Roll No. ☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (BT) (2018 Batch)   (Sem.–3)
FOUNDATIONS OF BIOTECHNOLOGY
Subject Code : BTBT302-18
M.Code : 76946

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Answer briefly :

1. What is your perception about traditional and modern biotechnology?

2. Define the following terms :

   cytoplasm and cytosol.

3. State briefly the principle and uses of affinity chromatography.

4. Give a brief account of bio-pharmaceuticals.

5. What do you mean by interphase and M-phage of cell cycle?

6. Give a precise account of non-conventional energy sources.

7. Write the mode of action of Penicillin and Tetracycline.

8. Explain why all enzymes are not proteins.

9. Give a brief account of gene therapy.

10. Give a list of any five human pathogens and the related diseases.

SECTION-B

11. "*Biotechnology: a three-component central core*". Elucidate the statement.

12. "*Prokaryotic and eukaryotic cells vary with regard to their shape and size*". Elaborate.

13. Give a precise account of monoclonal antibodies and their applications.

14. Depict the salient attributes of any five food-grade enzymes.

15. Comment on any two successful case studies on modern plant biotechnology.

SECTION-C

16. Write precise notes on 'Subcellular Fractionation' and 'Gel Filtration Chromatography'.

17. Give a comprehensive account of different microbial vaccines.

18. What is the necessity of enzyme engineering? State the concerns related to GMOs.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.