

GULF SAHODAYA EXAMINATION (SAUDI CHAPTER)

2008-2009

XI BIOLOGY

Time- 3 Hours

Max. Marks-70

SET-A

General Instructions:

- I. All questions are compulsory.
- II. The question paper consists of four sections A,B,C,&D. Section A contains 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 whereas Section D is of 3 questions of 5 marks each.
- 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 the three questions of 5 marks weightage. A student has to attempt only one of the alternatives in such questions.
- IV. Wherever necessary, the diagrams drawn should be neat and properly labeled.

SECTION-A

1. Following are the taxonomic categories. Give their hierarchical arrangement in ascending order.
Order, Genus, Family, Class, Species, Phylum 1
2. What are co-enzymes? Give an example. 1
3. What are cartilaginous joints? Where they are located in our body? 1
4. State the function of leg-haemoglobin during nitrogen-fixation by Rhizobium in the root nodules of a leguminous plant. 1
5. What are conjoint vascular bundles? 1
6. Define the term 'Vernalization'. 1
7. What is CCK? State its function. 1
8. What is hypogynous flower? How its ovary is represented in floral formula? 1

SECTION-B

9. Mention any four characteristics of Cyanobacteria. 2
10. Name the cells in gastric glands responsible for the secretion of HCl.
State the role of HCl in our stomach. 2
11. Bring out the differences between the structure and function of root hairs and trichomes. 2
12. Give the schematic representation of cyclic photophosphorylation. 2
13. What are cell junctions? State the function of gap junctions. 2
14. Few gaps have been left in the following table. Fill up the gaps, A,B, C,D.

Class	Major pigment	Reserve food	Example
Chlorophyceae	A	Starch	Spirogyra
Phaeophyceae	Chl. a, & c. and Fucoxanthin	B	Laminaria
Rhodophyceae	C	Floridean starch	D

15. What are essential and non-essential amino acids? 2

OR

Both cellulose and starch are polymers of glucose. Starch gives blue colour with iodine but the cellulose does not give blue color with iodine.

Give reason. 2

16. What is the significance of cell division-Meiosis? 2
17. State the four identifying features of phylum Chordata. 2
18. Both lysosomes and vacuoles are endomembrane structures.
In what way they differ from each other in terms of their function. 2

SECTION-C

19. Explain the mechanism of breathing in humans under normal conditions. 3
20. State any six functions of PGR-Auxins. 3

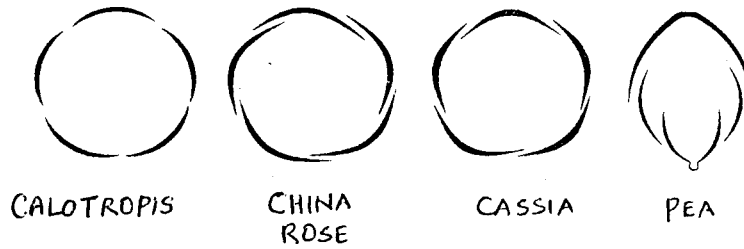
21. What is Endoplasmic reticulum (ER)?

State the differences between RER and SER.

3

22. What is Aestivation? Identify the type of aestivation in corolla of the given examples and define each of them.

3



23. What is reflex action? Explain the mechanism of knee jerk reflex with the help of a diagram showing reflex arc.

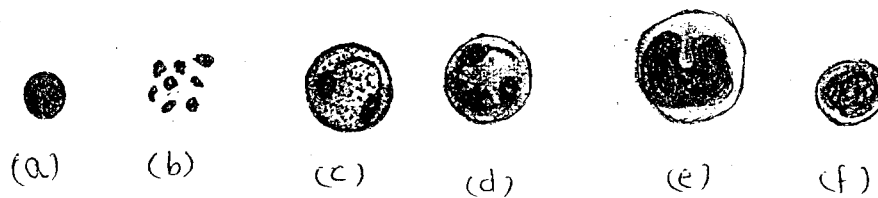
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24. What is Transpiration? How is it useful to plants?

3

25. Observe the given diagrams. Identify the different types of blood cells and mention one major function of each of them.

3



26. What is periderm? How periderm formation does takes place in the dicotyledonous stem?

3

27. Describe Calvin cycle (C₃ Pathway) with the help of its schematic representation.

OR

Describe Hatch-Slack pathway (C₄ Pathway) with the help of its diagrammatic representation.

3

SECTION-D

28. Describe the events taking place in an animal cell during Prophase I of Meiosis I.

OR

Describe the events taking place in an animal cell during cell division- Mitosis. 5

29. Give the schematic representation of Glycolysis or EMP Pathway highlighting the steps at which utilization or synthesis of ATP or NADH+H take place.

OR

Explain Electron Transport System (ETS) and consequent synthesis of ATP in Mitochondria during aerobic respiration. 5

30. Describe the structure of a nephron with the help of a diagram. Write a note on the three main processes involved in the formation of urine.

OR

Draw a neat and labeled diagram of human urinary system. Write a note on the role of ADH, JGA, and ANF in regulating kidney functions. 5