SECOND YEAR EXAMINATIONS.

HISTOLOGY.

Examiners,..... .... { Prof. Geo. Wilkins. N. D. Gunne, M.D.

1. Describe a section through the Eyeball from before backwards, giving the minute anatomy of the parts cut.

2. Describe the structure of the Spleen.

3. What is the Portal Canal? Describe all the elementary structures that enter into its formation.

4. Describe and mention where found: Pacinian bodies; Hassal's corpuscles; cells of Purkinje; tubes of Bellini; pyramids of Ferrein.

CHEMISTRY.

Examiners, ... Profs. Girdwood and Ruttan.

1. Describe the Spectroscope. How is it applied to analysis?

2. Describe fully one form of Vapour Density apparatus. What would be the molecular weight of a substance whose vapour density was 4·2 air = 1·), at a pressure of 6·4 millimetres and temperature of 27·3° C.

3. Compare the chemical and physical properties of the four Halogen acids.

4. What is the approximate percentage composition of the atmosphere? How may each constituent be detected?

5. What is the chemical composition of: (*a*) Quick lime; (*b*) Marble: (*c*) Chloride of lime; (*d*) Saltpetre (or nitre); (*e*) Blue vitriol; (*f*) Potash alum; (*g*) Epsom salts; (*h*) Rochelle salts.

6. Give the preparation and occurrence of Aluminium.

7. Classify the Monosaccharides, with examples. Give two characteristic reactions common to all.

8. Define and illustrate by examples and formulæ: (*a*) Unsaturated hydrocarbons; (*b* Mercaptans; (*c*) Glucosides; (*d*) Phenols; (*e*) Ketones: (*f*) Alkaloids; (*g*) Amido-acids; (*h*) Etherial salts.

9. Write a brief account of the chemistry of: (*a*) Chloral; (*b*) "Sulphuric ether."

10. Calculate the weight of Carbon Dioxide and water produced by the combustion of 2·3 grams. of Chloroform. What weight of Silver Chloride would be obtained from the Chlorine, Cl = 35·5, Ag = 108?

MATERIA MEDICA & PHARMACOLOGY.

Examiners..... .... { Prof. A. D. Blackader. Dr. F. M. Fry.

1. Describe the characteristics of alkaloids, glucosides, and volatile oils, and give examples.