



17544

21415

2 Hours/50 Marks

Seat No.

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- Instructions :** (1) **All** questions are **compulsory**.
(2) Answer **each** next main question on a **new** page.
(3) **Illustrate** your answers with neat sketches **wherever** necessary.
(4) Figures to the **right** indicate **full** marks.
(5) **Assume** suitable data, if **necessary**.

MARKS

1. A) Attempt **any three** : **12**
- a) Draw block diagram of General Elements of an analytical instrumentation and describe function of each block.
 - b) List four application of incinerator.
 - c) Draw a neat labelled diagram of conductive blood cell counter.
 - d) State types of electronic microscope also list its different parts.
- B) Attempt **any one** : **6**
- a) With neat diagram explain the construction and working of scanning electron microscope.
 - b) State working principle of centrifuge. Give its classification and any four application of it.
2. Attempt **any four** : **16**
- a) Define chromatography. Give classification of it.
 - b) Draw neat labelled diagram of dark field blood cell counter and state its working principle.
 - c) Draw labelled diagram of hot air oven and give its two specification.
 - d) Draw neat labelled diagram auto-analyzer and describe its working.
 - e) Draw neat labelled diagram of PO₂ electrode and state its principle.
 - f) Define electrophoresis. State its working principle and give its classification.

P.T.O.



3. Attempt **any four** :

- a) Draw neat labelled diagram of dual beam spectrophotometer and describe its working.
 - b) State important of sterilization. List different methods of sterilization.
 - c) Draw neat labelled diagram of liquid chromatography and explain it.
 - d) Draw neat diagram of colorimeter and describe its working. List any two application of it.
 - e) State Beer's of Lamberts law. State its mathematical expression.
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