

MODEL QUESTION PAPER -3
FOR REDUCED SYLLABUS 2020-21
SUBJECT: BIOLOGY (36)
1st year PUC

Time: 3 Hours and 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-I and Section-II.**
- ii) All the Parts are Compulsory.**
- iii) Draw diagrams wherever 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. Write the scientific name of mango.
2. Mention the function of flame cells.
3. Name the type of inflorescence in which the main axis terminates in a flower.
4. While describing floral characters, the symbol "♂" is used. What does this represent?
5. Name one structural protein secreted by the cells of connective tissue.
6. What are polysomes?
7. Which polysaccharide is present in the exoskeleton of insects?
8. Which enzyme fixes CO₂ in C-4 pathway in mesophyll cells?
9. Why are neurotransmitters needed for our nervous system?
10. Which contractile protein present in the light band of skeletal muscle?

PART-B

Answer any FIVE of the following questions in 3-5 sentences each, wherever applicable: 5x2=10

11. Mention any two defining properties of life forms.
12. Give two examples for heterosporous pteridophytes.
13. Differentiate between tight and adhering junctions.
14. Write a note on lysosomes.
15. Name the respective stages of meiosis-1 in which synapsis and crossing over occur.
16. Explain the steps of glycolysis in which ATP is utilized.
17. Name the two regions of nephron that play a significant role in concentrating the filtrate or urine.
18. Which hormones are popularly called "hormones of Fight or Flight"?

PART-C

Answer any FIVE of the following Questions in 40-80 words each, wherever applicable: 5x3=15

19. What are photosynthetic autotrophs and chemosynthetic autotrophs? Name the cell of *Nostoc* in which nitrogen fixation takes place.
20. Write the scientific name of i) Tape worm ii) Silk worm iii) Sea Horse
21. Mention the function of i) contractile vacuoles ii) Mesosome iii) SER
22. "Mitosis is absolutely necessary for a diploid organism". Justify this and list out the significance of mitosis.
23. In aerobic respiration, how many ATPs are synthesized when,
i) One molecule of glucose is oxidized?
ii) One molecule of NADH is oxidized?
iii) One molecule of FADH₂ is oxidized?
24. What are actinomorphic and zygomorphic flowers? Give one example for each.
25. Describe renin-angiotensin mechanism.
26. Write a note on troponin.

PART-D

Section-I

Answer any FOUR of the following questions on 200-250 words each, wherever applicable: 4x5=20

27. Mention the different methods by which vegetative, asexual and sexual reproduction takes place in algae.
28. " Birds are very well adapted for aerial mode of life". Justify the statement with any five adaptive characters.
29. Answer the following:
- Differentiate between tendon and ligament. (2)
 - Write a note on compound epithelium. (3)
30. Draw a neat labelled diagram of mitochondria and explain the structure.
31. "The activity of an enzyme can be affected by a change in the conditions like Temperature and concentration of substrate". Explain this with suitable graphical representations.
32. Schematically represent the Z scheme of light reaction.

Section-II

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

33. Name the following: i) the fungus that causes bakane disease ii) stress hormone iii) the PGR that causes apical dominance iv) fruit ripening hormone v) the hormone that helps to overcome apical dominance
34. Explain the transport of carbon dioxide in humans.
35. Draw a neat labelled representative diagram of a section of human heart.
36. i) How the neural system of Hydra is different from the neural system of an insect? (2)
ii) Mention one function each for a) Medulla oblongata b) thalamus c) corpus callosum (3)
37. " Hormones are called intracellular messengers". Justify the statement by giving one each function for i) Thymosin ii) Erythropoietin iii) Estrogen iv) Insulin v) Testosterone.
-