also equal to each other.

2. Define a sealene triangle, an acute-angled triangle, and quote any four of Euclid's axioms.

If one side of a triangle be produced the exterior angle shall be greater than either of the interior and opposite angles.

If two sides of a triangle be produced the exterior angles shall be together greater than two right angles.

3. Define parallel straight lines, and a parallelogram.

The opposite sides and angles of any parallelogram are equal and the diagonal bisects it.

Prove the diagonals of a paralleogram bisect each other.

4. Define a square, and quote the 12th axiom or its equivalent.

Describe a square on a given straight line.

Prove that the diagonals of a rhombus cut each other at right angles, and that a rhombus is equal to half the rectangle contained by its diagonals.

5. Define a rectangle, a gnomon.

If a straight line be divided into any two parts the rectangle contained by the whole line and one of the parts is equal to the rectangle contained by the two parts together with the square on the aforesaid part.—(Euc. II. 3.)

6. If a straight line be divided into two equal and also into two unequal parts the rectangle contained by the two unequal

parts together with the square on the line between the points of section are equal to the square on half the line.—(Euc. II. 5.)

7. If a straight line be biscected, and also divided into two unequal parts, the squares on the two unequal parts are together double of the square on half the line bisected and the square on the line between the points of section.—(Euc. II 9.)

8. In any triangle the square on a side subtending an acute angle is less than the squares on the sides containing that angle by twice the rectangle contained by either of those sides and the straight line intercepted between the perpendicular upon it from the opposite angle and the acute angle.—(Euc. II. 13.)

9. If the side BC of the the triangle ABC be bisected in D, prove that

$$AB^2 + AC^2 = 2\,BD^2 + 2\,AD^2.$$

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EXAMINATIONS, 1893.

MEDICAL PRIMARY.—PASS.

THEORETICAL ANATOMY.

EXAMINERS: { Dr. Neilson. / Dr. Todd.

1. The lower extremity:
   (a) Trace briefly the veins.
   (b) Give origin, insertion and nerve supply of the muscles in posterior relation with the femoral artery.

2. The upper extremity.
   (a) Group the muscles producing the respective movements of the shoulder joint.
   (b) Describe the nerve supply of the fingers.
   (c) Trace the course of the brachial artery and name its branches.

3. Name the structures that form the spermatic cord, and trace the course of the vas deferens.

4. Locate the following:
   1. Adductor tubercle.
   2. Termination of vena azygos major.
   3. Ligamentum arcuatum externum.
   4. Uterine appendages.
   5. Appendix vermiformis.
   6. Deep cardiac plexis.
   7. Otic ganglion.
   8. Rima glottidis.
   9. Foramen of Monro.
   10. Stylo-mastoid foramen.

5. Stomach: Situation; vascular and nervous supply; relation to following parts: (a) Greater and lesser sacs of peritoneum; (b) spleen; (c) transverse colon.

6. Trace the course of hypoglossal nerve from the base of the skull to its termination; name the muscles supplied by this nerve and its branches.

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EXAMINATIONS, 1893.

MEDICAL PRIMARY.—HONORS.

THEORETICAL ANATOMY.

EXAMINERS: { Dr. Neilson. / Dr. Todd.

1. The Larynx:
   (a) Group the intrinsic muscles, (1) those which open and close the glottis; (2) those which regulate the degree of tension of the chordæ vocales.
   (b) Give arterial and nervous supply of interior of larynx.
   (c) Where do laryngeal lymphatics terminate?

2. After removal of skull-cap, give dissection necessary to expose the third venticle and bound this space.

3. Vertebral artery: origin, course and termination.

4. Spheno-maxillary fossa: its boundaries and contents.

5. Enumerate the structures winding around the ischial spine and trace each from this point to its termination.

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EXAMINATIONS, 1893.

MEDICAL PRIMARY—PASS.

MATERIA MEDICA AND THERAPEUTICS.

EXAMINERS: { Dr. S. C. Corbett.
Dr. E. W. Montgomery.

1. What is an anthelmintic? Name the principal medicines used in each case.—10.

2. Define and classify cathartics and give the manner in which a typical drug of each sub-class produces its purgative effect.—20.

3. Give the doses of the following drugs: Tr. Opii, Tr. Aconiti, Tr. Belladonnae, Tr. Hyoscyami, Caffein, Chloral Hydrate, Antipyrine, Sulfonal, Ac. Arseniosum, Ac. Salicylicum, Amyl Nitris, Codeina, Cocaine.—10.

4. Under what circumstances would you prefer a general to a local emetic? State your reasons for this choice.—13.

5. For a case of dyspepsia write a perscription in full, and state the reasons for the employment of each ingredient used. —20.

