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

Total No. of Questions : 18

B.Tech. (BT) (2018 Batch)   (Sem.–4)
CELL & MOLECULAR BIOLOGY
Subject Code : BTBT-403-18
M.Code : 77588

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.   Outline the major differences between animal and plant cells.

2.   What do you mean by growth, differentiation and development?

3.   Differentiate between A- and B-form of DNA.

4.   Illustrate the molecular aspects of nucleosome architecture.

5.   Comment on the proof-reading activity of DNA Polymerases.

6.   Elucidate the meaning of codon degeneracy with examples.

7.   Write a brief note on RNA editing.

8.   What are the major differences between replication and transcription?

9.   Write briefly on the major checkpoints of mammalian cell cycle.

10.   Explain why apoptosis is an important biological process.

SECTION-B

11.   Give brief accounts on the following :

      Lysosome and Extracellular matrix (ECM).

12.   Depict the mode of bacteriophage λ genome replication during lytic cycle.

13.   Write a comprehensive note on prokaryotic and eukaryotic gene promoters.

14.   Explain why the *lac* operon is subject to both positive and negative regulation.

15.   Write a comprehensive note on the phenomenon of RNA interference.

SECTION-C

16.   Illustrate the structural attribute and biological role of the cytoskeletons.

17.   Depict the process of both prokaryotic and eukaryotic translation initiation.

18.   Write comprehensive notes on Tyrosine Kinases and Ion channels.

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.