

COUNCIL OF CBSE AFFILIATED SCHOOLS IN THE GULF

GULF SAHODAYA EXAMINATION, SAUDI CHAPTER 2008

ClassXI

SUBJECT : BIOTECHNOLOGY

Max Marks : 70

Time : 3 Hrs

General Instructions:

1. All Questions are compulsory
2. Question paper contains four sections- A, B, C and D.
3. There is no overall choice. However, an internal choice has been provided in one question of three marks and two questions of five marks. You have to attempt only one of the choices in such questions.
4. Question numbers 1-5 are very short answer questions, carrying 1 mark each
5. Question numbers 6-15 are short answer questions, carrying 2 marks each
6. Question numbers 16-25 are also short answer questions, but carrying 3 marks each
7. Question numbers 26-28 are long answer questions, carrying 5 marks each
8. Use of calculator is not permitted, however you may use log tables, if necessary.

SECTION-A (1 mark)

1. State Mendel's Law of dominance.
2. What are peroxisomes.
3. What is anomeric carbon?
4. Define patent.
5. What is Sangers reagent?

SECTION-B (2 marks)

6. What causes Foam formation during fermentation and how can it be controlled.
7. Why has nature selected against uracil in DNA?
8. How is regulation of water brought about in fishes.
9. Give two reasons that convert a proto-oncogene to oncogene.
10. Show a dihybrid cross between homozygous round, yellow seeds and wrinkle, green seeds in pea plant and mention the Mendel's law it follows.
11. What are the types of chromosome mutations.
12. List down any four biological inventions that can be patented.

13. Define Fermentation and Differentiate between homo-fermentation and hetero-fermentation.
14. Briefly describe the connective tissue-Bone.
15. What is karyotyping, which stage of chromosomes are used in this process, How are cells obtained for karyotyping.

SECTION-C (3 marks)

16. Write a note on Signal Transduction.
17. Sketch out the primitive pathway of glucose catabolism, and mention the amount of ATP generated.
18. Muscle is a tissue, which is unique to animals and plays a leading role in the mobility of animals. Explain.
19. Describe the Ninhydrin test for amino acid identification.

OR

Write a note on signal transduction.

20. What is Nitrogen fixation, Show the cycle depicting transformation of Nitrogen in nature.
21. Explain fluid mosaic model of cell membrane and write any two functions of the membrane.
22. Draw a neat labelled diagram of a fermenter, and add a note on its parts.
23. What are antibodies, describe the structure of an antibody with the help of a neat labelled diagram.
24. Describe the method used to create morphological mutations in plants
25. Explain Meselson and Stahl's Experiment to prove Semi-conservative replication.

SECTION-D (5 marks)

26. Enlist the different techniques used in separation of bio molecules. Elaborate on separation using isoelectric focusing and ion exchange chromatography.
27. How will a E.coli cell regulate its gene expression in presence and absence of lactose. Explain with suitable diagrams.

OR

Define mutation and explain the molecular mechanism of mutation.

28. Bring out the steps involved in Meiosis with relevant diagrams.

OR

Explain regulation of cell cycle and add a note on the check points in cell cycle.