6. What remedial agents antagonize the following drugs: Arsenic, Strychnia, Atropia, Corrosive Sublimate, Morphine. —15.

7. What are the different indications for the use of a diuretic? Write a perscription for a diuretic mixture.—12.

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EXAMINATIONS, 1893.

MEDICAL PRIMARY—HONOR.

MATERIA MEDICA AND THERAPEUTICS.

EXAMINERS: { Dr. S. C. Corbett.
Dr. E. W. Montgomery.

1. Name the agents with their doses that you would select to produce the following results: Diaphoresis in fever; expectoration in acute pneumonia, and chronic bronchitis; and as far as possible elaborate on the physiological action of each. —22.

2. Give the formula, mode of preparation, use, and ordinary dose of each of the following: Chloroform, Iodide of Potash, Iodoform and Strychnine.—20.

3. Give a rational classification of Antipyretics, and describe the physiological action of Quinine.—15.

4. Outline the different ways in which blood pressure is controlled, and name the agents used in raising or lowering arterial tension.—14.

5. Strychnia—its source, the full physiological action, and the indications for its use.—15.

6. Define incompatibility. Describe and illustrate physiological antagonism, and give a list of drugs that should be administered alone.—14.

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EXAMINATIONS, 1893.

MEDICAL FINAL—PASS.

EXAMINATION IN MEDICINE.

EXAMINERS: { Dr. J. R. Jones. / Dr. R. M. Simpson.

1. Describe briefly the etiology, symptoms and prognosis of a case of idiopathic pleurisy. Give the treatment fully.

2. Give the prognosis in the various cardiac valvular lesions, and discuss the treatment of aortic regurgitation.

3. Give the differential diagnosis between smallpox, scarlet fever and measles.

4. Rheumatism, its cause, its pathology, its treatment.

5. Describe the course and symptoms of a case of chronic Interstitial Nephritis. Distinguish it from the other varieties of Bright's disease.

6. Apoplexy—causes, pathology, and diagnosis of an apoplectic seizure.

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EXAMINATIONS, 1893.

MEDICAL FINAL.—HONOR.

PRACTICE OF MEDICINE.

EXAMINERS: { Dr. J. R. Jones. / Dr. R. M. Simpson.

1. Give the morbid anatomy, etiology symptoms and treatment of Asiatic cholera.

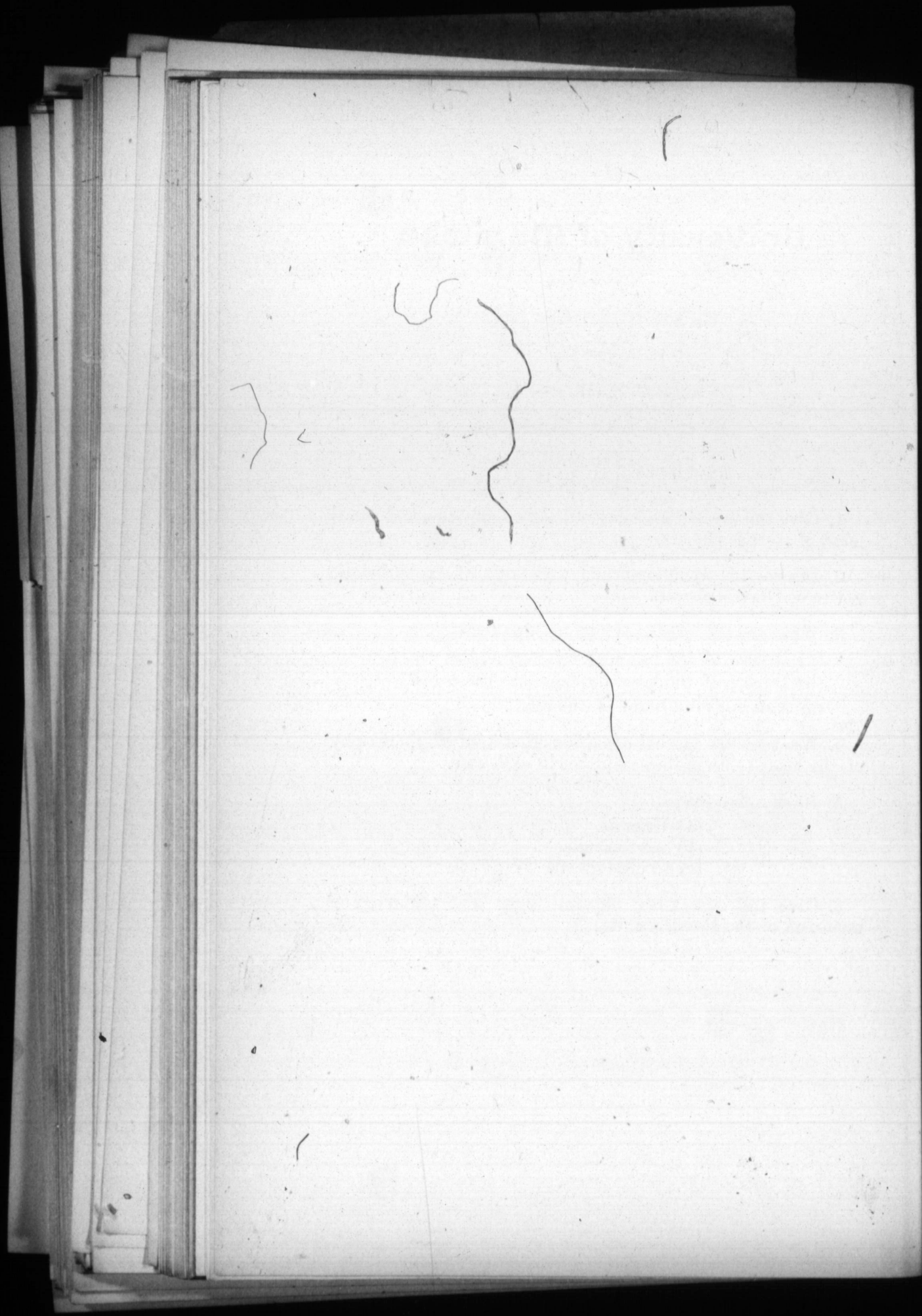
2. Discuss the symptoms and pathology of exophthalmic goitre or Graves' disease.

