



C09-AEI-405

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BOARD DIPLOMA EXAMINATION, (C-09)

MARCH/APRIL—2021

DAEIE - FOURTH SEMESTER EXAMINATION

ANALYTICAL INSTRUMENTATION

Time : 3 hours ]

[ Total Marks : 80

**PART—A**

4×5=20

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

1. Define pH.
2. State the necessity of conductivity cells.
3. Define viscosity.
4. Draw electromagnetic spectrum.
5. State Beer Lambert's law.
6. State the principle of flame photometer.
7. Draw the diagram of auto analyzer.
8. List the applications of polarimeter.
9. Define chromatography.
10. Draw the diagram of liquid chromatography.

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**PART—B**

15×4=60

- Instructions :** (1) Answer *any four* questions.  
(2) Each question carries **fifteen** 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 pH measurement.
12. (a) Explain the importance of pH measurement.  
(b) Classify chromatography.
13. Explain the principle of operation of capillary type viscometer with diagram.
14. Explain the block diagram of analytical instrumentation.
15. Explain the principle of operation of UV spectrometer.
16. Explain the principle of operation of flame photometer.
17. Explain the principle of operation of paramagnetic gas analyzer.
18. Explain the principle of operation of liquid chromatography with diagram.

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