

M.Sc. (Part-I) Semester-I (C.B.C.S. Scheme) Examination

MICROBIOLOGY

(Microbial Techniques)

Paper—I

Time : Three Hours]

[Maximum Marks : 80

1. Explain maintenance of protein structure conformation by pH dependent ionization of its constituent amino acids. 16

OR

- (a) Give a systematic account on destruction of non-protein component by change in pH. 8
(b) Take an overview on metabolic reactions involving proton. 8
2. (a) Describe instrumentation of IR spectroscopy. 8
(b) Explain principle of UV-visible spectroscopy. Add notes on its application. 8

OR

- (c) Explain working of fluorescence spectroscopy. 8
(d) On what principles does NMR and ESR work ? Add notes on its applications. 8
3. Explain in detail liquid scintillation counting; mention various types of radioactive disintegrations. 16

OR

Describe the kinetics of half life period of radioactive disintegrations. Explain the biological applications revealed by radioactivity. 16

4. Elaborate in detail molecular sieving chromatography. 16

OR

- (a) Explain in detail affinity chromatography. 8
- (b) Enlist the applications of high performance liquid chromatography. 8
- 5. Take a detailed insight to slab gel electrophoresis with relevance to working and applications. 16

OR

Explain in detail principle, applications and detection of biomolecules in paper chromatography. 16