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M.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

FIRST SEMESTER

Microbiology

Paper IV — BIOPHYSICAL AND ANALYTICAL TECHNIQUES

Time : Three hours Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. Handerson – Hasselbach equation.

2. Osmometer.

3. Subcellular fraction.

4. Gel permeation.

5. Beers law.

6. Optical Rotary Dispersion (ORD).

7. Agarose.

8. GM counter.

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. Explain various methods involved in concentration of biomolecules.

Or

10. Write an elaborate account on electrodes and biosensors.

11. Give a concise account on principle, methodology and applications of FPLC.

Or

12. Give a concise account on principle, methodology and applications of Gas-Liquid Chromatography.

13. Describe the principle and instrumentation and biological applications of Atomic Absorption spectroscopy.

Or

14. Describe the principle, instrumentation and biological applications of NMR.

15. Discuss the methodology and applications of various blotting techniques.

Or

16. Narrate a concise account on laboratory safety measures in handling isotopes.