

S.No. 1764

12UBT04

(For the candidates admitted from 2012 – 2013 onwards)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

Fourth Semester

Biotechnology

BIOPHYSICS AND INSTRUMENTATION

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Beer – Lamberts law
2. NMR spectroscopy
3. ECG
4. Radioactivity
5. Affinity chromatography
6. 2-D gel electrophoresis
7. Incubator

8. Distillation
9. Needle electrodes
10. Safety symbols.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Write short notes on IR spectroscopy.

Or

(b) Explain in brief about chemical bonds in biological system.
12. (a) Discuss about density gradient centrifugation briefly.

Or

(b) Comment on X-ray.
13. (a) Give a brief account on X-ray crystallography.

Or

(b) Describe the principle and applications of ion-exchange chromatography.

14. (a) Explain in short about the care and use of balance.

Or

- (b) Write an account on autoclave and its maintenance.
15. (a) Discuss about the hazards of laboratory techniques.

Or

- (b) Comment on the electrodes used for bioelectric potentials.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions out of Five questions.

16. Give a detailed account on single beam UV – visible spectrophotometer.
17. Explain in detail about the methods for detecting radioactivity.
18. Write an essay on electrophoretic techniques (any two).
19. Discuss about the principle and care of microscope.
20. Elaborate on biological containment systems.