

Total No. of printed pages = 3

PY 132708

Roll No. of candidate

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2021

B. Pharm. 7th Semester (Repeater) Examination

Pharmacy

PHARMACEUTICAL BIOTECHNOLOGY

(Old Regulation)

Full Marks - 100

Time - Three hours

The figures in the margin indicate full marks
for the questions.

Answer question No. 1 and any six from the rest.

1. Answer the following questions :

(10 × 1 = 10)

(i) Type I hypersensitivity is also known as

- (a) Immune Complex (b) Cytotoxic
(c) Anaphylactic (d) None of these

(ii) Normally, vaccine should be store between _____

- (a) 10-25°C (b) 5-8°C
(c) 25-30°C (d) 2-8°C

(iii) The microbial genetics include

- (a) Involves genotype investigations of microbial species
(b) The expression system in the form of phenotypes
(c) Both of the above
(d) None of the above

(iv) The first step of hybridoma technology is

- (a) Addition of genetic marker
(b) Mixing of B-lymphocyte with the certain myeloma cells
(c) Isolation of B-lymphocyte from the animal spleen
(d) None of above

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- (v) Immobilized enzymes are also used in manufacturing of biodiesel by immobilization of
- (a) Lipase (b) Catalase
(c) Kinase (d) None of the above
- (vi) The fermentation technique requires temperate ranging between
- (a) 70-85°F (b) 60-75°F
(c) 30-65°F (d) 25-40°F
- (vii) In _____ fermentor, content is agitated via stream of air
- (a) Vaccine (b) Airlift
(c) Forced air (d) None of these
- (viii) Every immunoglobulin composed of _____ basic chain structure unit
- (a) 2 (b) 4
(c) 3 (d) 5
- (ix) MHC referred as
- (a) Major histocompatibility complex
(b) Major hemocompatibility complex
(c) Minor histocompatibility complex
(d) None of the above
- (x) Enzyme responsible for saccharification of starch
- (a) Amylase (b) Invertase
(c) Protease (d) Xylanase

2. Answer the following questions: (Any six) (6 × 15 = 90)
- (a) (i) Define immunity. Briefly discuss structure of immunoglobulins with neat diagram.
- (ii) Write a note on MHC. (10+5=15)
- (b) (i) Differentiate active immunity and passive immunity.
- (ii) What do you mean by hypersensitivity reaction? Classify each of them.
- (iii) Write a note on immune stimulation and immune suppressions. (5+5+5=15)
- (c) (i) Define the term "Genetic recombination". Briefly explain about Bacterial transformation process.
- (ii) Explain the role of restriction enzymes in gene cloning. (8+7=15)

- (d) (i) What do you mean by microbial transformation? Mention the advantages of it.
- (ii) Explain in detail different biotransformation reactions with special reference to steroids. (6+9=15)
- (e) (i) Define enzyme immobilization? Explain application of immobilization.
- (ii) Write short note on streptokinase and streptodornase. (7+8=15)
- (f) (i) What are various methods used for standardisation of Antibiotics?
- (ii) Write salient features of bioreactors.
- (iii) Describe standardization and storage of immunological products. (5+5+5=15)
- (g) (i) Discuss factors affecting enzyme kinetics.
- (ii) Discuss parameters controlled in fermentors. (10+5=15)
- (h) (i) Briefly explain the composition of nutrient media used in fermentation.
- (ii) What is the use of carrier matrices in enzyme immobilisation? What are various methods of immobilisation? (5+10=15)
- (i) Write short notes on : (Any three) (5+5+5=15)
- (i) Humulin
- (ii) Pencillinase
- (iii) Humoral immunity
- (iv) Monoclonal antibody
- (v) Amylase.
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