

INTERNATIONAL INDIAN SCHOOL – DAMMAM
MODEL EXAMINATION – 2017-2018
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 two questions 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 gene mapping
2. Why proteins are diverse in nature.
3. Define epitope
4. What is the function of Ig G antibody?
5. What is the function of SSB proteins during DNA replication?
6. Name the technology that involves manipulation and manufacture of ultra-small structures. Give one application of the technology.

Section – B (2 Marks)

7. What does prefix D denotes in sugars.
8. Write four criteria for which gene frequencies to remain constant generation after generation.
9. Differentiate between dominant character and recessive character.
10. Explain the action of B- cells.
11. What are the considerations to be followed while selecting a nutrient media?
12. Write a short note on antigens.
13. Explain the role of biotech in improving nitrogen fixation in crop plants.
14. What is meant by incomplete dominance?

Section – C (3 Marks)

15. What is the importance of crossing over in inheritance?
16. Explain the structure of antibody with the help of a diagram.
17. Explain briefly the process of downstream processing.
18. Explain carbon dioxide assimilation during dark reaction.
19. Briefly explain the method of isoelectric focusing.
20. Explain the method of protein sequencing.

OR

Explain wobble base pairing with the help of a diagram.

21. Explain the structure and role of ribosomes during translation.
22. Differentiate between reducing and non-reducing sugars.
23. Write a short note on biosensor.
24. Explain the classification of polysaccharides.
25. Write a short note on design of fermenter.

Section – D (5 Marks)

26. Write a short note on carbohydrates and their classification. Draw any two anomeric forms of carbohydrates.
27. Define metabolism. Draw a flowchart of glycolytic pathway.

OR

Briefly explain Hershey- chase experiment with diagram.

28. With the help of a monohybrid cross explain the Mendel's law of segregation.
