

17544

**11920**

**2 Hours / 50 Marks**

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Illustrate your answers with neat sketches wherever necessary.
  - (3) Figures to the right indicate full marks.
  - (4) Assume suitable data, if necessary.

**Marks**

**1. (A) Attempt any THREE :** **12**

- (a) State Beer & Lambert's Law. List any four analytical instruments based on Beer & Lambert's Law.
- (b) State the importance of sterilisation, also draw constructional diagram of Hot air oven.
- (c) Name the instrument used to identify cells present in blood. Also draw its diagram. (any one)
- (d) State the different types of electronic microscope. Also write their applications (any two).

**(B) Attempt any ONE :** **6**

- (a) Draw constructional diagram of TEM and explain it.
- (b) Identify the sterilizing equipment & draw their constructional diagram :
  - (i) For removal of blood stains
  - (ii) To disposal of Biomedical Waste

**2. Attempt any FOUR :****16**

- (a) Define the term chromatography. Draw block diagram of liquid chromatography.
- (b) Write any four technical specification of Blood gas analyzer.
- (c) Define centrifuge. State its working principle.
- (d) With neat diagram, explain construction of Autoanalyzer.
- (e) With neat diagram, explain measurement of  $\text{PCO}_2$  of Blood.
- (f) With neat diagram, explain working of gas chromatography.

**3. Attempt any FOUR :****16**

- (a) Explain the working of single beam spectrophotometer with suitable diagram.
  - (b) Draw constructional diagram of analytical ultracentrifuge. Give its any two applications.
  - (c) Define the term electrophoresis. With neat diagram explain working of Page.
  - (d) Draw block diagram of Analytical instrument. State the function of each block.
  - (e) Write any four technical specifications of autoanalyzer.
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