

PHYSIOLOGY.

1. Describe the course of the circulation of the blood, and give an explanation of "blushing."
2. Describe the mechanism of the nostrils.
3. Describe the cavity of the mouth and pharynx.
4. Name and give a short description of the various kinds of joints found in the human body. Describe the bones of the forearm.
5. Write a full note on the character of *Epithelium*.
9. Describe fully the scope and aims of Hygiene.

(Candidates are at liberty, as per syllabus of Examination, to write on such two of the three subjects given below as they may choose. No credit will be given to papers on all subjects from the same candidate.)

CHEMISTRY.

1. Give reasons for considering the air a mechanical mixture rather than a chemical one.
2. Give a general outline of the photographic process.
3. Mention the principal Ammoniac Salts, giving their formulæ, and compare them with the corresponding Potassic Salts.
4. Give a method for the preparation of *hydric chloride*, and state its action upon ammonia.
5. Describe the Bessemer process of manufacturing steel. Describe Marsh's test for As.
6. How would you distinguish the following gases from one another: *chlorine, nitrogen, marsh gas, carbonic oxide, olefiant gas*.

NATURAL PHILOSOPHY.

1. State the principle of the Parallelogram of Forces, and prove it so far as the direction of the resultant is concerned. A weight of 10 lbs. is supported by two strings, each of which is 3 ft. long, the ends being attached to two points in a horizontal line 3 ft. apart; find the tension of each string.
2. Describe the construction of the double-barrelled Air-pump, and by means of a diagram explain the action of the Siphon.
3. Define *uniform* and *variable* velocity. What is meant by the acceleration due to a force, and upon what does its magnitude depend?
4. A pipe 15 ft. long closed at the upper extremity is placed vertically in a tank of the same height, and the tank is filled with water. To what height will the water rise in the tube, the water barometer being 33½ ft.? State the principles on which your answer is based.
5. Explain fully the following statement: Any quantity of fluid, however small, may be made to support any weight, however large.
6. Show how to find by a geometrical construction the position and magnitude of an image of a small object placed before a spherical mirror.

FRENCH.

Translate into English:

MADAME JOURDAIN.—Ah ! ah ! je trouve ici bonne compagnie, et je vois bien qu'on ne m'y attendait pas. C'est donc pour cette belle affaire ci, monsieur mon mari, que vous avez eu tant d'empressement à m'envoyer diner chez ma sœur ? Je viens de voir un théâtre là-bas, et je vois ici un banquet à faire noces. Voilà comme vous dépensez votre bien ; et c'est ainsi que vous festinez les dames en mon absence, et que vous leur donnez la musique et la comédie, tandis que vous m'en voyez promener.

DORANTE.—Que voulez-vous dire, madame Jourdain ? et quelles fantaisies sont les vôtres, de vous en aller mettre en tête que votre mari dépense son bien, et que c'est lui qui donne ce régal à madame ? Apprenez que c'est moi, je vous prie ; qu'il ne fait seulement que me prêter sa maison, et que vous devriez un peu mieux regarder aux choses que vous dites.

MONSIEUR JOURDAIN.—Oui, impertinente, c'est monsieur le comte qui donne tout ceci à madame, qui est une personne de qualité. Il me fait l'honneur de prendre ma maison, et de vouloir que je sois avec lui.

MADAME JOURDAIN.—Ce sont des chansons que cela ; je sais ce que je sais.

DORANTE.—Prenez, madame Jourdain, prenez de meilleures lunettes.

MADAME JOURDAIN.—Je n'ai que faire de lunettes, monsieur, et je vois assez clair. Il y a longtemps que je sens les choses, et je ne suis pas une bête. Cela est fort vilain à vous, pour un grand seigneur, de prêter la main comme vous faites aux sottises de mon mari. Et vous, madame, pour une grand'dame, cela n'est ni beau, ni honnête à vous, de mettre la discension dans un ménage, et de souffrir que mon mari soit amoureux de vous.

DORANTE.—Que veut donc dire tout ceci ? Allez, Dorante, vous vous moquez, de m'exposer aux sottises vicioles de cette extravagante.

1. Parse: *Je vois, que voulez-vous dire, apprenez, sois, faites*.
2. Give the first person singular of the present, imperfect, and future indicative, present and imperfect subjunctive, and second person singular imperative of the following verbs: *envoyer, s'en aller, sentir* and *dire*.
3. Name the most important intransitive verbs conjugated with *être* instead of *avoir*.
4. Name the substantives in *ou* that take *x* in the plural.
5. Give the principal parts of *vien*s, *vois*, *mettre*, *fait*, *devriez*, *vouloir*, *sais* and *prenez*.
6. State the rules applicable to the past participle used with (a) *avoir*, (b) *être*.

LATIN PROSE COMPOSITION.

(A lexicon may be used, but no other book.)

Translate into Latin:—

1. It is my interest that Cæsar, but Cicero's that Pompey, should win.
2. This news is too good to be true.
3. He seems to have been born at Herculaneum, but I know that he lived many years at Syracuse.
4. If you could not learn where he lived, you should have brought back my letter at once.
5. So great a war he made ready for at the end of winter, undertook in the beginning of spring, and ended by midsummer.
6. If you go to Athens soon, I should like you to buy me some books on Philosophy as cheaply as possible.
7. I fear that you are not ashamed of your dishonor.

GREEK PROSE COMPOSITION.

1. Had I been present, I could not have foreseen this.
2. He declared that if he should catch anyone running away, he would treat (use) him as an enemy.
3. Plato being on a certain occasion (express by an adverb) enraged at his servant, said to Xenocrates, who stood by, "take this man and flog him, for I am in a passion."
4. The generals resolved to cross the river, baggage and all.
5. To one having remarked that to live was an evil, Diogenes said, "not to live, but to live wickedly."

ROMAN HISTORY.

1. Describe the constitution and function of any one of the Legislative Assemblies at Rome.
2. What was the Latin League ? State the causes and circumstances of its dissolution. What was Jus Latii ?
3. Describe the "Decemvirs."
4. Who were the Gracchi, and for what did they contend ? What parties arose from their contentions, and with what leaders ? Which of these parties did Cæsar represent ?
5. What do you understand by the "Triumvirates ?" What was the aim and what the end of each ? By what decisive battles were they respectively broken up ?

GREEK HISTORY.

1. What was the "Dorian Migration ?" Explain its relation to the Greek Cities in Asia Minor.
2. Describe the constitution and functions of the Amphictyonic Council.
3. Write a note of the Confederacy of Delos.
4. The battles of Salamis and Plataea were contemporaneous with important historical events elsewhere. What were these ?
5. Mention the most powerful States of Greece, from time to time, with dates and references to sources of power in each case.

FIRST CLASS LICENSE (Grade B).

GEOGRAPHY.

1. Explain the terms Solstice, Equinox, Flood Tide, Neap Tide, Isothermal, Isotheral, Isochthermal. State briefly the characteristic *fauna* and *flora* of Asia.
2. What are the chief influences that affect the climate of a place ? Distinguish between the *constant* and *variable* factors.
3. Describe in detail the mountain and river systems of Europe.
4. Write a note on the commerce of Great Britain. Distinguish between *foreign* and *colonial* commerce.
5. Brazil—its situation, principal cities, physical features, chief pursuits of its inhabitants, and the form of government.