



C14-AEI-505

4611

BOARD DIPLOMA EXAMINATION, (C-14)

OCT/NOV—2017

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 the properties of gamma particles.

2. List the types of radiations.

3. State Beer-Lambert law.

4. List the different types of monochromator.

5. Draw the block diagram of analytical instrumentation.

6. State the principle of refractometer.

7. List the applications of mass spectrometer.

8. Define resolution of a mass spectrometer.

- * 9. Differentiate between the terms absorption and adsorption.
10. List the advantages of the gas chromatography.

PART—B

10×5=50

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

11. Explain the ionization chamber detection method with legible diagram.
12. Explain the principle of operation and applications of UV spectrophotometer.
13. Explain the principle of operation and applications of visible spectrophotometer.
14. Explain the principle of operation and applications of spectrofluorometer.
15. Explain the principle of operation and applications of thermal conductivity gas analyzer.
16. Explain the principle of operation and applications of interferometer.
17. Explain the block diagram of a mass spectrometer.
- * 18. Explain the principle of operation and applications of the liquid chromatography with legible diagram.
