

# Final Paper (4 March 2017)

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 should be neat and properly labelled.
- iii) Part – II is of OTBA, consisting two questions of 5 marks each.

### SECTION - A

- Q1. Name the leaf like photosynthetic organ of "Phaeophyceae"? (1)
- Q2. Name the components of a stomatal apparatus. (1)
- Q3. What do you mean by ribozymes? (1)
- Q4. Name two iron-containing proteins involved in electron transport. (1)
- Q5. Define tidal volume. (1)

### SECTION – B

- Q6. Differentiate (2)
- a) Aqueous humor and Vitreous humor
  - b) Thalamus and hypothalamus
- Q7. What are porins? What role do they play in diffusion? (2)
- Q8. Draw a labelled diagram of T.S. of Lenticels. (2)
- Q9. Give the specific scientific terms for the following: (2)
- a) Cluster of ribosomes found in cytoplasm
  - b) Extensive infoldings of the inner membrane of mitochondria.
  - c) Stacks of closely packed thylakoids
  - d) Stalked particles on the inner membrane of the mitochondria

### SECTION – C

- Q10. Differentiate between gymnosperms and angiosperm in relation to the following points: (3)
- i) Female gametophyte
  - ii) Sporophylls
  - iii) ovules
- Q11.i) Write scientific names of following animals: (3)
- a) flying fish
  - b) ostrich
- ii) To which classes above animals belong? Write one-one peculiar feature of each class.
- Q12.i) What are bulliform cells? Mention its important function. (2+1)
- ii) Define stele.
- Q13. Draw a labelled diagram of head region of cockroach. (3)
- Q14. Draw the structures of following amino acids: (3)
- a) Glycine
  - b) Alanine
  - c) Serine
- Q15. a) What is G<sub>0</sub> (quiescent phase) of cell cycle? (3)
- b) What is significance of meiosis?
- Q16. Draw a well labelled diagram of internal structure of flagella. (3)
- Q17. Describe cyclic photophosphorylation in plants. Why this process is called so? (3)

Q18. a) Define RQs. What is its value for fats? (3)

b) What is significance of stepwise release of energy in respiration?

Q19. Explain pressure flow hypothesis for translocation of sugars in plants. (3)

**OR**

Name the two pathways through which water moves in the roots. Also explain them.

Q20. a) Explain briefly how micturition is a reflex process, but is also under some voluntary control.

b) What is column's of Bertini in a kidney? (3)

**SECTION – D**

Q21. Mother used to keep dough in the warm weather for making some dishes. Ankit asked his mother the purpose of this. She replied that it makes the dough soft and spongy but she did not know the reason. Ankit discussed the issue with biology teacher who told that it happens due to fermentation process. (4)

Read the above passage and answer the following questions:

a) What is fermentation?

b) Name one commonly used unicellular organism employed for fermentation.

c) How is fermentation different from aerobic respiration?

d) What are other commercial products produced by fermentation?

**SECTION-E**

Q22. Explain major steps in Kreb's cycle with the help of schematic diagram? Why is this cycle called citric acid cycle? (5)

**OR**

Where does glycolysis occur in a cell? Explain its different steps with the help of schematic diagram.

Q23. a) Explain the process of depolarization of the membrane of a nerve fibre. (2+3)

b) Draw labelled diagram of eye.

**OR**

a) What is the role of Sarcoplasmic reticulum, myosin head and F-action during contractions of striated muscles of human.

b) Name the type of joint between the following:

i) between public bones in the pelvic girdles.

ii) Atlas/axis

iii) Carpal/metacarpal of thumb (3+2)

iv) Between cranial bones

**PART – II**

**(5×2=10)**

**OTBA**

**Theme – 'Long Live Humanity'**

Q1.a) What is graft rejection? (2+3)

b) How can we create awareness among people regarding organ donation?

Q2. Explain any five risk factors for chronic renal failure. (5)