



DBK-003-1133002

Seat No. _____

M. Sc. (Sem. III) (CBCS) Examination

June - 2022

Biotech : BT-312

(Molecular Biotechnology - II)

Faculty Code : 003

Subject Code : 1133002

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

Instruction : Attempt any five questions.

- 1 Answer the following : (each of 2 marks) 14
- (1) Give a role of prey protein in Y2H system.
 - (2) Give principle of southern hybridization.
 - (3) What is “npt-II” : Discuss in brief.
 - (4) Give principle of EMSA.
 - (5) What is luciferase ?
 - (6) Give principle of western hybridization.
 - (7) Give principle of S1 nuclease mapping.
- 2 Answer the following : (each of 2 marks) 14
- (1) What is a role of foot printing reagent in a DNA-protein and protein – protein interaction ?
 - (2) What is GST (Glutathione- S-transferase) fusion protein ?
 - (3) What are molecular chaperones ?
 - (4) Give principle of northern hybridization.
 - (5) What is protein folding ?
 - (6) What is β galactosidase ?
 - (7) What is “cat” : Discuss in brief.
- 3 Answer the following : (each of 7 marks) 14
- (a) Write a note on drug design approach using antisense RNA technology.
 - (b) Explain random mutagenesis.

- 4 Answer the following : (each of 7 marks) **14**
(a) Write a note on Design of Primers from amino acids sequences.
(b) Explain in detail DNase I footprinting.
- 5 Answer the following : (each of 7 marks) **14**
(a) Write a note on DNA-Protein cross linking assay.
(b) Write a note on RT-PCR.
- 6 Answer the following : (each of 7 marks) **14**
(a) Write a note on Yeast-2-hybrid system.
(b) Explain in detail Yeast-3-hybrid.
- 7 Answer the following : (each of 7 marks) **14**
(a) Explain chemical cross linking.
(b) Explain Chloramphenicol acetyl transferase in detail.
- 8 Answer the following : (each of 7 marks) **14**
(a) Describe in detail β -galactosidase as a reporter gene.
(b) Write a note on in-vitro protein folding.
- 9 Answer the following : (each of 7 marks) **14**
(a) Write a note on assisted protein folding.
(b) Write a note on Rational of protein engineering.
- 10 Answer the following : (each of 7 marks) **14**
(a) Write a note on northern hybridization.
(b) Describe peptide sequencing and synthesis in detail.
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