

End Semester Examination (2021-22)-Odd Semester

M.Sc. (Biotechnology) I Year (I Sem)

Course Name: Analytical Techniques in Biotechnology

Code: MSB1010

Time: 02 Hours

Max Marks: 60

University Roll No.

(To be filled by the Student)

Note: Please read instructions carefully:

- The question paper has 03 sections and it is compulsory to attempt all sections.
- All questions of Section A are compulsory; questions in Section B and C contain choice.

Section A: Very Short Answer type Questions Attempt all the questions.		BL	CLO	Marks (10)
1.	What is reflection? Support your answer with a suitable diagram.	BL1	CLO1	02
2.	Outline the wavelength of visible light spectrum.	BL2	CLO2	02
3.	Define mobile phase and stationary phase in chromatography.	BL1	CLO2	02
4.	What are the factors affecting electrophoresis?	BL1	CLO3	02
5.	Summarize RCF and RPM.	BL2	CLO2	02
Section B: Short Answer Type Questions Attempt any 03 out of 06 questions.		BL	CLO	Marks (30)
1.	Distinguish between magnification and resolution of microscope.	BL4	CLO1	10
2.	Define rotors and discuss the uses & designs.	BL1	CLO2	10
3.	Illustrate the differences between NMR and mass spectroscopy.	BL3	CLO3	10
4.	Propose any two applications of SDS-PAGE electrophoresis	BL6	CLO4	10
5.	Discuss the instrumentation of southern blotting.	BL6	CLO2	10
6.	Compare between paper and thin layer chromatography.	BL5	CLO3	10
Section C: Long Answer Type Questions/Case Study Attempt any 01 out of 03 questions.		BL	CLO	Marks (20)
1.	What is the difference between dark field microscopy and bright field microscopy? Support this with suitable diagram and proper labeling.	BL1	CLO2	20
2.	Discuss the term ultracentrifuge. Write down the applications of centrifugation for preparative and analytical purpose.	BL6	CLO4	20
3.	Explain the principle of absorption of light and briefly discuss the application of UV-Visible spectroscopy and IR spectroscopy.	BL5	CLO3	20