

Roll No.

--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (Biotechnology) (2012 Onwards) (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**Answer briefly :**

1. What is relative centrifugal force?
2. Define resolution of a microscope.
3. What is the importance of SDS in SDS-PAGE?
4. Define distribution coefficient.
5. Define Beer-Lambert law.
6. What is the application of infrared spectroscopy?
7. Define isotopes.
8. What is the application of CD spectroscopy?
9. What type of mobile phase is used in GC?
10. What are the different types of rotors used in centrifugation?

SECTION-B

11. Differentiate between light microscope and electron microscope.
12. What is autoradiography? How it is performed and what are its applications in biological sciences?
13. Explain affinity chromatography and its applications.
14. What is the importance of centrifugation in biotechnology? Write a note on differential centrifugation and its application.
15. What is the principle of mass spectrometry? Explain MALDI-TOF and write its applications.

SECTION-C

16. Explain functioning of UV visible spectrophotometer with the help of schematic diagram. Also compare it with spectrofluorimeter and highlight the major difference between the two instruments.
17. Explain agarose gel electrophoresis? What kinds of molecules are usually analyzed by agarose gel electrophoresis and how are they visualized in the gel? Comment on relationship between molecular weight and mobility of the molecules when analyzed in agarose gel electrophoresis.
18. Explain HPLC. How are samples applied onto a HPLC column? Also comment on the pumps and detectors used in HPLC.

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.