3. What are the specific symptoms due to:—
   (a) Disease of the posterior columns of the cord?
   (b) Disease of the lateral columns of the cord?
   (c) Anterior grey horns of the cord?

4. What are the morbid conditions that induce hypertrophy of the heart? Describe symptoms in each case.

5. Briefly describe:—
   (a) Uræmia.
   (b) Acetonæmia.
   (c) Cholesteræmia

6. Give the symptoms, physical signs and pathology of aneurism of the thoracic aorta.



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EXAMINATIONS, 1893.

MEDICAL PRIMARY.—PASS.

PHYSIOLOGY.

EXAMINERS: { Dr. J. S. Gray. / Dr. E. S. Popham.

1. The heart:—Describe fully its chambers, valves and their action, sounds and their cause, nerve supply.

2. Give a general outline of the mechanism of digestion—and note the peculiar action on foods of saliva, gastric juice, pancreatic juice and bile in the process.

3. Describe the respiratory sounds as heard over the lung proper and trachea. What changes do the air and blood undergo in the lungs?

4. Classify nerve fibres according to their function. Along what part of the spinal cord do motor and sensory impulses pass? What is the effect of dividing the vagi?

5. What is the composition of chyme?

6. Describe the structure of the crystalline lens and the changes which occur in it during acommodation, and how these changes are produced.

7. What are the functions of:—

(1) The skin;
(2) The spinal cord;
(3) The villi;
(4) The red blood corpuscles.

8. Give the theories concerning the secretion of urine. What is the composition of urine? What is the average daily amount? Under what circumstances may this be increased or decreased?

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EXAMINATIONS, 1893.

MEDICAL PRIMARY.—HONOR.

PHYSIOLOGY.

EXAMINERS: { Dr. J. S. Gray. / Dr. E. S. Popham.

1. "It is generally admitted that the bile is an excretion as well as a secretion."

(a) Distinguish excretions from secretions.

(b) Show from your distinction that the above statement is correct.

2. A man in an atmosphere of say 20°, by sawing wood raises his body heat to the point of perspiration. Another sitting still in a supra heated room begins to perspire. Explain how perspiration is brought about in each case.

3. Describe the tympanum.

4. How may blood pressure be estimated? Mention the causes of variation, and the qualities the pulse assumes in consequence.

5. Describe the portal circulation, giving a detailed account of (1) the relation of the capillaries to the liver cells, (2) the absorption of chyle.

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EXAMINATIONS, 1893.

MEDICAL PRIMARY.—PASS.

HISTOLOGY.

EXAMINERS: { Dr. Schaffner. / Dr. E. S. Popham.

1. Give a classified list of the principal tissues which compose the body.

2. Describe the cilia. How do they act and where situated?

3. Enumerate the varieties of cartilage and describe in detail the structure of each.

4. Give in detail the structure of a medullated nerve trunk, e.g. the sciatic nerve.

5. Describe the structure of a lymphatic gland.

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EXAMINATIONS, 1893.

MEDICAL PRIMARY.—HONOR.

HISTOLOGY.

EXAMINERS: { Dr. Schaffner. / Dr. Popham.

