

M.Sc.-Biotech.-IS-(1.3)

2015

(January)

Full Marks : **40**

Time : **2 Hours**

*Answer any **five** questions*

All questions carry equal marks

(BIOPHYSICAL TECHNIQUES)

1. Briefly explain the principle, instrumentation and application of phase contrast microscope. Add a note on its magnification and resolution.
 2. Differentiate between :
 - (a) SEM and TEM
 - (b) Differential and Isopycnic centrifugation.
 3. Write the principle of UV-Vis spectrophotometer and Fluorescence section photometer ? Add a note on their biological application.
 4. Write short notes on the following :
 - (a) pKa Value
 - (b) Tandem Mass spectrometer.
 5. Briefly explain the principle instrumentation and applications of SDS-PAGE in biotechnology ? Add a note on staining dyes with their merits and demerits.
 6. Write short notes on the following :
 - (a) Autoradiography
 - (b) Flow Cytometry.
 7. (a) Explain the principle of PCR and its role in DNA marker development.
(b) What are the potential application of GM counter.
 8. Differentiate between :
 - (a) Southern blotting and Western blotting.
 - (b) Affinity chromalography and Ion exchange Chromatography.
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