

INSTRUMENTATION

Time : Three hours

Maximum : 100 marks

SECTION A — (20 × 1 = 20 marks)

Answer ALL the questions.

1. Physical balance weighs with accuracy of
(a) 10 to 100 mg (b) 0.1 to 1 mg
(c) 1 to 2 mg (d) 1 to 10 mg.
2. Samples to be weighed in electric balance should be of
(a) High temperature (b) Low temperature
(c) Room temperature (d) Freezed.
3. Total magnification of compound light microscopy is got by
(a) Adding objective lens magnification and ocular magnification
(b) Multiplying
(c) Subtracting
(d) Dividing.

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Part in

Hospital Laboratory Technology

4. Dark field microscopy is used for examining
(a) Viruses
(b) Organisms which can't be stained
(c) Fungi
(d) Organisms which can't be grown in culture.
5. Vaccum centrifuge was invented by
(a) Newton
(b) Edward Greydon Pickels
(c) Thomas pixel
(d) Theodar.
6. 'g' in expressing rpm in centrifuge means
(a) gravity (b) growth
(c) gain (d) grade.
7. In angle head microscope angle maintained is
(a) 35° (b) 45°
(c) 50° (d) 90°.
8. Hot air oven can't be used for
(a) Liquid media (b) Gaseous media
(c) Solid media (d) No limitations.

9. Better control of temperature is maintained in

- (a) Centrifuge
- (b) Incubator
- (c) Hot air oven
- (d) Water bath.

10. Calorimeter measures

- (a) Intensity of temperature
- (b) Weight of object
- (c) Intensity of colour
- (d) Number of colours.

11. Light source with wide range of wavelengths is called

- (a) Monochromatic
- (b) Polarised
- (c) Polychromatic
- (d) UV light.

12. In continuous flow analysers reagents are separated during supply by

- (a) No separation required
- (b) Wooden blocks
- (c) Chemicals
- (d) Series of air bubbles.

13. Flash chromatography is

- (a) Liquid chromatography
- (b) Analytical chromatography
- (c) Light used in chromatography
- (d) Modified column chromatography.

14. The electrophoretic mobility is measured using

- (a) Nernst Einstein Equation
- (b) Coloumb Equation
- (c) Tiselius Equation
- (d) Newton's Equation.

15. In PCR temperature maintained during denaturation is

- (a) 80°C
- (b) 195°C
- (c) 95°C
- (d) 1095°C.

16. PCR generates large quantities of

- (a) Mitochondria
- (b) DNA
- (c) Cells
- (d) Tissues.

17. pH was the term introduced by

- (a) Nernst
- (b) Newton
- (c) Sorenson
- (d) Sabiston.

18. Temperature of solution when ice crystals grow is

- (a) freezing point (b) boiling point
(c) melting point (d) neutral point.

19. The heart of autoanalyser is

- (a) Printer (b) Reaction chamber
(c) Dialyser (d) Pump.

20. ELISA defects

- (a) Antigen (b) Antibodies
(c) Virus proteins (d) All the above.

SECTION B — (5 × 6 = 30 marks)

Answer any FIVE questions.

21. What is a balance? Describe analytical balance.

22. Types of microscopes ... write in detail scanning electron microscope.

23. Types of centrifuges and its working.

24. Boiling water bath.

25. Parts of spectrophotometer.

26. Electrophoresis.

27. Densitometer.

SECTION C — (5 × 10 = 50 marks)

Answer any FIVE questions.

28. Physical balance – Types and Working.

29. Analytical ultra centrifuge.

30. Incubator water bath.

31. Auto analysers.

32. Polymerase chain reaction.

33. Classification of Automated system.

34. Distillation apparatus – write in detail about Deionizer.

