

**B. PHARM.
SIXTH SEMESTER
PHARMACEUTICAL BIOTECHNOLOGY
BP605T [REPEAT]**
[USE OMR SHEET FOR OBJECTIVE PART]

**SET
A**

Duration : 3 hrs.

Full Marks : 75

(PART-A: Objective)

Time : 30 min.

Marks : 20

Choose the correct answer from the following:

1×20=20

- Which of the following immunoglobulins are secretory and present in the milk?
 - IgG
 - IgM
 - IgA
 - IgE
- The immobilized enzyme produced by microencapsulation technique provides
 - An extremely large surface area
 - Smaller surface area
 - High amount of solvent
 - Relatively smaller surface area
- Which of the following is the process of converting sugar into alcohol ?
 - oxidation
 - bleaching
 - fermentation
 - pasteurization
- What type of ELISA is often used for detecting the presence of antibodies in a patient's blood?
 - Indirect ELISA
 - Direct ELISA
 - Competitive ELISA
 - Sandwich ELISA
- In the production of the Hormone-Insulin using rDNA technology, the formed recombinant DNA is introduced into
 - Bacteria
 - Fungi
 - Yeast
 - Virus
- Type IV hypersensitivity is also called as
 - Immediate hypersensitivity
 - cytotoxic hypersensitivity
 - Immune complex hypersensitivity
 - Delayed hypersensitivity
- Vaccine should be store at what temperature?
 - 0-4 Degree Celsius
 - 2-6 Degree Celsius
 - 0-8 Degree Celsius
 - 2-8 Degree Celsius
- The percentage of immunoglobulin IgG in blood is.
 - 80%
 - 3%
 - 60%
 - 0.03%
- Which hypersensitivity reactions are T cell mediated?
 - Type IV
 - Type III
 - Type I
 - Type II

10. What is the purpose of the wash step in ELISA ?
 - a. To add more enzymes to the reaction
 - b. To dilute the sample
 - c. To label the antigens
 - d. To remove unbound molecules
11. What is the name of the enzyme commonly used in ELISA for signal generation ?
 - a. Alkaline phosphatase
 - b. Tag polymerase
 - c. RNA polymerase
 - d. DNA Polymerase
12. What is the purpose of denaturing the DNA fragment in a southern blot ?
 - a. To make it easier to handle
 - b. To break the hydrogen bonds and separate the strands
 - c. To destroy the DNA
 - d. To add a radioactive label
13. The PCR technique was developed by?
 - a. Kary Mullis
 - b. Kohler
 - c. Milstein
 - d. Boyer
14. Plasmid is the circular piece of DNA present in?
 - a. Virus
 - b. Fungi
 - c. Bacteria
 - d. Algae
15. In fermentation, What does the term 'substrate' refer to ?
 - a. End product of fermentation
 - b. Microbial population
 - c. Raw material being converted
 - d. The microorganism used
16. ELISA (enzyme-linked immunosorbent assay) allows for rapid screening and quantification of the presence of _____ in a sample.
 - a. amino acid
 - b. DNA
 - c. antigen
 - d. protein
17. The specificity of an antibody is due to?
 - a. Its valence
 - b. The heavy chains
 - c. The Fc portion of the molecule
 - d. The variable portion of the heavy and light chain
18. Which organism used for the production of penicillin antibiotic?
 - a. Penicillium notatum
 - b. Aspergillus niger
 - c. Bacillus cereus
 - d. Bacillus cereus
19. The molecular scissors which cut DNA at specific sites are :
 - a. plasmids
 - b. Fusogenic agents
 - c. inoculum
 - d. Restriction enzymes
20. The first step in the PCR is called as
 - a. Annealing
 - b. Denaturation
 - c. Extension
 - d. Priming

(PART-B : Descriptive)

Time : 2 hrs. 30 min.

Marks : 35

[Answer any seven (7) questions]

1. Explain the production of hormone insulin by r DNA technology. 5
2. Classify immunity. Write the difference between immune stimulation and immune simulation. 1+4=5
3. Explain the production of penicillin G by Fermentation technology with a neat labelled flow chart. 5
4. Describe ELISA with its application. 5
5. Describe the southern blot test. 5
6. Describe the production and uses of lipase. 5
7. Explain polymerase chain reaction with applications. 5
8. Explain the structure and function of immunoglobulins. 5
9. Write in detail three different vectors used in genetic engineering 5

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PART-C: Long type questions

[Answer any two (2) questions]

1. Describe the production of monoclonal antibody by hybridoma technology with its application. 10
2. What are biosensors ? Explain the types with pharmaceutical applications. 1+9=10
3. Explain different methods of enzyme immobilisation with their advantages and disadvantages. 10

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