



17544

15162

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.*
 - (5) *Use of Non-programmable Electronic Pocket Calculator is permissible.*

Marks

1. A) Attempt any three :

12

- a) State and explain Beer and Lambert's law. Give the name of two equipments based on it.
- b) State importance of steriliser (any four points). Give constructional diagram of any one sterilizing equipment.
- c) State the working principle of electro conductive blood cell counter with the help of its constructional diagram.
- d) Draw constructional diagram of TEM, label the different parts.

B) Attempt any one :

6

- a) With the help of suitable diagram explain the working of SEM.
- b) State the principle of autoclave. List any four application of the same.

2. Attempt any four :

16

- a) Define chromatography and electrophoresis. Give two examples of each.
- b) State the different types of cells presents in blood. Draw constructional diagram of blood gas analyser. Label it.
- c) Draw labeled diagram of incinerator.
- d) Draw constructional diagram of dual beam spectrophotometer and state its working.
- e) State the procedure for measurement of pH of blood.
- f) State and explain working principle of PAGE (Poly Acrylamide Gel Electrophoresis).

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Marks

16

3. Attempt any four :

- a) Describe working of flame photometer with suitable diagram.
 - b) Draw constructional diagram of hot air oven and give two applications of it.
 - c) Explain working principles of the capillary electrophoresis. Give two specifications.
 - d) State two applications of each of the following analytical equipments.
 - I) Calorimeter
 - II) Autoanalyser
 - III) Freezer
 - IV) Autoanalyzer.
 - e) Draw and explain the working principle of autoanalyzer.
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