

(i) Printed Pages : 3

Roll No.

(ii) Questions : 9

Sub. Code :

2	5	9	4	2
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Exam. Code :

0	4	3	6
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M.Sc. Bio-Technology 2nd Semester
(2055)

BIOPHYSICAL AND BIOCHEMICAL TECHNIQUES

Paper-MBIO-202

Time Allowed : Three Hours]

[Maximum Marks : 80

Note :— Attempt **FIVE** questions in all. Q. No. 1 is compulsory.
Select **ONE** question from each unit. All questions carry
equal marks.

1. (a) What is WCOT in GLC ?
- (b) What is partition chromatography ?
- (c) What is chemical shift in NMR ?
- (d) What is a crystal lattice ?
- (e) What is a preparative ultracentrifuge ?
- (f) What is the principle of isoelectric focussing ?
- (g) Define specific radioactivity.
- (h) What is a probe in northern blotting ?

8×2=16

UNIT—I

2. (a) Discuss the basis and instrumentation of gel filtration chromatography. 8
- (b) Discuss the method of separation using affinity chromatography. 8
3. Discuss the apparatus, working and significance of HPLC. 16

UNIT—II

4. (a) Discuss the working of a spectrofluorimeter. 8
- (b) Discuss the techniques of MALDI-TOF. 8
5. (a) Discuss how Bragg's law is employed to calculate interatomic distances. 8
- (b) Discuss the components of NMR spectrophotometer. 8

UNIT—III

6. (a) Describe different types of rotors used in centrifugation. 8
- (b) Discuss the technique of 2D electrophoresis. 8
7. (a) Explain the different parts of analytical ultracentrifuge. 9
- (b) Describe the application of native PAGE. 7

UNIT—IV

8. (a) Discuss the classification and characteristics of different radioisotopes. 8
- (b) Explain the technique of western blotting. 8
9. (a) Discuss the techniques of autoradiography. 8
- (b) Describe the sequencing of DNA. 8