

Seat No. : _____

DL-101

December-2021

B.Sc., Sem.-III

CC-202 : Biotechnology (Methods in Biotechnology)

Time : 2 Hours]

[Max. Marks : 50

- Instructions :**
- (1) Draw figures wherever necessary.
 - (2) Write question number against each answer.
 - (3) Answer any **three** out of initial **eight** main questions.
 - (4) Question – **9** is compulsory.

Section – I

1. (A) Explain gel permeation chromatography. 7
(B) Write the principle and partition coefficient of chromatography. 7
2. (A) Give a brief account of PAGE technique. 7
(B) Write the principle and applications of UV-vis Spectroscopy. 7
3. (A) Differentiate ELISA and RIA. 7
(B) Write about seven commonly used radioisotopes and its uses. 7
4. (A) Discuss construction and principle of Geiger-Muller Counter. 7
(B) Write about bioassay of one growth promoter. 7
5. (A) Explain properties of denaturated DNA. 7
(B) Write about steps of PCR. 7
6. (A) Explain Southern blotting technique. 7
(B) Write a note on microarray and its applications. 7
7. (A) Write steps in plant tissue culture. 7
(B) Explain types of animal cell culture. 7

8. (A) Write about secondary screening. 7
(B) Explain different methods of preserving cultures of industrial microbiology. 7

Section – II

9. Answer any **eight** of the following : 8
- (1) Define Beer-Lambert's law.
 - (2) What is Stoke's law ?
 - (3) Write two applications of IR spectroscopy.
 - (4) What is HPLC ?
 - (5) What is reverse osmosis ?
 - (6) What is RAST ?
 - (7) Write chemical reaction of Luciferase enzyme.
 - (8) What is half life ?
 - (9) The number of protons or atomic number is reduced to 2 by which form of radioactive decay ?
 - (10) What is Dosimetry ?
 - (11) What is radiotracer ?
 - (12) In Western blot _____ is used as a probe.
 - (13) RT-PCR stands for _____ .
 - (14) What is RNA probe ?
 - (15) What is Ouchterlony ?
 - (16) What is plaque assay ?
 - (17) What is strain improvement ?
 - (18) Give an example of cryopreservative agent.
 - (19) What is lyophilization ?
 - (20) What is cytopathic effect ?
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