

**Model Question Paper**  
**Class-XI (Regular) (Session : 2020-21)**  
**Subject-Biology**

**Time Allowed : 3 hrs**

**Maximum Marks : 60**

**Note :**

- (i) Question nos 1-5 are of 1 mark each.
- (ii) Questions nos 6-11 are of 1½ mark each.
- (iii) Questions nos 12-15 are of 2 mark each.
- (iv) Question nos 16-23 are 2½ mark each.
- (v) Question nos 24-25 are of 3 mark each.
- (vi) Question nos 26-28 are of 4 mark each.

Other instructions are same

- Questions are PISA based questions.

**Section-A**

**1 Mark each**

**MCQ:**

1. A group of organisms having similar traits of any rank is: 1  
(a) Species (b) Taxon  
(c) Genus (d) Order
2. Aestivation is:- 1  
(a) Arrangement of flower (b) Arrangement of leaf  
(c) Arrangement of sepals or petals (d) All the above
3. The organelle called 'suicidal bags' of cell:- 1  
(a) Mitochondria (b) Ribosomes

- (c) Lysosomes (d) Golgi apparatus
4. Glycolysis occurs in:- 1
- (a) Mitochondria (b) Nucleus
- (c) Chloroplast (d) Cytoplasm
5. Main function of Henles loop is 1
- (a) Formation of urine (b) Passage of urine
- (c) Conservation of water (d) Filtration of blood

**Section-B**

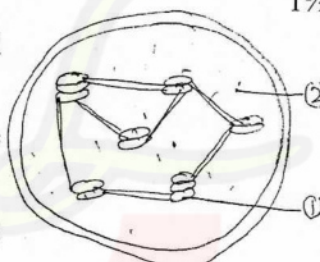
**1½ Mark each**

6. List the main functions of Muscle tissue. 1½

**Or**

List the main functions of connective tissue.

7. What is vital capacity of lung? What are its significance. 1½
8. Examine the figure:- 1½
- (a) Is this structure present in animal cell or plant cell?
- (b) Can there be passed into the progeny?
- (c) Name the metabolic processes taking place in part (1) and (2).



9. Differentiate between Racemose and Cymose inflorescence. 1½

**Or**

Differentiate between epigynous and hypogynous flower.

10. Why mitosis is called equational division? 1½
11. Give functions of ribosomes. 1½
12. Why bryophytes are known as amphibians of plant kingdom? 2

**Or**

What is closed circulatory system? What is its significance.

13. Give four important general characters of Phylum-Arthropoda. 2

**Or**

Give four important general characters of Phylum-Coelenterata.

14. Define Alternation of generation? Explain the diplontic life cycle. 2  
15. Draw well labelled diagram of Mitochondria. 2

**Section-C**

16. Write the Physiological effects of Gibberellins. 2½  
17. Match the following:-  
(a) Eosinophils (i) Coagulation  
(b) RBC (ii) Universal Recipient  
(c) AB group (iii) Resist Infections  
(d) Platelets (iv) Gas transport  
(e) Systole (v) Contraction of heart 2½  
18. Give technical description, floral formula and floral diagram of Family solanaceae. 2½  
19. Differentiate between Mitosis and Meiosis. 2½

**Or**

Differentiate between plant cell and animal cell.

20. What are Enzymes? Explain the nature of enzymatic action and properties. 2½  
21. Give schematic representation of Glycolysis. 2½  
22. Draw a well labelled diagram of internal structure of human heart.

**Or**

- Explain the mechanism of ultrafiltration. 2½
23. (a) Give schematic representation of  $C_3$  cycle.  
 (b) Give one difference between Actinomorphic and zygomorphic symmetry in flower. 2½
24. What is aestivation of flower? Explain with diagram of its different types.
25. Explain the mechanism of muscle contraction in brief. 3

#### Section-D

26. Define Photophosphorylation. Explain non-cyclic photophosphorylation. How it differ from cyclic photophosphorylation? 1+2+1=4
27. (a) Explain the mechanism of transmission of nerve impulse through synaptic-deft.  
 (b) Give main function of Thyroxine Hormone. 3+1=4
- Or**
- (a) Explain the mechanism of Hormone action in humans.  
 (b) Give main role of diaphragm in breathing.
28. (a) What is Rubisco? Define Blackmann's law of limiting factors.  
 (b) If a green plant is placed in air frce of  $O_2$ , would it live longer in light or darkness? Explain.  
 (c) Differentiate between apacarpous and syncarpous ovary. 2+1+1=4