1. Describe in detail:
   a. A villus.
   b. Corium of the skin.
   c. Cross section of bone.

2. How do nerve fibres terminate in striated muscle?

3. Give the arrangement of the uriniferous tubules in the cortical and medullary portions of the kidney. Describe the distribution of the blood vessels in the kidney.

4. Describe fully a lobule of the liver.

5. Describe the process of ossification in cartilage.

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EXAMINATIONS, 1893.

MEDICAL PRIMARY.—PASS.

GENERAL CHEMISTRY.

EXAMINERS: { Dr. Bryce. / Dr. McDiarmid.

1. Give the chemical equations showing the preparation of (a) oxygen, (b) sodium nitrate, (c) silver chloride, (d) nitrous oxide, (e) sulphuric acid.

2. State Boyle's Law of Pressures. What volume will 500 cc. of a gas at 0° and 760 mm. become at a temperature of 35° and under a pressure of 720 mm.?

3. How is temporarily-hard water softened? How is pure water obtained? How are organic impurities in water detected?

4. How is a thermometer made? Explain the various methods of graduation; and show why the barometric pressure must be considered in graduating a thermometer.
(a) Reduce 63° F. to C.; 46° R. to F.; and 0° C. to F.

5. Explain the bleaching action of chlorine. Show how its action differs from that of sulphur dioxide.

6. Give examples of ferrous and ferric salts. State their difference in composition, and give tests. Note any peculiarities as to the quantivalence of iron in these salts

7. Give the formulae of the oxides of Arsenic; also the preparation and properties of its Hydrogen compound. What is Marsh's test for Arsenic?

8. Write down the formulae of methyl alcohol, sulphuric ether, acetyl acetate, aldehyde, and acetamide. Give the preparation of common ether.

9. Give the formulae of the sucroses and glucoses. Note the principal phenomena of fermentation.

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EXAMINATIONS, 1893.

MEDICAL PRIMARY.—HONORS.

GENERAL CHEMISTRY.

EXAMINERS: { Dr. Bryce. / Dr. McDiarmid.

1. Define molecule and molecular weight. Give some of the chief reasons for supposing that all gases contain in equal volumes the same number of molecules. Why are the molecules of oxygen and ozone believed to contain respectively two and three atoms of the element?

2. How is the specific heat of elements used as a means of determinimg their atomic weights?

(a) Specific heat of zinc is .0955. Determine its combining weight.

(b) Combining weight of mercury is 200. Determine its specific heat.

3. Give the composition of olefiant gas, and of marsh gas; also their modes of preparation and properties.

(a) How many liters of carbon dioxide are obtained from the complete combustion of one liter of olefiant gas?

4. How many grams of $NaCl$, H_2SO_4, and MnO_2 respectively are required to produce 400 liters of chlorine gas at 20°C., and under a pressure of 740 mm.?

5. Show the difference in composition of the several forms of phosphoric acid; also write the formulae of the tribasic sodium phosphates.

6. Give examples of mercurous and mercuric salts; and the preparation of corrosive sublimate.

(a) What weight of mercury and corrosive sublimate are required to yield four kilos. of calomel?

7. Give the preparation and properties of Tartaric Acid, and the formulae of its medicinal salts.

8. What is the difference between starch, cellulose, and glucose? Give methods of distinguishing them.

9. What are the chief properties of quinine? State how obtained. Give the properties and sources of morphine and strychnine.

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EXAMINATIONS, 1893.

MEDICAL PRIMARY.—PASS.

BOTANY.

EXAMINERS: { Rev. Father Cloutier. / Dr. Hutton.

1. Define:
Node, Vernation, Spathe, Torus, Placenta.

2. Mention some of the causes interfering with the symmetry of the growth of trees.

3. What is the difference between an annual, a biennial and a perennial herb?

4. What constitutes a complete flower?

5. The Oak Family are described as "Trees or shrubs with alternate and simple straight-veined leaves, very deciduous stipules and monœcious flowers." Explain all the terms used in this passage.

6. Recognition of specimens.

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EXAMINATIONS, 1893.

MEDICAL INTERMEDIATE.—PASS.

SANITARY SCIENCE.

EXAMINERS: { Dr. Jas. Patterson. / Dr. J. H. O'Donnell.

1. Well water forms the principal supply of drinking water in Manitoba. What description of *well* do you consider the safest? Point out the precautions to be taken in constructing it, and name the diseases most frequently communicated by water.

2. You are the attending physician upon 1st, a case of Scarlet Fever; 2nd, a case of Phthisis; 3rd, a case of Diptheria; 4th, a case of Measles. State precisely what precautions you would adopt in each case *during its progress* to prevent the spread of the disease.

In each case what portions of the body specially give out the infection.

