Yashwantrao chavan college of Science

Karad, B.Sc. (Part-III) (Paper IX)

BIOCHEMICAL TECHNIQUES

Question Bank

Q 1) Answer the following questions choosing the correct alternatives givenbelow them

1)---------- In isopycenic density gradient centrifugation , separation depents uponthe of the particle

a) buoyant density b) color

c) Thickness d) shape

2) In ---------- chromatography, separation charged particle takes place.

a) affinity b) ion exchange

c) HPLC d) Gas liquid

3) Ampholytes are used in ----------

a) SDA-PAGE electrophoresis b) RNA electrophoresis

c) DNA sequencing electrophoresis d) Isoelectrofocussing

4) In ----------method of radioactivity measurement, primary and secondry fluors are used.

a) Autoradiography b) Gas ionization

c) Gas excitation d) Gas polarization

5) In ammonium sulphate precipitation, destabilizing effect on protein iscalled ----------

a) allotropic b) acidotropic

c) chatotropic d) magnotropic

6) In ---------- chromatography pumping systems are play important role.

a) gel filtration b) affinity

c) HPLC d) ion exchange

7) The electrophoresis technique was discovered by ----------

a) Svedberg b) Batson

c) Cloude d) Tiselus

8)In chromatography, the stationary phase can be ---------- supported on a solid .

a) Solid or liquid b) Liquid or gas

c) Solid only d) liquid only

9) Which technique separates charged particles using electric filed ?

a) Hydrolysis b) Electrophoresis

c) protein synthesis d) protein denaturing

10) when is electrophoresis is not used ?

a) Separation of protein b) separation of amino acid

c) Separation of lipid d) Separation of nucleic acid

11) Which of the following cannot be used for the separation nucleic acids?

a) SDS- PAGE b)PAGE

c) Northern blotting c) southeren blotting

12) The fluorescent dye such Ethidium is used for visualizing DNA. How do ethidium binds to DNA ?

a) Stacked between histone molecules

b) Binds to the nucleotide base

c) Intercalated between the stacked bases

d) binds to the phosphodiester backbone

13) Pulse filed gel electrophoresis separates DNA molecules of size----------

a) 10-20 bp b) 20-30 kb

c)30-50 kb d)40-50 bp

14) Pulse filed gel electrophoresis was developed by ----------

a) Collins and John b)Kary Mullis

c) Patrick O Farrell d) Schwartz and Cantor

15) For the separation ofDNA by electrophoresis, which of the following method is commonly used?

a)Agarose- Vertical b) Agarose – Horizontal

c) PAGE – vertical d) PAGE – horizontal

16) **In SDS-page , migration of protein is effected by ----------**

a) Charge of protein b) Size of protein

c) Net charge of protein d) All of the above

17) Who invented centrifugation?

a) Newtone b) G.G. Stokes

c) Antonin Prandti d) Al- Kindi

18) What is use of dencity gradient centrifugation?

a) To purify viruses, ribosomes , membranes

b) Toremovedirt

c)To remove fine particles

d) To remove large particles

19) In centrifugation, which of the following force is not used ?

a) Electrostatic force b) Gravitational force
c) Centripetal force d) Centrifugal force

20) What is the principle of centrifugation?

a. Sedimentation principle
b. Filtration principle
c. Evaporation principle
d. Size reduction principle

Q 2) Long Answer

1) Define centrifugation , Describe types of centrifugation

2) define chromatography and describe in brief gel filtration method

3) write principle ,methodology and application of Ion exchange chromatography

4) Write principle of electrophoresis and describe Agarose gel electrophoresis ?

5) write a note on tracer technique

6) Explain applications of radioisotope in biological sciences

Q 3) Short Answer

1) Write note on cell disruption methods

2)salt precipitation

3)Affinity chromatography

4) High performance Liquid chromatography(HPLC)

5) SDS- PAGE electrophoresis

6) pulsed field gel electrophoresis

7)Application of radioisotopes in biological

system

8) Isoelectricfocusing

9) Organic solvent precipitation

10) Gas liquid chromatography

11) Types of centrifuge