

Q. 1. Name the system, which provides an accessory route for the flow of interstitial fluid into the blood. (1)

Q. 2. Name the two hormones which control blood glucose level through their antagonistic effect. (1)

Q. 3. Why does failure of testes to descend into the scrotum produce sterility? (1)

Q. 4. Why is blue baby syndrome considered to be fatal for infants? (1)

Q. 5. What is meant by carrying capacity of the environment? (1)

SECTION - B

Q. 6. Why is the water movement blocked through the cell wall beyond the end o dermis and is forced to move through the cell membrane in the plant roots? Name the two corresponding pathways of water movement. (2)

Q. 7. List the three major requirements for biological nitrogen fixation in a root nodule. What is the end product? (2)

Q. 8. Name and explain the type of nutrition found in Ascaris and rabbit respectively. (2)

Q. 9. Why can a red muscle fibre work for a prolonged period, while a white muscle fibre suffers from fatigue after a short duration of work? Explain (2)

Q. 10. Which type of plants show successful grafting? Why is it so? (2)

Q. 11. Why is abscisic acid considered antagonistic in its effect to that of gibberel lins? Give two reasons. (2)

Q. 12. What are “keystone” species? What is the influence of their removal on the community characteristics? (2)

Q. 13. List any four factors which may lead to loss of biodiversity. (2)

Q. 14. Name the two main categories of mutagens. Give one example of each. (2)

Or

What is interspecific hybridization ? Give -one example of a crop in which it is practised and mention one advantage derived from it.

Q. 15. Write the full name of EEG Explain its working in brief. (2)

SECTION - C

Q. 16. What are the two main components which together form a photosystem in thylakoids? Mention their role. (3)

Q. 17. Draw a schematic labelled diagram to show the ATP synthesis by inner membrane particles of mitochondrion. (3)

Q. 18. Describe how carbon dioxide f from the tissues to the lungs in humans. (3)

Or

How is the carbon dioxide released from the blood into the alveoli of lungs? Explain.

Q. 19. Explain the saltatory conduction of nerve impulse through an axon. (3)

Q. 20. Name the two types of induted movements of curvature occuring in plants, produced in response to external stilfiull Explain them with one example of each (3)

Q. 21. Briefly describe the stages of spermatogenesis in humans (3)

Q. 22. Explain the significance of thermal stratification in a lake with reference to winter, summer and spring seasons. (3)

Q. 23. Why is it recommended to integrate commercial forestry practices in the forest conservation and management programme? Explain the two programmes practised under this category. (3)

Q. 24. What is a Genetically Modified crop? Mention two advantages of developing such crops over the conventional breeding methods. (3)

Q. 25. Why is suspension culture constantly agitated? Give three reasons. (3)

SECTION - C

Q. 26. List any four differences between non-cyclic and cyclic photophosphorylation. Do they both occur simultaneously in the chioroplast? Give reason. (5)

Or

Explain the involvement of two cell types in the C plants in avoiding the occur rence of photorespiration.

Q. 27. Describe the changes which the glomerular filtrate undergoes as it passes down the various regions of a nephron in humans to form urine. (5)

Or

- i. Where and how is the cardiac impulse generated in human heart? Explain.
- ii. How does this impulse travel to the different chambers of the heart?

Q. 28. How is specific immunity generated in our body? Why is specific immunity considered to be unique in its function? Write any four features of this type of immunity. (5)

Or

What is meant by sustainable agriculture? Give any three reasons why sustainable agriculture is considered environment-friendly. Mention any two ways how bio technology can contribute to sustainable agriculture.