What do you mean by the terms Vaccine? Humanized Lymph? and Vaccinia Variola?

How should vaccination be performed, and specify every precaution which should be taken in connection with the performance.

4. Wherein lies the value of vital statistics. How do you compute the mortality rate per 1000 of population?

5. What is the essential difference between the *combined* and *separate* systems of sewerage?

6. What do you mean by *natural ventilation* and by *artificial ventilation*? What are the various modes by which the *latter* may be accomplished?

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EXAMINATIONS, 1893.

MEDICAL INTERMEDIATE.—HONOR.

SANITARY SCIENCE.

EXAMINERS: { Dr. Jas. Patterson. / Dr. J. H. O'Donnell.

1. Discuss *in the order of merit* the various disinfectants and disinfecting processes, considered by authorities *at the present time* as of real practical use; pointing out clearly the merits and demerits of each; the modes of application; and the special purposes for which each is specially useful.

2. Write out fully and in *proper order* the *most practical* and at the same time the *most efficient* measures to be taken to purify an ordinary dwelling house and its contents, *after* the family occupying it have recovered from an attack of scarlet fever.

3. If you should be appointed health officer at Portage la Prairie, what measures would you advise the municipal council to adopt this season, to avoid the spread of cholera from the possible arrival there of a person affected with the disease.

4. What is the composition of sewage? Describe the various modes of disposal of the same. Why is it a dangerous pollution of air and water, and under what circumstances would you prohibit its delivery into a stream or body of water.

University of Manitoba.

EXAMINATIONS, 1893.

MEDICAL INTERMEDIATE.—PASS.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

EXAMINERS: { Gordon Bell, M.D.
J. A. McArthur, M.D.

1. Mention, in regular order, the signs of death. What conditions may be present in the body which simulate death? and name the only absolute sign of death.

2. Enumerate the various causes producing violent death, and describe the conditions present in acute and chronic starvation.

3. Describe the chief symptoms of poisoning by aconite, in man. How does death take place, and mention the physiological antidote.

4. Differentiate between *real* and *feigned* epilepsy, and what methods would you employ to expose the imposture?

5. Define the term *malpraxis*. What general rules should govern you, in the treatment of a medical or surgical patient, so as to avoid suit for damages?

6. What are the chief causes of general paresis of the insane? What part of the brain is specially affected by this disease? Give the more prominent symptoms and prognosis.

University of Manitoba.

EXAMINATIONS, 1893.

MEDICAL INTERMEDIATE.—HONOR.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

EXAMINERS: { Gordon Bell, M.D.
J. A. McArthur, M.D.

1. What is meant by the terms *minority* and *majority* in law? What age, if any, is fixed for competency as a witness? Up to what age is it usually held that a child is incapable of distinguishing right from wrong, and at what age is a child supposed to have arrived at years of discretion, and responsible for his or her actions?

2. Mention the various causes of death, in a child, *acting*, during birth. What conditions may be present that would lead you to suppose that death was accidental or criminal?

3. In a case of homicidal poisoning, what would it be necessary to prove in the conduct and actions of the accused to establish a case on "circumstantial evidence"?

4. Define the term *Dipsomania*, and wherein does the victim of this disorder differ from the ordinary dram drinker? How does the law regard a crime committed by a drunkard?

University of Manitoba.

EXAMINATIONS, 1893.

MEDICAL INTERMEDIATE. PASS AND HONOR.

SURGICAL ANATOMY.

EXAMINERS: { Dr. Higginson. / Dr. Ferguson.

1. What parts are divided by an incision across the front of ankle from one mallelaus to the other, cutting to the bone?

2. Locate the structures to be avoided in incising an axillary abcess, giving reasons for the site of your incisions.

3. Where is the site of election in Ligature of Common Carotid Artery, giving relations at this point, and give collateral circulation.

4. Name the parts affected in paralysis of third cenrial nerve.

University of Manitoba.

EXAMINATIONS, 1893.

MEDICAL INTERMEDIATE.—PASS AND HONOR.

PRACTICAL CHEMISTRY.

EXAMINERS: { Prof. Laird. / Dr. Hutton.

1. How would you detect the presence of corrosive sublimate in calomel?

2. Boiling Fehling's solution is changed from blue to green, but no precipitate formed, on the addition of urine. What may the change be due to?

3. H_2S when added to an acidulated solution of a salt of a metal throws down a *yellow* precipitate. What metal may it be?

4, 5, 6, 7. Detection of acids and bases singly and in combination. Alkaloids, sugars, albumens, &c.

University of Manitoba.

EXAMINATIONS, 1893.

MEDICAL FINAL.—PASS.

SURGERY.

EXAMINERS: { Dr. Pennefather. / Dr. A. H. Ferguson.

