

Model Question Paper - 1

XI

BIOLOGY (Theory)

Time : 3 Hrs.]

[M.M : 70

General Instruction :

- (i) All questions are compulsory.
 - (ii) The questions paper consist of four section A, B, C and D. Section 'A' Contain 8 questions of 1 mark each. Section 'B' is of 10 questions of 2 marks each. Section 'C' has 9 questions of 3 marks each. Section 'D' is of 3 question of 5 marks each.
 - (iii) There is no overall choice. However, and internal choice has been provided in one question of 2 marks. One question of 3 marks and all the three questions of 5 marks.
 - (vi) Wherever necessary, the diagram draw should be neat and properly labelled.
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Section 'A'

1. What is function of mucus present in gastric juice ?
2. In which stage of interphase the amount of DNA doubles per cell.
3. Name the polysaccharide which constitutes the exoskeleton of arthropods.
4. Why do lichen generally grow at high altitude ?
5. Select the uricotelic from the following mammals, birds, Cockroach, reptiles.
6. Which is the lowest category in taxonomic categories.
7. Write the floral formula of family Liliaceae.
8. Define sarcomere.

Section 'B'

9. Write any two differences between a prokaryotic cell and a eukaryotic cell.

10. Illustrate a glycosidic and phosphodiester bond.
11. State the importance of air bladder in pisces.
12. Bile juice contain no digestive enzyme, yet it is important for digestion. Why ?
13. Explain the role played by protein pumps during active transport in plants.
14. State the functions of PCT in our body.
15. How are exarch and endarch conditions differ anatomically in stem and root ?
16. What is the importance of F_0-F_1 particles in ATP synthesis during aerobic respiration ?
17. Define the following : (i) Tidal volume (ii) Inspiratory capacity

OR

Where is Carbonic anhydrase is found ? Write its function.

18. In the given table, showing the name of some hormone and their function. Fill in the blank A to D

Hormone	Function
Prolactin	A
B.	Stimulates Contraction of muscle of uterus during parturition
Thymus	C
D	regulate female sexual behaviour

Section 'C'

19. Give the account of total ATP production in aerobic respiration.
20. (a) How does abscisic acid acts antagonistically to auxin and Gibberellin. ?
 (b) Name the growth regulator used for each of the following.
 (i) ripening of fruits
 (ii) Induce parthenocarpy

21. In what form do plants absorb Nitrogen, Phosphorus and Boron ? List any two role of Potassium in Plants.
22. State the location and function of different types of meristem.
23. How do concentration of substrate affects the activity of an enzyme ?
24. Explain the process of depolarisation of the plasma membrane of a nerve fibre.
25. Differentiate between :
 - (a) Apocarpous and syncarpous ovary
 - (b) Actinomorphic and Zygomorphic flower
 - (c) Racemose and Cymose inflorescence.

OR

Name the three Classes of algae. Write major pigment and food stored in them.

26. (a) Why is mitosis called equational division ?
(b) How does Cytokinesis in plant cells differ from that of animal cells.
27. Where do you find the following and give their function also.
 - (i) Setae
 - (ii) Malpighian tubules

Section 'D'

28. (a) What is blood ? Give the composition of plasma.
(b) Name the three types of Blood cells found in blood. Give their number per mm^3 and also their functions.

OR

- (a) What is Lymph ? Where is it found ?
(b) Describe Mechanism of blood Coagulation that takes place after an injury in our body.
29. (a) What is Chromatin ? Name two components of Chromatin.
(b) Describe four types of Chromosomes with diagram of each.

OR

- (a) What is a mesosome in a prokaryotic cell ? Mention its function.
 - (b) Draw a neat diagram of typical animal cell and label the following parts -
nucleus, mitochondria, ER, centriole,
 - (c) Give one point difference in animal cell and plant cell.
30. Describe the process of CO₂ fixation given by Hatch and Slack

OR

Where does non-cycle photophosphorylation takes place ? Describe this process. Why is this process referred to as non-cyclic ?