COUNCIL OF CBSE AFFILIATED SCHOOLS IN THE GULF
GULF SAHODAYA EXAMINATION – 2007, SAUDI CHAPTER

SUBJECT : BIOTECNOLOGY **Time : 3 Hrs**
CLASS XI **Max Marks : 70**

General Instructions:

1. **Question Paper has four sections – A, B, C, D**
2. **All questions are compulsory.**
3. **An internal choice has been provided in one question of Section C and two questions of Section D. You have to answer only one of the questions.**
4. **Section A – Very Short answers – 1 mark each.**
   Section B – Short answers - 2 marks each.
   Section C – Short answers - 3 marks each.
   Section D – Long answers – 5 marks each.
5. **Calculators not permitted. Log tables can be used if necessary.**

SECTION – A (1 mark)

1. **Name the reagent used in Edman's reaction in protein sequencing.**
2. **The Osmotic pressure of a solute is determined. How will you use it to find the Molecular weight of the solute.**
3. **Give the role of single – strand binding proteins in DNA Replication.**
4. **Mention the two sources of cell for performing Karyotyping.**
5. **Name any two means for exchange of gas in higher organisms.**

SECTION – B (2 marks)

6. **Why should water be regulated in cells ?**
7. **Give the location, function and repeating unit of peptidoglycan .**
8. **Using a flow chart explain the phenomenon of incomplete dominanace taking the example of flower colour in four o'clock plant.**
9. **Name the four dyes used in fluorescent microscopy.**
10. **In chromosomal mutations what happens during deletion and duplication.**
11. **Write a short note on Golgi apparatus.**
12. **Give the Michael – Menton equation and mention what each term represents.**
13. **In proteins, what do you understand by β-pleated structure.**

14. **Discuss the principle and use of phase contrast microscope.**

15. **Give the stoichiometric equation for the growth and product formation of microbial organisms.**

SECTION – C (3 marks)

16. **List the three ways in which light plays a role in photosynthesis.**

17. **Mention the reactions (any 3) in which Kreb's cycle has an anabolic role.**

18. **Name the four compounds used to construct polyacrylamide gel and mention the role of SDS in seperation of proteins.**

19. **Write a short note on Lysosomes.**

20. **List the basic steps involved in DNA isolation from plant tissues.**

21. **Explain bacterial transformation as demonstrated by Griffith.**

22. **Write a short note on the growth media of micro-organisms involved in fermentation.**

(OR)

Give a schematic representation of the peptide bond.

23. **How is allele frequency represented in population genetics.**

24. **Highlight the three post-trancriptional modifications that give rise to a mature RNA.**

25. **Write a short note on Tumour suppressor genes.**

SECTION – D (5 marks)

26. **Protein synthesis involves Initiation, Elongation and Termination – give a detailed account.**

27. **With the help of reactions mentioning the names of enzymes, explain only the catalytic pathway of TCA cycle.**

(OR)

Explain the glycolytic pathway with reactions and enzymes involved in it.

28. **(i) Draw the cell cycle.**

(ii) G 1 phase is of great interest. Why?

(iii) Mention the three checkpoints at which cell cycle is regulated.

(OR)

Enumerate the five stages of Mitosis with diagrams.