



BRAINWARE UNIVERSITY

Term End Examination 2023

Programme – B.Pharm-2020

Course Name – Pharmaceutical Biotechnology – Theory

Course Code - BP605T

(Semester VI)

Full Marks : 75

Time : 3:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 20=20

1. Choose the correct alternative from the following :

- (i) Select the main mediator/initiator for type II hypersensitivity reactions?
- | | |
|-----------------|---------------|
| a) Antibodies | b) Mast cells |
| c) Erythrocytes | d) Histamines |
- (ii) Select the correct option for B lymphocyte
- | | |
|--------------------|-----------------|
| a) Bursa fabricius | b) Thymus gland |
| c) Bacteria | d) None |
- (iii) Select the correct option: Plasma cells are formed by
- | | |
|------------------|----------------------|
| a) T lymphocytes | b) B lymphocytes |
| c) Both a and b | d) None of the above |
- (iv) Select the correct option: Monoclonal antibodies are formed by which of the following technologies
- | | |
|----------------------------|-------------------------|
| a) Fermentation technology | b) Hybridoma technology |
| c) Genetic engineering | d) None of the above |
- (v) Select the most predominant immunoglobulin in the body?
- | | |
|--------|--------|
| a) IgA | b) IgE |
| c) IgM | d) IgG |
- (vi) Select the IgG which is targeted against polysaccharides of encapsulated bacteria?
- | | |
|---------|---------|
| a) IgG1 | b) IgG2 |
| c) IgG3 | d) IgG4 |
- (vii) Select the method in which Aminobenzyloxymethyl filter paper for transfer
- | | |
|----------------------|----------------------|
| a) Western blotting | b) Southern blotting |
| c) Northern blotting | d) Dot blotting |
- (viii) Select the example of glucose biosensor among the following
- | | |
|-----------------|-------------------|
| a) Thermal | b) Optical |
| c) Amperometric | d) Conductometric |
- (ix) Select the false statement among the following

- a) The linearity of the sensor should be 'high'. b) Value of the electrode response per substrate concentration should be low.
- c) Chemical interference must be minimized for obtaining the correct result. d) Response time should be low.
- (x) Identify the appropriate characteristic of a photometric biosensor?
- a) Detects the change in light adsorption b) Detects the photon out for luminescent
- c) Detects the movement of electron between electrodes d) Detects the angle at which Electrons are emitted
- (xi) Select the natural mineral polymer among the following?
- a) Cellulose b) Dextran
- c) Agar d) Silica
- (xii) Choose the best mutagens for inducing mutation in microorganism?
- a) Xray b) UV ray
- c) Beta ray d) Gamma ray
- (xiii) Define the pH of the medium if the substrate contains ionic groups.
- a) pH of the medium increases b) pH of the medium decreases
- c) pH remains same d) pH of the medium affects the affinity of the substrate to the enzyme
- (xiv) Establish the correct raw material which is used for the production of alcohol?
- a) Waste liquor b) Molasses
- c) Starch d) Alkanes
- (xv) Write the manufacturing site of the platelets
- a) In Liver b) In Spleen
- c) In Gall Bladder d) In Megakaryocytes
- (xvi) Predict the compound which is produced by using Cyanide as a precursor
- a) Carotenoids b) Vitamin B12
- c) Riboflavin d) Vitamin B2
- (xvii) Name the unit with which the reporter gene in enhancer trap system is proceeded by_____
- a) Intron b) Exon
- c) Promoter d) Origin of replication
- (xviii) Discover the component the fermentation media should be free from
- a) Precursors b) Inhibitors
- c) Toxicity d) Defoamers
- (xix) Determine the yeast which is responsible for alcoholic fermentation
- a) Lactobacillus b) Bacillus
- c) Saccharomyces cerevisiae d) Escherichia coli
- (xx) Select the type of hypersensitivity reaction which occurs via IgE reaction?
- a) Type IV hypersensitivity reactions b) Type III hypersensitivity reactions
- c) Type II hypersensitivity reactions d) Type I hypersensitivity reactions

Group-B

(Short Answer Type Questions)

5 x 7=35

2. Describe the different steps involved in transduction? (5)
3. Define mutation with their types. (5)
4. Explain on the storage and stability of official vaccines. (5)
5. Describe production and applications of Amylase (5)
6. Write a short note on the examples of some cloning vectors. (5)
7. Explain two method of fermentation (5)

OR

Explain Fed-Batch Culture (5)

8. Explain the equipment related to fermentation process (5)

OR

Explain types of fermenters (5)

Group-C

(Long Answer Type Questions)

10 x 2=20

9. Illustrate production of Hepatitis B vaccine. (10)

10. Explain the production of citric acid by fermentation technology with a neat labelled flow chart. (10)

OR

Explain types of fermenters and agitators with proper diagram. (10)
