



C16-AEI-404

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BOARD DIPLOMA EXAMINATION, (C-16)
JANUARY/FEBRUARY—2022
DAEI - 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) Answers should be brief and straight to the point and shall not exceed five simple sentences.
1. Define the term spectroscopy.
 2. List the types of UV light sources.
 3. State the principle of auto analyzer.
 4. Draw the block diagram of interferometer.
 5. Draw the block diagram of mass spectrometer.
 6. List any three applications of mass spectrometer.
 7. Draw the block diagram of liquid chromatography.
 8. Define the term chromatography.
 9. State the necessity of conductivity cells.
 10. List the properties of beta particles.

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PART—B

5×10=50

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

11. Explain the principle of operation and applications of visible spectrophotometer.
12. Explain electromagnetic spectrum with diagram.
13. Explain the principle of operation and applications of flame photometer.
14. Explain the principle of operation and applications of paramagnetic gas analyzer.
15. Explain the operation of single deflection 180° mass spectrometer with diagram.
16. Explain the principle of operation and applications of gas chromatography with diagram.
17. Explain the operation of digital type pH meter with diagram.
18. Explain the working of ionization chamber detection method with diagram.

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