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21BTH2S2LP

Sl. No.

M.Sc. II Semester Degree Examination, Sept./Oct. - 2024

BIOTECHNOLOGY

Biopharmaceutical Techniques

(NEP)

Time : 1 Hour 30 Maximum Marks : 30

1. sRecombinant Insulin first produced in _____ host.

(A) CHO cell lines (B) *Bacillus* sps

(C) *E.coli* (D) None of the above

2. When was smallpox virus first eradicated from the world ?

(A) 1990 (B) 2000 (C) 1947 (D) 1980

3. Which of the following is secretory antibody ?

(A) IgA (B) IgM (C) IgD (D) IgG

4. The First protein sequenced by Frederick Sanger is _____.

(A) Haemoglobins (B) Myoglobin

(C) Insulin (D) Myosin

5. The First successfully cloned animal was :

(A) Monkey (B) Gibbon (C) Sheep (D) Cow

6. Animal cell culture are used widely for the production of _____.

(A) Insulin (B) Somatostatin

(C) Monoclonal Antibodies (D) All the above

7. Which of the following techniques is used for reducing the Total Dissolved Solids (TDS) in water ?

(A) Osmosis (B) Ion exchange (C) Distillation (D) Both (B) and (C)

P.T.O.

8. Interferon's are_____.
(A) Anti bacterial proteins (B) Anti-Viral Proteins
(C) Bacteriostatic Proteins (D) All the above

9. The secretory IgA is _____.
(A) Dimer (B) Monomer (C) Tetramer (D) Pentamer

10. Recombinant Proteins are _____.
(A) Proteins synthesized in animals
(B) Proteins synthesized by transgene in host cell by rDNA technology
(C) Proteins synthesized in cells that are produced by protoplast fusion
(D) Proteins synthesized in mutated cell lines

11. The First Vaccine developed from animal cell culture was _____.
(A) Hepatitis B Vaccine (B) Influenza vaccine
(C) Smallpox vaccine (D) Polio Vaccine

12. Half life (t½) is the time required to :
(A) Change the amount of a drug in plasma by half during elimination
(B) Metabolized half of an introduced drug into the active metabolite
(C) Absorb a half of an introduced drug
(D) Bind a half of an introduced drug to plasma proteins

13. Which tissue has the greatest capacity to biotransform drugs ?
(A) Kidney (B) Liver (C) Lung (D) Skin

14. What is the molecular weight of Monoclonal Antibody ?
(A) 50 (B) 75 (C) 100 (D) 150

15. In which stage of clinical studies mice is used ?
(A) Phase I clinical (B) Phase II and III clinical
(C) Phase I and II clinical (D) Pre clinical studies

16. How many polypeptide chains present in Monoclonal Antibody ?
(A) 6 (B) 4 (C) 1 (D) 2

17. Which of the following Recombinant protein is used to treat coronary Heart blockage ?
(A) Retuximab (B) Tissue Plasminogen Activator
(C) Erythropoietin (D) Human Serum Albumin

18. How many disulphide bonds present in Monoclonal Antibody ?

(A) 16 (B) 4 (C) 6 (D) 12

19. What is LD_{50} in Toxicology studies ?

(A) It is a concentration of testing drug at that concentration, half of the mice will die.

(B) It is a concentration of testing drug at that concentration, half of the enzyme activity will be inhibited in mice liver.

(C) (A) and (B)

(D) None of the above

20. Human therapeutic protein majorly produced in _____.

(A) Bacterial Expression System

(B) Saccharomyces services (Yeast)

(C) Pichia pastoris

(D) CHO cell lines

21. Which of the following analytical techniques used in MAbs Quality control testing Labs ?

(A) Antibody Dependent Cell-mediated Cytotoxicity (ADCC)

(B) Complement Dependent Cytotoxicity (CDC)

(C) (A) and (B)

(D) RTPCR

22. Which of the following are correct regarding MAbs ?

(A) Different monoclonal antibodies have to be made to target different types of cancer.

(B) Each monoclonal antibody recognises one particular protein.

(C) Monoclonal antibodies recognise and attach to any proteins produced by cells.

(D) Different monoclonal antibodies cause different side effects.

23. What is the route of administration of MAbs ?

(A) Subcutaneous (B) Intra dermal

(C) Intravenous (D) All the above

24. Chemical nature of MAbs ?

(A) Carbohydrates (B) Protein

(C) Glyco-proteins (D) Glyco-lipids

25. The antibody class found at highest concentrations in serum is :

(A) IgG (B) IgM (C) IgE (D) IgD

26. The first recombinant vaccine produced targeted the surface antigen of which of the following virus ?

(A) DENV1 (B) Ebola virus

(C) Hepatitis A virus (D) Hepatitis B virus

27. Most Viral vaccines are thought to work by which of the following technique ?

(A) Inducing the production of antigens

(B) Inducing the production of cell wall

(C) Inducing the production of cytosolic proteins

(D) Inducing the production of antibodies

28. The efficiency of a drug is not dependent on which of the following parameter ?

(A) Activity (B) Stability

(C) Selectivity (D) General targeting

29. Which is the best method for cloning DNA in plasmid ?

(A) Sticky end cloning (B) Blunt end cloning

(C) Both (A) and (B) (D) None of the above

30. Which Technique is useful to find copy number of gene ?

(A) RTPCR (B) Immune Florescent Assay

(C) ELISA (D) DNA Finger printing

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