GALGOTIAS UNIVERSITY

ADMISSION NUMBER

School of Biological and Life sciences

Bachelor of Science Honours in Biomedical Science
Semester End Examination - Jun 2024

Duration : 180 Minutes
Max Marks : 100

Sem IV - P1UC401T - Bioinstrumentation and Biotechniques

General Instructions
Answer to the specific question asked
Draw neat, labelled diagrams wherever necessary
Approved data hand books are allowed subject to verification by the Invigilator

1)	Explain the role of phase plates in phase contrast microscopy.	K1(2)
2)	Compare and contrast between native PAGE and SDS-PAGE	K2(4)
3)	Discuss the factors that influence the sedimentation rate of particles during centrifugation.	K2(6)
4)	Discuss the principle of rate-zonal centrifugation and how it takes advantage of the differential sedimentation rates of particles to achieve separation.	K3(9)
5)	Describe the basic steps involved in running a gel electrophoresis experiment.	K3(9)
6)	Critically outline the basic steps involved in preparing and running an agarose gel electrophoresis experiment.	K5(10)
7)	Explain how a spectrophotometer works and its components.	K4(12)
8)	How is chromatography used in the analysis of biological samples?	K5(15)
9)	Discuss the factors that affect the resolution and separation of nucleic acids in gel electrophoresis.	K5(15)
10)	Compare and contrast between the following pairs. A) SEM and TEM B) Light and electron microscope C) fixed-angle rotor and a swinging bucket rotor D) Ion exchange and affinity chromatography	K6(18)