

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2019**(CUCBCSS)****Zoology****ZOL 6B 11—PHYSIOLOGY AND ENDOCRINOLOGY****Time : Three Hours****Maximum : 80 Marks****(A) Answer all questions. Each question carries 1 mark :**

- 1 In which form most of the carbon dioxide is transported in blood ?
- 2 Name two agranulocytes.
- 3 Name the blood corpuscle that is most important in blood clotting.
- 4 Name two hormones secreted by hypothalamus.
- 5 Name the most important ion that is involved in blood clotting.
- 6 What is sphygmomanometer ?
- 7 What are systole and diastole ?
- 8 What is loop of Henle ?
- 9 What is sarcomere ?
- 10 Name two hormones that are catecholamines.

(10 × 1 = 10 marks)**(B) Answer any ten questions in two or three sentences each. Each question carries 2 marks :**

- 11 What is "insulin shock" ?
- 12 What is pace maker ?
- 13 Explain external respiration and internal respiration.
- 14 What is balanced diet ?
- 15 What is Hamburger phenomenon ?
- 16 Write notes on acromegaly.
- 17 Briefly describe the structure of a vertebrate erythrocyte.

Turn over

- 18 What are phagocytes ? Name two phagocytes among blood corpuscles.
- 19 Differentiate tubular hearts and chambered hearts with examples.
- 20 What is cretinism ?
- 21 What is the physiological function of insulin at cellular level ?
- 22 Explain two physiological effects of thyroxine.

(10 × 2 = 20 marks)

(C) Answer any *five* questions in not more than a *paragraph* each. Each question carries 6 marks :

- 23 Explain muscle twitch.
- 24 Write notes on ECG with a diagram.
- 25 Describe the hormonal control of digestion in the stomach.
- 26 Explain the Oxygen dissociation curve and its significance with the help of a diagram.
- 27 Describe the composition of human blood.
- 28 Describe Cori cycle.
- 29 With the help of a labelled sketch, describe the structure of a synapse.
- 30 Explain the role of sex hormones in menstrual cycle.

(5 × 6 = 30 marks)

(D) Write essays on any *two* of the following. Each question carries 10 marks :

- 31 Describe the ultrastructure of a striated muscle fibre. Explain the physiology and chemistry of muscle contraction. Illustrate your answer with suitable diagrams.
- 32 Describe the physiology involved in the transmission of nerve impulses along a nerve fibre. Illustrate your answer with suitable sketches.
- 33 With the help of labelled sketches, describe the process of urine formation in man.
- 34 Describe the method of transport of carbon dioxide between the lungs and tissues.

(2 × 10 = 20 marks)