C-14–AEI–**505**

4611

BOARD DIPLOMA EXAMINATION, (C–14)

OCT/NOV—2018

DAEIE—FIFTH SEMESTER EXAMINATION

ANALYTICAL INSTRUMENTATION

Time : 3 hours] [*Total Marks* : 80

PART—A 3×10=30

Instructions : (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. List any three properties of Beta particles.

2. List types of radiations.

3. State the Beer Lamberts law.

4. Define the term molecular apectroscopy.

5. List any three types of Visible IR light detectors.

6. List any three applications of Auto Analyzar.

7. State the principle of mass spectrometry.

8. Define the resolution of a mass spectrometer.

9. Classify chromatography.

10. List any three advantages of Gas Chromatography.

PART–B

10×5=50

Instructions : (1) Answer *any* **five** questions.
(2) Each questions carries **ten** marks.
(3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

11. Explain the principle of operation of Ionization chmaber with diagram.

12. Explain the principle of operation of UV spectrophotometer with diagram and mention any three applications.

13. Draw and explain the Electromagnetic spectrum.

14. Explain the principle of operation of refracto meter with diagram and mention any three applications.

15. Explain the principle of operation of electro chemical gas analyzer with diagram and list its applications.

16. Draw and explain the principle of operation of thermal conductivity type analyzer.

17. Describe the operation of single deflectio180^0 mass spectrometer with schematic diagram.

18. Explain the principle of operation of the liquid Chromatography with diagram and mention any three applications.

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