



C09-AEI-405

3415

BOARD DIPLOMA EXAMINATION, (C-09)
OCT/NOV—2014
DAEIE—FOURTH 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) Answer should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Define pH.
2. Define conductivity.
3. Draw the diagram of rotating viscometer.
4. State the Beer-Lambert law.
5. Draw the electromagnetic spectrum.
6. State the principle of flame photometer.
7. Draw the diagram of spectrofluorometer.

- * 8. List the applications of thermal conductivity gas analyzer.
- 9. List the applications of mass spectrometer.
- 10. Classify 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 block diagram of digital pH meter with a neat diagram. 10
- 12. Explain the working principle of displacement type density meter. 10
- 13. Explain the block diagram of analytical instrumentation with a neat diagram. 10
- 14. Explain the working principle of UV single beam spectrophotometer. 10
- 15. Explain the working principle of polarimeter. 10
- 16. Explain the working principle of paramagnetic gas analyzer. 10
- 17. Explain the principle of operation of mass spectrometer with a neat diagram. 10
- * 18. (a) Explain the principle of operation of conductivity meters. 5
(b) With a neat diagram, explain gas chromatography. 5
