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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(Biotechnology) (Sem.-6)
BIOANALYTICAL TECHNIQUES
Subject Code : BTBT-605
M.Code : 71076

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION 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**Q1. Answer briefly :**

- a) What is a Geiger-Muller counter?
- b) Explain Beer-lambert law.
- c) What is retention time in chromatography?
- d) Briefly explain FIGE technique.
- e) What is differential centrifugation?
- f) What is isoelectric focusing?
- g) Give applications of Ion-Exchange Chromatography.
- h) Write short note on Polyacrylamide Gel Electrophoresis.
- i) Briefly Types of radioactive decay.
- j) What is capillary electrophoresis?

SECTION-B

- Q2 Describe the underlying principle of AFM. Describe the uses of AFM.
- Q3 Describe the different types of columns used in gas chromatography.
- Q4 Explain working principle and components of NMR. Describe its applications.
- Q5 Describe the technique of western blot in detail.
- Q6 Give the classification of different types of objective lenses used in Light Microscopy. Which is the best lens and why?

SECTION-C

- Q7 What is electron microscopy? How is contrast generated in specimens of electron microscopy? Compare magnification and resolution of electron microscopy and light microscopy
- Q8 a) Explain the principle and working of X-Ray crystallography. Briefly describe its applications.
- b) Write principle, construction and applications of stereo microscope.
- Q9 Explain the principle and working of IR spectroscopy. List the types of detector used in IR and explain them in detail.

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.