



Jain College, Jayanagar
MOCK PAPER
Subject: I PUC Biology (36)

Duration: 3.15 minutes

Max. Marks: 70

GENERAL INSTRUCTIONS:

- i) This question paper consists of four parts A, B, C and D. Part D consists of two parts, Section-1 and Section-II.
- ii) All the parts are compulsory.
- iii) Draw the diagrams whenever necessary. Unlabelled diagrams or illustrations do not attract any marks.

Part-A

Answer the following questions in *one* word or *one* sentence each:

10x1=10

1. What is *taxon*?
2. Name the gas produced from methanogens present in animals.
3. Why is mosaic vision also called nocturnal vision? Or Define living state.
4. Name the phospholipid found in the cell membrane. Or Name the disorder caused due to the accumulation of uric acid crystals in joints.
5. What happens when fresh grapes are put in sugar solution?
6. State Blackman's law of limiting factors.
7. Calculate RQ value for carbohydrates with an example. Or What are chylomicrons?
8. Name the hormone secreted by the juxta glomerular cells of kidney.
9. What is labyrinth? Or Give an example of a protein that exhibits Quaternary structure.
10. What is a sarcomere? Or Name the end product of protein digestion.

Part-B

Answer any FIVE of the following questions in 3-5 sentences each, wherever applicable:

5x2=10

11. a) Define venation. b) Mention the types of phyllotaxy
12. a) What type of symmetry is observed in Mustard flower ?
b) Name the position of ovary in Guava and Plum.
13. a) What are respiratory substrates? b) What is Krantz anatomy ?
14. Differentiate between cyclic and non cyclic photophosphorylation
15. Mention the role of these microbes in nitrogen fixation in plants a) *pseudomonas* and *thiobacillus*. b) *nitrosomonas* and *nitrococcus*
16. Name the major types of animal tissues. Or Name the different types of teeth.
17. a) Name the red colored pigment present in the muscles. b) Where is hyoid bone present?
18. i) Why are amino acids deaminated in the body ? ii) Name the hormone secreted by JGA

Part-C

Answer any FIVE of the following questions in 40-80 words each, wherever applicable:

5x3=15

19. a) What are Gemmae ? b) What is circinate vernation ? c) Mention the importance of corolloid roots in *Cycas*.
20. a) Give an economic importance of i) *Muliathi* ii) *Indigofera* iii) *Gloriosa*.
b) Give an example for the following condition i) Epipetalous ii) Epiphyllous iii) Polyadelphous.
21. i) What are the modifications that are observed in birds that help them fly ? ii) Name the common Indian earthworm. (2+1)
22. i) Name the three types of cell junctions that are found in the epithelium and other tissues.
ii) What is typhlosole? Name the organ and the animal in which it is found? (1.5+1.5)

23. a) Differentiate between differentiation and redifferentiation.
 b) What is absolute growth rate?
 c) Mention any 2 conditions for Growth. (1+1+1)
24. a) Mention the major pathways of anaerobic respiration.
 b) What is the role of pyruvate dehydrogenase in aerobic respiration? (2+1)
25. Explain the role played by sweat and sebaceous glands in excretion.
26. Draw a neat labelled diagram of axon terminal and synapse. Or What is paurometabolus type of development? In which organism this type of development seen? How many moultings are required to reach the adult form?

Part- D

Section-I

Answer any FOUR of the following questions in 200-300 words each, wherever applicable: 4x5=20

27. Define placentation. Explain any 4 types of placentation with examples
28. a) Write a brief note on activity of Cambial ring. a) What is the function of bulliform cells? Where are there found? (3+2)
29. i) Distinguish between simple gland and compound gland. ii) adipose and areolar tissue. iii) bone and cartilage
30. a) Write a schematic diagrammatic representation of TCA cycle. B) Explain briefly the steps involved in Calvin cycle (2+3)
31. Draw a neat labeled diagram of male reproductive system in frog.
32. a) Explain the mechanism of hormone action. b) Mention the different types of vertebrae found in the vertebral column.

Section-II

Answer any THREE of the following questions in 200-250 words each, wherever applicable: 3x5=15

33. a) Mention the factors affecting enzyme activity. a) What are Co-factors? Give an example for Co-enzymes.
34. a) What are metabolites?
 b) Name the most abundant protein: i) in the animal world. ii) in the whole of biosphere.
 c) Name the purines and pyrimidines present in DNA molecule. (1+2+2)
35. a) Name the organelle which is involved in ATP formation.
 b) What is the function of elaioplasts and aleuroplasts?
 c) What are Kinetochores?
 d) Mention any 2 types of chromosomes based on position of centromere. (1+1+1+2)
36. a) What is Endomembrane system? List them out b) Explain Golgi apparatus with a neat labelled diagram. (2+3)
37. Draw a neat labelled diagram of saggital section of human brain.
