

SECTION - A

Q. 1. Name the growth-regulator which was first isolated from corn kernel and coconut milk. **1**

Q. 2. Which category of adaptive immunity is provided by vaccination? **1**

Q. 3. What are the two primary requirements of a parasite from its host? **1**

Q. 4. Mention any two functions of hydrochloric acid in gastric juice. **1**

Q. 5. If, for any reason, the release of ADH is inhibited, how will this affect the volume of urine produced? **1**

SECTION - B

Q. 6. Name and describe the two phenomena exhibited by praying mantis and leaf insect to avoid detection. **2**

Q. 7. What is chloride shift? Write its significance during respiration. **2**

Q. 8. What is meant by total fertility rate? How does it differ from replacement level? **2**

Q. 9. Which type of conservation measures, in situ or ex situ, will help greater number of species and why? **2**

Q. 10. What is prosthesis? Give one example. **2**

Or

What is the basis of classifying cancers? List any two categories of cancers.

Q. 11. Two potted plants were kept in an oxygen-free environment in transparent containers, one in total darkness and the other in sunlight. Which one of the two is likely to survive more? Justify your answer by giving the reason. **2**

Q. 12. What makes the synovial joint freely movable? List any two types of synovial joints. **2**

Q. 13. What is morphallaxis? How does it differ from epimorphosis? **2**

Q. 14. What is meant by genetically modified crops? How does the genetically modified food primarily differ from the food prepared from the produce of conventionally developed varieties? **2**

Q. 15. Differentiate between apoplastic and symplastic movement of water in flowering plants. **2**

SECTION - C

Q. 16. Name the site of nitrogen fixation in legumes. List and describe the bio- chemical components at this site. **3**

Q. 17. What is inbreeding and interspecific hybridisation in animals? Give one example of each. **3**

Q. 18. Define ecological succession. Give four differences between seral stage and the climax community during succession. **3**

Q. 19. Why is it generally difficult to transplant organs from one person to another? How is this difficulty now overcome? **3**

Q. 20. How does mutualism differ from commensalism? Give one example of each. **3**

Or

(a) What is primary productivity? In what units could you express productivity?

(b) Explain the difference between net primary productivity and gross primary productivity.

Q. 21. Explain the terms "primary lymphoid organs" and "secondary lymphoid organs" with suitable examples. **3**

Q. 22. Trace the development of the female gametophyte from a megaspore mother cell in a flower. Give a labelled diagram of the final stage of the female gametophyte. **3**

Q. 23. What is the significance of photolysis of water in photophosphorylation? What happens to each product in this process? **3**

Q. 24. What type of osmoregulatory challenge is faced by (i) marine bony fishes and (ii) freshwater fishes? What adaptations have they evolved to meet these challenges? **3**

Q. 25. Draw a diagram to show the internal structure of human heart Label only one heart chamber, any two heart valves and any three other structures. **3**

SECTION - D

Q. 26. Explain the role of the following in hormones/proteins with reference to hormonal control of human male reproductive system **5**

(i) GnRH

(ii) LH

(iii) Testosterone

(iv) FSH

(v) Inhibin

Or

Where does oogenesis occur in humans? Describe the stages of the process

Q. 27. What is meant by 'reflex action' Give one example Name the components of a reflex arc in proper sequence from the receptor upto the effector. Support your answer by a diagram. **5**

Q. 28. What happens to the acetyl group that enters the Krebs cycle? Describe the steps of this cycle which follow **5**