1. Give the symptoms of a case of Blennorrhagia in male and female from its first onset. What possible results may occur from the disease in both sexes? Give treatment in each stage.

2. What disease of the hip joint is most common? Give the symptoms from its earliest stages to advanced disease. What treatment would you employ? and what treatment does Hutchison recommend?

3. Describe a case of Miliaria. What other diseases might you mistake it for? and what are the points of difference? Give treatment.

4. Name the various morbid conditions to be met with in the testicle, and spermatic cord, and the appropriate treatment for each.

5. What is the form of torticollis which is most frequently met with? Describe minutely an adult case of it, naming the muscles affected. What does it frequently result from? Give treatment.

6. Name the stages of syphilis. Give the characteristic symptoms of each. What membranes are most liable to affection in the last stage? and what other structures are commonly implicated? Describe their diseased conditions, and give treatment.

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EXAMINATIONS, 1893.

MEDICAL FINAL.—HONORS.

SURGERY.

EXAMINERS: { Dr. Pennefather. / Dr. A. H. Ferguson.

1. Name some of the recent authors who have written on articular affections, dependent upon and secondary to lesions in the spinal cord. Give the most common spinal arthopathy. Characterize the appearance of the affected joint—what results may follow the disease—what joint is most frequently affected. Give the other joints in their order of implication. What is the opinion of Vallin as regards certain arthropathies?

2. Give the modern arrangement of the varieties of cancer. Give a description of each form. Which is most frequently met with? What form of cancer has been satisfactorily associated with previous local disease?

3. Give the diagnostic appearances of cancer of the tongue. In what part of the organ is it most commonly met with? Give the operations for its removal.

4. Give the causes, symptoms and treatment of an abscess of the brain in the temp. sphenoidal region.

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EXAMINATIONS, 1893.

MEDICAL FINAL.—PASS.

PATHOLOGY.

EXAMINERS: { N. B. Gillies, M.D.
Aeneas J. Macdonell, M.D.

1. Thrombus.—Definition, causes, consequences, changes.

2. Describe fully the changes that may take place in the brain tissue as the result of an embolus obstructing one of the small cerebral arteries.

3. Describe the phenomena observed in the blood vessels and in the tissues in acute inflammation.

4. Pneumonia.—Macroscopical—Microscopical characters—in stages of Infiltration. Red Hepatization. Grey Hepatization.

5. Briefly describe, and distinguish Tubercular Ulcer—Typhoid Ulcer—of the intestine.

6. The nature, the causes, and parts affected in fatty degenerative processes.

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EXAMINATIONS, 1893.

MEDICAL FINAL.—HONOR.

PATHOLOGY.

EXAMINERS: { N. B. Gillies, M.D.
Aeneas J. Macdonell, M.D.

1. Give the changes that may take place in the system in Lymphadenoma.

2. Give the pathology of Chorea.

3. State the different forms of dropsy, and give the pathology of each.

4. Chronic Interstitial Nephritis. Macroscopical—Microscopical characters of the kidney and arteries.

5. Write fully on Tubercle.

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EXAMINATIONS, 1893.

MEDICAL FINAL.—PASS.

OBSTETRICS.

EXAMINERS: { Dr. J. S. Lynch. / Dr. A. McDiarmid.

1. Describe the fœtal circulation and the changes that take place in it at birth.

2. Describe the conduct of a case of natural labor.

3. State the varieties, diagnosis, prognosis and treatment of placeuta prævia.

4. Give symptoms and treatment of post-partum hemorrhage.

5. Describe an attack of Eclampsia. Give its causes and treatment.

6. State the predisposing and special causes of puerperal infection. Name its various manifestations. Give symptoms, prognosis and treatment of general puerperal peritonitis.

7. State the pathology, causes, signs, symptoms and treatment of chronic cervical endometritis

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EXAMINATIONS, 1893.

MEDICAL FINAL.—HONORS.

OBSTETRICS.

EXAMINERS: { Dr. J. S. Lynch. / Dr. A. McDiarmid.

1. Describe various methods of extraction of the after coming head.

2. Describe the method of operation and after treatment in symphysiotomy. What are the limits of the operation as regards the conjugate diameter of the pelvis?

3. Give symptoms, diagnosis, prognosis and treatment of inversion of the uterus.

4. Give causes, symptoms, varieties and treatment of puerperal insanity.

5. Describe and state the principles that should underlie an operation to repair a laceration of the perineum involving the sphincter ani.

6. Define the following terms: Graafian follicle, membrana propria, discus proligerus, zona radiata, holoblastic ovum, corpus luteum; and name the tissues and organs derived respectively from the epiblast, hypoblast and mesoblast.

