



STD XI

FINAL EXAMINATION

Time: 3hrs

5 -3-17

BIOLOGY (044)

Marks: 70

General Instructions:

1. There are five sections in the question paper. All questions are compulsory.
2. Section A contains Very short answer type questions of one mark each.
3. Section B contains Short answer type I questions of two marks each.
4. Section C contains Short answer type II questions of three marks each.
5. Section D contains Long answer type questions of 5 marks each.
6. Section E contains 2 questions for OTBA. OTBA material is provided with the question paper.
7. There is no overall choice in the question paper, however, an internal choice is provided in one question of two marks, one question of three marks and all three questions of five marks. An examinee is to attempt any one questions out of the two given in the question paper with the same question number.

SECTION A

1. Name the two pathways of water movement in the root of plants. (1)
2. Workers in industries involved in stone breaking or grinding should wear protective masks. Why? (1)
3. How are viruses different from viroids? (1)
4. Mention the role of leg-haemoglobin in root nodules. (1)
5. Differentiate between symport and antiport (1)

SECTION B

6. Write the steps in root nodule formation in leguminous plants. (2)
7. State cell theory. Name the scientists who put forward this theory (2)
8. Mention the aestivation in corolla of the following plants:
a) Calotropis b) Cassia c) China rose d) Pea

OR (2)

Define the following:

- a) placentation b) phyllotaxy
9. Differentiate between peptide bond and phosphodiester bond (2)
10. Name the phylum to which following are associated:
a) cnidoblast b) canal system b) watervascular system d) statocyst (2)

SECTION C

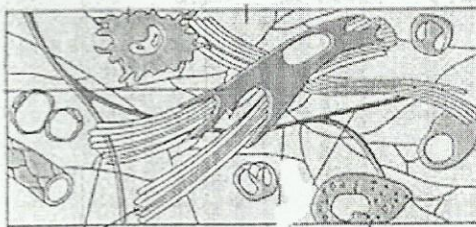
11. Explain the life cycle of Liverworts. (3)
12. Briefly explain the structure of the interphase nucleus of a cell. (3)

OR

Describe the structure of mitochondria as visible under microscope.

13. Explain the mechanism of vision in human beings. (3)

14. Identify the given tissue, mention the functions. Name the cells present in this tissue. (3)



15. Draw a neat labeled diagram to show the duct systems of digestive system and label the following: (3)

- a) hepato-pancreatic duct b) common bile duct c) Pancreas

16. Name the plant growth regulators used by farmers for the following: (3)

- a) to quickly ripen a fruit b) to increase sugarcane yield
c) to initiate rooting in stem cuttings d) to delay leaf senescence.
e) to inhibit seed germination f) to bolt a rosette plant

17. Digestion is completed in small intestine, mention the role of different enzymes acting on food to facilitate digestion in duodenum (3)

18. Explain the processes involved in urine formation, which takes place in different parts of the nephron. (3)

19. a) Name the scientists who first explained the scheme of glycolysis. (3)

b) Write the following steps in glycolysis:

i) ATP is converted to ADP

ii) NAD is converted to NADH

20. Enumerate the steps involved in respiration in man. (3)

SECTION D

21. a) Describe the steps involved in catalytic cycle of an enzyme action.

b) Name the fastest known enzyme. (5)

OR

a) List the characteristic events of metaphase, anaphase and telophase of equational division in a plant cell.

b) Mention the significance of quiescent stage of interphase of a cell cycle

22. a) Name the products of light reaction. What is the fate of these products during photosynthesis?

b) How are C_3 plants different from C_4 plants? (5)

OR

Draw a schematic sketch of Tri carboxylic acid cycle which was first elucidated by Hans Krebs.

23.a) How are ribs classified? Explain.

b) Ribs are called bicephalic. Why? (5)

OR

Explain how a nerve impulse is conducted through an axon till neuron endings.

SECTION E (OTBA)

Read the OTBA theme given and answer the following questions:

24. Wellness is important not only for prosperity of an individual but also for a prosperous nation. List any five measures taken by our Government to meet this goal. (5)
25. Health is a state of complete physical, mental and social well- being and not merely absence of disease or infirmity. Suggest some changes that we can bring about in our life to maintain health. (5)

PTO