GULF SAHODAYA EXAMINATION, SAUDI CHAPTER, FEBRUARY- 2007

BIOLOGY

CLASS: XI

TIME: 3HRS
MARKS: 70

SET – A

GENERAL INSTRUCTIONS:

(i) This question paper consists of four sections A,B,C and D. Section A contains 5 questions of one mark each, Section B is of 10 questions of two marks each, Section C is of 10 questions of three marks each and Section D is of 3 questions of five marks each.

(ii) All questions are compulsory.

(iii) There is no overall choice. However, an internal choice has been provided in one question of 2 marks, one question of 3 marks and all three questions of 5 marks weight age. Attempt only one of the choices in such questions.

(iv) Question numbers 1 to 5 are to be answered in one word or one sentence each.

(v) Question numbers 6 to 15 are to be answered in approximately 20 – 30 words each.

(vi) Question numbers 16 to 25 are to be answered in approximately 30 – 50 words each.

(vii) Question numbers 26 to 28 are to be answered in approximately 80 – 120 words each.

Section A (1 x 5 = 5 marks)

1. State two uses of heterotrophic bacteria.
2. Why do cartilaginous fish swim continuously?
3. A bacterium retains purple colour after Gram's staining. List two characteristics of its cell wall.
4. Name the type of coelom in the following: (i) Round worm (ii) Flat Worm
5. Differentiate between guttation and transpiration with reference to special openings or pores through which water is lost.

Section B (2 x 10 = 20 marks)

6. Differentiate bone and cartilage giving atleast two points of differences.
7. Give reasons to justify that potato is a stem and not a root.
8. Name the specific tissue that lines the bronchioles. State one advantage of this tissue being present there.
9. Why do golgi bodies remain in close association with Endoplasmic Reticulum?
10. How does Anaphase of Mitosis differ from Anaphase of Meiosis?
11. An animal cell kept in hypotonic solution bursts but a plant cell does not. Explain.
12. State the importance of C_4 pathway in tropical plants.
13. What changes does pyruvate undergo before it enters the Kreb's cycle.

    (or)

    State the role of $F_0 - F_1$, particles and $NADH_2$ in oxidative phosphorylation.
14. How would it affect digestion, if there is a blockade in the bile duct?
15. How does Functional Residual Capacity differ from Residual Volume?

Section – C (3 x 10 = 30 marks)

16. Write four differences between the animals of platyhelminthes and those of Aschelminthes. Give an example of each.
17. Differentiate between the anatomy of a dicot stem and that of a monocot stem, with reference to the following:
    (i) Epidermis
    (ii) Hypodermis
    (iii) Vascular Bundles
18. Describe the reproductive organs of a male cockroach.
19. Both lysosomes and vacuoles are endomembrane structures, yet they differ in terms of their functions. Comment.
20. Name the three substages of Interphase and enumerate the events in each of them.
21. Give an illustration of the main steps of Glycolysis.
22. List four physiological functions of Gibberellins? Mention any two applications of Gibberellins.

    (or)

    Give the chemical names and state one function of each of the following:
    (i) Natural Auxin
    (ii) Synthetic Auxin
    (iii) Gaseous Plant harmone
23. Describe the role of heamoglobin in transport of carbon dioxide from tissues to the lungs.
24. Draw a neat diagram of a section of Human eye and label any six parts.
25. Explain the role of JGA in regulation of kidney function.

Section D(5 x 3 = 15 marks)

26. Describe the stages of Prophase I in detail.

    (or)

    (i) Describe the structure of a chloroplast with the help of a diagram.
    (ii) Name two types of leucoplasts and state their function.
27. Explain the mechanism of photorespiration. Name the cell organelles involved in the process. In what way does it cause loss to C_3 plants?

    (or)

    (i) Briefly describe the steps of C_3 pathway with the help of an illustration.
    (ii) State its significance.
28. What is cardiac cycle? Explain the different steps involved in the pumping action of the heart during a single cardiac cycle.

    (or)

    Describe the mechanism of urine formation with the help of a diagram.