7. Give the causes, clinical phenomena, prognosis and treatment of abortion (*a*) threatened, (*b*) inevitable.

8. Describe the mechanism of labor in the right occipito-posterior position. In what three ways may the labor terminate? Point out clearly the causes of difficulty in occipito-posterior positions, and outline the treatment.

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EXAMINATIONS, MAY, 1893.

LL. B. HALL.

1. Discuss fully the law relating to accretions formed by the operation of nature where States are concerned.

2. Discuss fully the rights of navigation possessed by States over rivers or portions of rivers not within their territory, and give particulars of the Mississippi and St. Lawrence cases.

3. Exterritoriality; discuss the doctrine and give reasons for discarding it.

4. Discuss the rights of (1) neutral goods in belligerent vessels, and (2) belligerent goods in neutral vessels.

5. Give particulars and point in issue in the case of "The Trent."

6. In what way may war be terminated? Give the point decided in the case of the "Swineherd"; give particulars.

7. What are the rights concerning (1) belligerent and (2) neutral individuals in belligerent states upon declaration of war.

8. Give facts and point involved in the case of the "Caroline."

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EXAMINATIONS, MAY, 1893.

VON SAVIGNY.

1. What law governs in the case of (1) usurious contracts, and (2) Torts, in foreign states? Explain fully.

2. What law governs as to marriage from the following points of view (1) impediments, (2) formalities, and (3) property.

3. Discuss the law deciding (1) the interpretation, (2) effect, (3) validity, and (4) personal capacity in regard to obligations.

4. Succession; what laws govern in relation to (1) property, (2) forms, (3) capacity of testator, (4) capacity of heirs.

5. Certain foreign laws never recognized by domestic laws; what are the rules?

6. What is the influence of a new divorce law on subsisting marriages? Explain.

7. Retroaction; give the two rules or formula.

8. Domicile; define and give the main rules or principles as to same.

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University of Manitoba.

EXAMINATIONS. MAY, 1893.

BROOM.

1. Can there be any interegnum by the laws of England? Explain.

2. How are Judges punished for misconduct?

3. Give facts and points decided in Kemp vs. Neville.

4. Can the House of Commons commit for contempt? Give facts of the case deciding the law.

5. Discuss the law as to the dispensing power of the Crown.

6. Bushell's case. Give facts and point decided.

7. What are the rights of a person forcibly detained in England as a slave. Discuss fully.

8. Villenage. Give definition, origin and history.

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EXAMINATIONS MAY, 1893.

POLLOCK ON CONTRACTS.

STATUTES RELATING TO INTESTACY AND REAL PROPERTY.

1. Give rules as to validity of contracts in partial restraint of trade.

2. Explain the law relating to the avoidance of contracts entered into by persons intoxicated.

3. Define Agreement, Consideration. Explain the law of Contracts by offers of reward and by sale at auction.

4. Explain circumstances under which right to rescind a contract arises.

5. Give the requirements of a good guarantee.

6. (1) What interest has widow in estate of intestate husband? (2) What interest has husband in estate of his deceased wife? State any Statutes bearing on the subject.

7. If intestate leaves no father, widow or child, to whom does his estate go?

8. To what is land, mentioned in any Certificate of Title granted under the Real Property Act, subject by implication?

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EXAMINATIONS, MAY, 1893.

MAINE'S ANCIENT LAW.

1. Explain the Roman law of rights through intestacy before Justinian.

2. Discuss Savigny's theory of the origin of property.

3. Explain status of father, wife, son and slave in ancient family.

4. Distinguish confarreation, cœmption and usus.

5. Describe the tribunals for the trial and punishment of crime under [1] the Republic, [2] the Empire.

6. Explain [1] Nuncapion, [2] Mancipation, [3] Sacra.

7. Give the history of and explain the Twelve Tables.

8. Give the history of legal fictions.

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EXAMINATIONS, MAY, 1893.

JUSTINIAN.

1. Explain "Emphyteusis," "traditio," "usucapio," "usus fructus."

2. Define commodatum, mutuum, fidejussores, pignus.

3. De interdictis. What and explain kinds.

4. Distinguish Magistratus and Judex.

5. Explain briefly Lex Hortensia, Lex Cornelia, Lex Canuleia, Lex Aquilia, Lex Falcidia.

6. What are sources of Jus civile? Explain each.

7. Explain Donatio mortis causa, and distinguish from legacy and gifts inter vivos.

8. Explain briefly (1) obligatio, (2) novation.

Univ

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EXAMINATIONS, MAY, 1893.

LAW OF WILLS.

1. Explain the doctrine of Cyprès.
2. Define Satisfaction, Marshalling, Election, Conversion, Substitution.
3. Discuss the Thellusson Act.
4. Distinguish specific, general and demonstrative legacies.
5. Explain precatory trusts and give instances.
6. Give meaning of "to vest."
7. Explain Locke King's Act.

