

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

**2019**

**(January)**

Time : 2 hours

Full Marks : 40

*Answer any five questions  
All questions carry equal marks.*

### **( BIOPHYSICAL TECHNIQUES )**

1. Define Centrifugation. Write down a brief note on differential and density gradient centrifugation.
  2. Write notes on :
    - (a) Phase contrast microscope
    - (b) Fluroscnt microscope
  3. Discuss the principle and working of UV-vis spectrophotometer. Add a note on its biological application.
  4. Write notes on the following :
    - (a) NMR
    - (b) X-ray crystallography
  5. Define chromatography. Explain briefly about Gel permeation and ion exchange chromatography.
  6. Explain Polymerase Chain Reaction.
  7. Write notes on :
    - (a) Scintillation counter
    - (b) Radioactive decay
  8. Differentiate between :
    - (a) Northern blotting and Southern blotting
    - (b) HPLC.
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