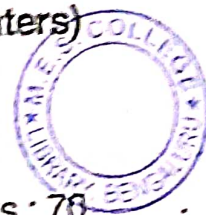


SM – 406

IV Semester B.Sc. Examination, May/June 2018
(CBCS – 2015 – 16 and Onwards /2012-13 and Onwards) (Fresh + Repeaters)

Biotechnology – IV
MOLECULAR BIOLOGY



Time : 3 Hours

Max. Marks : 70

Instruction : Draw neat labelled diagrams wherever necessary.

SECTION – A

I. Write short notes on the following.

(5×2=10)

- 1) Hfr cells
- 2) Catabolite repression
- 3) tRNA
- 4) SSB
- 5) Polycistronic mRNA.

SECTION – B

II. Answer any four of the following.

(4×5=20)

- 6) Describe mismatch repair mechanism.
- 7) Explain the structure of prokaryotic gene.
- 8) Write a note on transposable elements in Drosophila.
- 9) Describe the events at the replication fork.
- 10) Write a note on genome organization in chloroplast.

SECTION – C

III. Answer any three of the following.

(3×10=30)

- 11) Describe the process of gene regulation in eukaryotes.
- 12) Write notes on :
 - a) Transformation
 - b) Generalized transduction

P.T.O.



- 13) Give a comparative account of different forms of DNA.
- 14) Describe the process of translation in prokaryotes.
- 15) Give an account of transcription in eukaryotes.

SECTION – D

IV. Answer the following in **one** word or a sentence **each**.

(10×1=10)

- 16) Name the organism which has RNA as a genetic material.
 - 17) What is the significance of 5'/cap in eukaryotic mRNA.
 - 18) Name the enzyme involved in excision repair.
 - 19) Who identified transforming principle in bacteria ?
 - 20) Name the scientists who proved semiconservative mode of DNA replication.
 - 21) UGA code stands for which aminoacid in mitochondria ?
 - 22) What is primer ?
 - 23) Give an example for inducible operon.
 - 24) Write the complimentary sequence for the template strand 5'TTACCGA3'.
 - 25) What is shine-Dalgarno sequence ?
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