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EXAMINATIONS, MAY, 1893.

UNDERHILL.

1. A grocer sends B to the depot for some goods. B takes the grocer's horse and wagon on which is painted his name and business, but instead of going to the depot, goes on an errand of his own and in so doing runs over a child and injures it. What is the liability (1) of the grocer and (2) of B? Discuss fully.

2. A railway company carrying A servant of B, by negligence causes injury to A, and B sustains thereby loss of service. Discuss company's liability and give the rule.

3. Give the exceptions to the rule that no person can in general arrest or imprison another without a legal and a legally executed warrant.

4. When will an action for deceit lie?

5. Define nuisance and illustrate.

6. Distinguish between the liability of an owner of a house [1] to a visitor on business, and [2] a guest for injuries sustained owing to the unsafe state of the premises. Give the rule and illustrate.

7. Define "Trespass quare clausum fregit." What damage must be shewn?

8. Define battery, malicious arrest, maintenance negligence, defamation and wrongful conversion.

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EXAMINATIONS MAY, 1893.

FAWCETT'S LANDLORD AND TENANT.

1. What constitutes a Distress for rent? Explain mode of making and requisites to sale under.

2. What property is privileged from distress?

3. What are covenants running with the land? Give instances.

4. What are the requisites to proceedings under statute for fraudulent removal?

5. Explain remedies for (1) illegal (2) irregular distress.

6. What is a tenancy at will? In what cases will it be implied?

7. What are a tenant's rights on quitting tenancy as to (1) emblements, (2) fixtures, (3) away going crops.

8. What are the obligations of (1) tenant, (2) landlord to repair?

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EXAMINATIONS, MAY, 1893.

ROMAN LAW.

1. Explain Pandects and Institutes and by whom prepared and when.

2. State punishment under Twelve Tables of (1) incendiarism. (2) libel, (3) perjury, (4) insolvency, (5) treason.

3. Describe briefly the Nature of the primitive Government of Rome.

4. Explain the Roman law of succession to the Estate of a Intestate.

5. Classify Obligations having reference to their respective sources.

6. Explain curiæ, edicts, rescripts, confarreation, co-emption.

7. Explain the Licinian Laws.

8. Explain briefly the "Twelve Tables."

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EXAMINATIONS, MAY, 1893.

BEST.

1. When is secondary evidence admissible?

2. Explain privileged communications. Are communications to [1] legal, [2] medical, [3] spiritual advisers privileged?

3. Explain presumptions of law and give kinds.

4. What are fictions of law and explain kinds of same.

5. Define leading questions and when are they permissible.

6. Give different forms of proof of handwriting.

7. Explain the decision in the case of Omychund v. Barker.

8. "The best evidence must be given." Explain.

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EXAMINATIONS MAY, 1893.

LEITH'S BLACKSTONE.

1. Give particulars of the former and present modes of transferring title to land.

2. Define escrow, mortgage, estate tail, shiftinguse, hotchpot and covenant.

3. How are contracts affected by (drunkenness. (2) idiocy, and (3) infancy.

4. Escheat *propter defectum sanguinis* and escheat *propter delictum tenentis*, define and illustrate.

5. Give the origin of the law as to property in land.

6. Give provisions in the Statute of Limitations as to rights of mortgagor and mortgagee.

7. Define and distinguish between joint tenancy and tenancy in common. A conveys to B and C without more, what is this?

8. Illustrate the following (1) estate in fee simple; (2) estate tail and (3) for life and (4) a shifting and (5) springing use.

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EXAMINATIONS, MAY, 1893.

MAY.

1. Give particulars of the circumstances that led to the formation of the party known as the "Cave of Adullam."

2. Give history and present law as to the protection and rights of aliens and particulars of recent legislation.

3. Give history and purposes of the Anti-Corn Law League.

4. Give the part taken by the Duke of Wellington in constitutional matters. Explain fully.

5. Woodfall's trial; give particulars and result of the same.

6. Give the facts leading up to the religious liberty of (1) Non-conformists, and (2) Catholics.

7. Give the constitutional history of Daniel O'Connell.

8. The Royal Marriage Act (1772); give particulars and history.

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EXAMINATIONS, MAY, 1893.

TODD.

1. Explain briefly the powers and duties of a Colonial Governor.

2. Disscuss extent to which Canada may be affected by Imperial legislation.

3. What is Canada's position in regard to making Treaties?

4. "Clergy Reserves in Canada." Describe and explain fully.

5. "New Brunswick School Act." Write its history and explain its constitutional importance.

6. Describe the Letellier case and its constitutional bearings.