

M.Sc. Sem- II

BOT CC-202

1. pH meters can be considered as voltage sources with which of the following internal resistances?

- a) Very low resistance
- b) Moderate resistance
- c) Very high resistance
- d) No resistance

2. Which of the following is not a failure in pH meters?

- a) Defective electrodes
- b) Defective input circuitry
- c) Defective electronic circuitry
- d) Defective calibration

3. Buffers are mixtures of

- a) Strong acid or Strong base
- b) Strong acid or weak base
- c) Weak acid and their conjugate base
- d) Weak base and their conjugate acid

4. Which of the following is not a type of centrifugation?

- a) Hydrocyclone
- b) Tubular centrifuge
- c) Microfiltration
- d) Disk stack separator

5. Which of the following is used as a media for density gradient?

- a) Agarose
- b) Ficoll
- c) Luria broth
- d) Propylene glycol

6. Which technique separates charged particles using electric field?

- a) Hydrolysis
- b) Electrophoresis
- c) Protein synthesis
- d) Protein denaturing

7. If proteins are separated according to their electrophoresis mobility then the type of electrophoresis is

a)SDSPAGE

b)AffinityElectrophoresis

c)Electrofocusing

d) Free flow electrophoresis

8. HPLC stands for

(A) High Pressure Liquid Chromatography

(B) High Performance Liquid Chromatography

(C) both (a) and (b)

(D) Highly Placed Liquid Chromatography

9. The eluent strength is a measure of

(A) solvent adsorption energy

(B) solvent absorption energy

(C) solvent diffusivity

(D) solvent mixing index

10. Which of the following statements is true for a refractive index detector in HPLC?

A. It is more sensitive than a UV detector

B. It can only be used for isocratic elutions

C. It does not respond to many solutes

D. none of above

11. Which can be used as a mobile phase in HPLC applications?

A. Any compound with solubility in liquid

B. Any compound with limited solubility in liquid

C. Any compound with non-solubility in liquid

D. Any of the above

12. . In TLC, initially the sample is

(A) In contact with mobile phase

(B) Not in contact with mobile phase

(C) Coated at the level of mobile phase

(D) Coated below the level of mobile phase

13. Identification of spots on the TLC plate is done by all of the following EXCEPT

(A) Spraying with reagents

(B) Under microscope

(C) Fluorescence

(D) fluorescent adsorbent

14. All of the following are used as spraying reagent in TLC, EXCEPT

(A) Calcium sulfate

(B) Iodine

(C) Sulfuric acid

(D) Ninhydrin

15. Electrophoresis was developed by:

a) Tswett

b) Tsvedberg

c) Tiselius

d) Sanger

16. What does the electrophoresis apparatus consist of?

a) Gel, buffer chamber and fire pack

b) Buffer chamber and electrophoresis unit

c) Electrophoresis unit and gel separator

d) Power pack and electrophoresis unit

17. .What cannot be a reason for using electrophoresis?

a) Comparing two sets of DNA

b) Organizing DNA by shape of backbone

c) Organizing DNA fragments from largest to smallest

d) Organizing DNA in order we can see

18. When is electrophoresis not used?

- a) Separation of proteins
- b) Separation of amino acids
- c) Separation of Lipids
- d) Separation of nucleic acids

19. What is role of slit in uv-visible spectroscopy ?

A. Monochromatic radiation to polychromatic radiation. MONOCHROM

B. Polychromatic radiation to monochromatic radiation

C.A and B

D. None of this

20. Which of the following is not a component of the emission system in Flame photometer?

- (a) Burner
- (b) Atomiser
- (c) Fuel gases and their regulation
- (d) Chopper

21. Which fuel is produced 3300-3400 temperature ?

- (a) Acetylene+Air
- (b)Acetylene+Oxygen
- (c)Acetylene+Nitrous oxide
- (d)Hydrogen+Air

22. Mass spectrometers are used to determine which of the following?

- a) Composition in sample
- b) Concentration of elements in sample
- c) Relative mass of atoms
- d) Properties of sample

23. Mass spectrometer separates ions on the basis of which of the following?

- a) Mass
- b) Charge
- c) Molecular weight
- d) Mass to charge ratio

24. Resolving power of a microscope is a function of _____

- a) Wavelength of light used
- b) Numerical aperture of lens system
- c) Refractive index
- d) Wavelength of light used and numerical aperture of lens system

25. In Phase contrast microscopy, the rate at which light enters through objects is _____

- a) Constant
- b) Inversely proportional to their refractive indices
- c) Directly proportional to their refractive indices
- d) Exponentially related to their refractive indices

26. Negative Staining is used for examining _____

- a) virus particles
- b) protein molecules
- c) bacterial flagella
- d) virus particles, protein molecules and bacterial flagella

27. Which of the following techniques are used in Transmission Electron Microscopy (TEM) for examining cellular structure?

- a) Negative-Staining
- b) Shadow Casting
- c) Ultrathin Sectioning
- d) Negative-Staining, Shadow Casting, Ultrathin Sectioning, Freeze-Etching

28. This set of Cytogenetics Multiple Choice Questions & Answers (MCQs) focuses on “Flow Cytometry and Cell Sorting” Flow cytometry uses_____

- a) Heavy isotope
- b) Radioactive elements
- c) Immunological techniques
- d) Energy content

29. .In flow cytometry which of the combination is impossible?

- a) Both the labeled antigens in same particle
- b) None of the labeled antigens on a particle
- c) One of the labeled antigen
- d) All can be true

30. What kind of microscope slide should be used in preparation for immunofluorescence staining?

- a) Plain glass slide
- b) Monospot slide
- c) Any kind of slide
- d) Glass slide frosted on both sides

31. How much of the reagent should be added to the suspension while preparing immunofluorescence staining?

- a) 20ml
- b) 2 μ l
- c) 20 μ l
- d) A drop

32. How should the prepared slide be examined?

a) Under the fluorescence microscope using x100 oil immersion objective

b) Under the light microscope using x100 oil immersion objective

c) Using electron microscopy

d) None of the above

33. Haptens are the molecules that

A possess antigenicity

B are large protein

C possess immunogenicity

D can induce the production of antibody

34. Which of the following statements is not true about mass spectrometry?

a) Impurities of masses different from the one being analysed interferes with the result

b) It has great sensitivity

c) It is suitable for data storage

d) It is suitable for library retrieval

35. In mass spectrometer, the sample gas is introduced into the highly evacuated spectrometer tube and it is ionised by electron beam?

a) True

b) False

c) A AND B

d) None of this