

# 17544

**14115**

**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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. a) Attempt any THREE of the following: **12**
- (i) Draw block diagram of analytical instrument. Give function of each block.
  - (ii) Write stepwise procedure to sterilize medical instruments using autoclave.
  - (iii) Draw block diagram of blood gas analyzer or describe it.
  - (iv) State types of electronic microscope. Also list its different parts.
- b) Attempt any ONE of the following: **06**
- (i) Draw diagram of scanning a emission microscope and give its construction and working. (SEM).
  - (ii) Draw neat diagram of centrifuge. State its working principle, construction. List any two application.

P.T.O.

- 2. Attempt any FOUR of the following:** **16**
- a) Draw neat labelled diagram of gas chromatography and describe it.
  - b) Draw a neat diagram of electro-conductive blood cell counter and describe its working.
  - c) Draw diagram of hot air oven and describe its construction. List any two application.
  - d) Compare dual beam spectrophotometer with single beam spectrophotometer. (any four)
  - e) Draw the neat labelled diagram of pH meter. List its two technical specifications.
  - f) Draw diagram of capillary electrophoresis of describe it.
- 3. Attempt any FOUR of the following:** **16**
- a) Draw neat labelled diagram of autoanalyzer and describe its working.
  - b) List four application of incinerator.
  - c) What is electrophoresis? List different parts of electrophoresis apparatus.
  - d) State Beer-Lambert's law. List any four analytical instruments based on it.
  - e) Draw a neat diagram of ultrasonic cleaner and state its working principle. List any two medical application.
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