

17544

16172

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) List down application (any two) and technical specification (any two) for colorimeter equipment.
- (b) Explain the working of ultra-centrifuge with suitable diagram.
- (c) State the factors affecting pH measurement.
- (d) List different components of microscope and describe any two components of it.

(B) Attempt any ONE : 6

- (a) Draw and explain the working principle of SEM (Scanning Electron Microscope).
- (b) Write two applications of each of the following :
 - (i) Incinerator
 - (ii) Autoclave
 - (iii) Hot air oven

2. Attempt any FOUR :**16**

- (a) Define :
 - (i) Chromatography
 - (ii) Electrophoresis
- (b) Draw the block diagram of dark field blood cell counter and explain function of each block.
- (c) List four sterilize equipments.
- (d) List any four analytical equipments and write two applications of freezer.
- (e) Draw neat labelled block diagram of blood gas analyzer.
- (f) Write application of chromatography equipment. (any four)

3. Attempt any FOUR :**16**

- (a) Draw block diagram of flame photometer and describe its operation in detail.
 - (b) Draw neat labelled diagram of an autoclave and explain its working.
 - (c) Draw and explain block diagram of gas chromatography.
 - (d) Draw labelled diagram of single beam spectrophotometer and describe its working.
 - (e) What is ultrasonic cleaner ? Also write its four applications.
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