

INTERNATIONAL INDIAN SCHOOL – DAMMAM
SECOND TERM EXAMINATION – NOV-2017
CLASS: XI - BIOTECHNOLOGY

Time Allowed: 3 Hrs

Total Marks: 70

General Instructions:

- (1) All questions are compulsory.
- (2) There is no overall choice. However internal choice has been provided in one question of three marks and one question of five marks. You have to attempt only one of the choices in such questions. Question paper contains four sections – A, B, C and D
- (3) Question numbers 1 to 6 are very short answer questions, carrying 1 mark each.
- (4) Question numbers 7 to 14 are short answer questions, carrying 2 marks each.
- (5) Question numbers 15 to 25 are also short answer questions, but carrying 3 marks each.
- (6) Question numbers 26 to 28 are long answer questions, carrying 5 marks each.

SET A

Section – A (1 Mark)

1. Define diazotrophs.
2. Explain the action of T cells.
3. Draw the structure of nucleotide.
4. Define pI value.
5. Why a group of immune cells named “natural killer”?
6. Write the mRNA sequence of given DNA sequence.
5' ATGCCGTAGCGTAGCTAGCCTTGA 3'

Section – B (2 Marks)

7. Schematically represent cyclic photophosphorylation.
8. Tropical plants would face more loss of energy due to photorespiration. Fortunately these plants do not have photorespiration. Explain
9. Study of protein structure is important to understand its function. Justify.
10. What is the role of incubator in invitro cell culturing.
11. Enzymes are able to enhance reaction rates. Explain with example.
12. Antigen antibody reaction is specific. Explain
13. Draw clover leaf structure of tRNA.
14. Illustrate the steps of nucleotide excision repair mechanism

Section – C (3 Marks)

15. Explain the role of LAF in invitrocell culturing.
16. Explain the process of phagocytosis.
17. Outline the prominent features of a genetic code.
18. Diagrammatically show various kinds of chromosomal structural mutations.
19. Explain briefly the stem cell technology.

OR

Define PCD.Explain the basic steps of apoptic death of a cell.

20. Draw a neat labeled diagram of nitrogen cycle.
21. Explain the three forms of RNA.
22. Differentiate between humoral and cell mediated immune response
23. Explain the various steps in invitro cell culturing.
24. How gene expression regulated in prokaryotes. Explain with an example.
25. Write a short note on amino acids. Draw the structure of any two amino acid.

Section – D (5 Marks)

26. Briefly explain any three biochemical technique for the purification of proteins during DSP

OR

Explain briefly the applications of invitro cell culturing

27. Explain meselson and stahl experiment to prove semi conservative mode of DNA replication.

OR

Define reducing sugar. Explain disaccharide formation with the help of diagram

28. Explain TCA cycle with diagram.

OR

With the help of a neat labeled diagram explain the basic process of translation
