

FACULTY OF SCIENCE
B.Sc. II-Semester (CBCS) Examination, May / June 2018
Subject : Biochemistry

Paper – II : Chemistry of Nucleic Acids & Biochemical Techniques

Max. Marks: 80

Time : 3 Hours

PART – A (5 x 4 = 20 Marks)
(Short Answer Type)

Note : Answer any FIVE of the following questions.

- ✓ 1 Structure of pyrimidines and their role.
- 2 Spectral characters of nucleic acids.
- ✓ 3 Structure and functions of DNA.
- 4 Cot curves and their significance
- 5 Principle and applications of colorimetry
- 6 Explain UV-Visible spectra
- 7 Paper chromatography
- 8 Affinity chromatography

PART – B (4 x 15 = 60 Marks)
(Essay Answer Type)

Note: Answer all the questions.

- 9 (a) Give an account of the different types of RNA and their biological functions.
OR
(b) Explain formation phosphodiester bond and the action of acids, alkalis and nucleases on it.
- 10 (a) Describe with diagrams the circular, supercoiled and coiled forms of DNA and their significance.
OR
(b) Give an account of Denaturation and Reassociation kinetics of nucleic acids.
- 11 (a) Explain the Beer Lambert's law, its applications and limitations.
OR
(b) Give an account of the basis of sedimentation, Svedberg's units and its application in Centrifugation techniques.
- 12 (a) Explain principle and applications of Gel filtration chromatography. Give an account of the material used.
OR
(b) Write the principle and applications of ion-exchange chromatography. What are the two major types? Give examples.