

B.Pharm. (CBCS Pattern) Semester-VI
BP605T - Pharmaceutical Biotechnology

P. Pages : 3

Time : Three Hours



GUG/W/24/14141

Max. Marks : 75

- Notes :
1. All questions are compulsory.
 2. Use of slide rule, Logarithmic tables, Steam tables, Mollier's chart, Drawing instruments, Thermodynamic tables for moist air, Psychrometric charts and Refrigeration charts is permitted.

1. Multiple Choice Questions.

**20x1
=20**

- 1) Biotechnology in relation to pharmaceutical sector usually involves-----.
 - a) Fabrication of protein derived products
 - b) Exploiting rDNA techniques
 - c) Preparation of monoclonal antibodies
 - d) All of the above
- 2) Immobilized enzymes are also used in manufacturing of biodiesel by immobilization of-----.
 - a) Lipase
 - b) Catalase
 - c) Kinase
 - d) None of these
- 3) A biosensor system involves the mixture of diverse objects like -----.
 - a) Controlled system
 - b) A biosensor
 - c) Information system
 - d) All of these
- 4) A ----- distinguishes a particular nucleotide arrangement and divides DNA at the specific series.
 - a) Catalyzing enzyme
 - b) Restriction enzyme
 - c) Metabolizing enzymes
 - d) None of these
- 5) An element that converts one form of energy into another measurable signal is called as-----.
 - a) Transducer
 - b) Bioreceptor
 - c) Electronics
 - d) Amplifier
- 6) ----- is the fungal organism producing amylase.
 - a) Halomonas meridian
 - b) Rhodothermus marinus
 - c) Thermomyces Lanuginosus
 - d) All of the above
- 7) The DNA amplifying invitro method is-----.
 - a) cDNA library
 - b) Genomics library
 - c) Polymerase chain reaction
 - d) Chemical analysis
- 8) Vector that can propagate in two different host species is called-----.
 - a) λ phage
 - b) Shuttle
 - c) Plasmid
 - d) Cosmid

- 9) ----- vector contains both Amp^r & LacZ gene.
- pBR 322
 - pSC 101
 - λ phage
 - pUC 8
- 10) ----- vector used for the production of Recombivax.
- pBR 322
 - pUC 8
 - λ phage
 - Cosmids
- 11) Which one of the following organism used for the large scale production of recombinant insulin?
- Plasmodium
 - Agrobacterium
 - Rhizobium
 - E. Coli
- 12) A Fab fragment -----.
- Is produced by pepsin treatment
 - Is produced by separation of heavy & light chains
 - Binds antigen
 - Lacks light chains
- 13) Where is the major histocompatibility complex molecule located?
- In the plasma of blood
 - On the cell membrane
 - In the intestinal fluid
 - On the nucleus
- 14) BCG vaccine contains -----.
- Attenuated *M. tuberculosis*
 - Killed *M. tuberculosis*
 - Killed *M. bovis*
 - Attenuated *M. bovis*
- 15) The transfer of genes from one cell to another through bacteriophage is known as-----.
- Recombination
 - Conjugation
 - Transduction
 - Transformation
- 16) Changing the codon AGC to AGA represents a ----- mutation.
- Missense
 - Nonsense
 - Frameshift
 - Deletion
- 17) Soy meal, peptone & tryptone are used as source of -----.
- Carbon
 - Carbon & Nitrogen
 - Nitrogen
 - Mineral
- 18) The residual moisture content left after primary drying of the human plasma is ----.
- 1%
 - 3%
 - 2%
 - 0.5%
- 19) Identify the genetically engineered strain used in Vitamin B₁₂ production?
- Pseudomonas denitrificans*
 - Butyribacterium reutingeri*
 - Micromonospora species*
 - Rhodopseudomonas protamicus*

- 20) What is the detection technique of auxotroph's?
- a) Spread plating
 - b) Replica plating
 - c) Streaking
 - d) Pouring

2. Solve any two.

**2x10
=20**

- a) Elaborate construction & working of bioreactor with neat labelled diagram.
- b) What is enzyme immobilization? Explain various methods of immobilization.
- c) Define & classify mutation. Add a note on spontaneous mutation.

3. Solve any seven.

**7x5
=35**

- a) Explain importance of biotechnology in pharmaceutical sciences.
- b) Write the therapeutic application of monoclonal antibodies.
- c) Write a note on ELISA technique.
- d) Difference between various antibodies.
- e) Define hypersensitivity. Explain mechanism of type I hypersensitivity.
- f) Describe characteristics of biosensor.
- g) Explain the production of Diphtheria antitoxin.
- h) Write a note on Phagocytosis.
- i) Give the production of amylase by rDNA technology.
