

# Final Paper (11 March 2016)

Class XI

Paper- BIOLOGY

(Set-A)

Time: 3hrs.

M.M. 70

## General Instructions:

- i) Question paper consist of four sections A, B, C, D and E in Part- I. An internal choice has been provided in one question of 3 marks and questions of 5 marks.
- ii) Wherever necessary, the diagram drawn shown be neat and properly labelled.
- iii) Part – II is of OTBA, consisting two questions of 5 marks each.

### SECTION - A

- Q1. Name the aestivation in which one margin of the appendage overlaps that of the next one. (1)
- Q2. Name the leucoplast that store proteins. (1)
- Q3. Name the hormone responsible for increase in the length of the stem in sugarcane. (1)
- Q4. Name the hormone secreted by B cells of pancreas in human. (1)

### SECTION – B

- Q5. What are the functions of water vascular system (any two)? Name the phylum of kingdom animal having this system. (2)
- Q6. Draw a flow chart to show diplontic life cycle pattern. Name the division of plant kingdom which show this pattern. (2)
- Q7. Define Co-enzyme and apoenzyme. (2)
- Q8. What is apoplast pathway? (2)
- Q9. Differentiate between racemose and cymose inflorescence. (2)

### SECTION – C

- Q10. Explain the regulation of Kidney function. (3)
- Q11. Name the type of joints present in the following: (3)
- a) Knee      b) between humerus and pectoral girdle      c) skull bones
- Q12. Explain the following: (3)
- a) Depolarisation of the membrane of a nerve fibre.
- b) Transmission of a nerve impulse across a chemical synapse.
- Q13. a) Where does glycolysis occur? (3)
- b) Give the schematic representation of glycolysis.
- Q14. a) What is 'Kranz' anatomy? Name the type of plant which shows this anatomy. (3)
- b) What is the primary acceptor of  $\text{CO}_2$  in  $\text{C}_4$  plants and where is it present?
- Q15. a) What are the conditions necessary for fixation of atmospheric nitrogen by Rhizobium? (3)
- b) Give example of two free living nitrogen fixing cyanobacteria.
- Q16. What is cell cycle? Explain it phases with the help of diagram. (3)

Q17. Draw a well labelled diagram of T.S. cilia. (3)

Q18. a) Draw a well labelled diagram of alimentary canal of cockroach. (3)

b) Give the function of malpighain tubules.

**OR**

a) Cockroach has open circulatory system. Explain it.

b) Name the type of vision formed by eye in cockroach. Why it is called so?

**SECTION – D**

Q19. In the village, Arvind observed that grand father used to spread some white substance on the crops. So, one day he asked him the reasons for doing so. Grandfather replied that he is spreading NPK fertilizer to get better yield of crops. (4)

Read the above passage and answer the following questions:

a) What is NPK fertilizer?

b) What is the role of phosphorus and potassium in plants?

c) What is exhibited by grandfather's action?

**SECTION-E**

Q20. a) Explain the calvin cycle in detail with the help of schematic representation. (5)

b) How many number of ATP and NADPH are required for the production of one glucose molecule?

**OR**

Explain the citric acid cycle in detail with the help of schematic representation.

Q21. a) Draw a well labelled diagram of human nephron. (5)

b) How is urine formed in human?

**OR**

a) Explain the structure of contractile protein.

b) Explain the mechanism of muscle contraction with the help of diagram.

Q22. a) Define phyllotaxy and explain its type with the help of an example. (5)

b) Define zygomorphic and bracteate terms used for flower.

**OR**

What is stomatal apparatus? Explain with the help of diagram how stomata is opened?

**PART – II**

**(5×2=10)**

**OTBA**

Q1.a) Which system is known as second brain? Give its other 2 names. (2)

b) "Breastfeeding is crucial for infant". Explain how and give experiment conducted by researchers to support it. (3)

Q2.a) How is second brain influenced by stress? (2½)

b) How can we prevent it? (2½)