

6. Compare the chemical properties of (a) chlorine and iodine, (b) nitrogen and phosphorus.

7. What is the proportion of oxygen and nitrogen by weight and by volume in nitrous oxide? How may this be demonstrated?

8. Describe two methods of preparation and two chemical reactions of (a) sulphur dioxide, (b) ethyl alcohol, (c) hydrochloric acid, (d) urea, and (e) carbolic acid.

9. Give formula, chemical name and common source of each of the following:—Oil of bitter almonds, bleaching powder, cream of tartar, salicylic acid, saltpetre, gun cotton, picric acid, palm oil.

10. What are the chief products of the destructive distillation of (a) coal, (b) wood, and (c) bones?

11. 1.23 grm. of an organic compound gave on combustion 2.64 grm. of CO_2 , 0.45 grm. H_2O , and 112 CC. of nitrogen, vapour density 4.26 (air = 1). What is its formula and name?

12. Classify organic compounds containing the radicle CN, and give fully the chemistry of hydrocyanic acid.

NOTE.—Ten questions only to be attempted.

THIRD YEAR EXAMINATIONS.

GENERAL PATHOLOGY.

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[The first and five other Questions to be attempted.]

1. Describe the changes that you would expect to find in the organs of a man advanced in years who had for a long period presented the signs and symptoms of pulmonary emphysema.
2. Discuss the part played by the leucocytes and the bodily humours respectively in antagonising the effects of microbes and other irritants.
3. What do you know concerning eosinophilous cells?
4. What are the morbid states in which there occurs an increased accumulation of serous fluid in the cavities and tissue spaces of the body? What conclusions are to be arrived at concerning the part played by the blood vessels and lymphatics respectively in producing such increased accumulation?
5. Under what conditions does amyloid degeneration manifest itself? What organs and parts of organs are especially affected? How does it differ from hyaline degeneration?
6. What conditions favor the development of gall-stones, and what forms of these calculi are to be distinguished?
7. State the causes of pulmonary embolism, and discuss the subject of hæmorrhagic infarction of the lungs.