

Total No. of printed pages = 4

Bina Chowdhury Central Library
Girijananda Chowdhury University
Hatkhowapara, Azara, Ghy-17

BP 605 T

Roll No. of candidate

--	--	--	--	--	--	--	--	--	--

2023

B.Pharm. 6th Semester End-Term Examination
PHARMACEUTICAL BIOTECHNOLOGY – THEORY
New Regulation (w.e.f. 2017-18)

Full Marks – 75

Time – Three hours

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

- I. Answer *all* the questions : (20 × 1 = 20)
- (i) Pomato, is
- (a) A transgenic plant
 - (b) A plant obtained by organ culture
 - (c) Grafted plants of potato and tomato
 - (d) A plant developed by rDNA method
- (ii) Which of the following is not a physical method of immobilization?
- (a) Entrapment
 - (b) Adsorption
 - (c) Micro encapsulation
 - (d) None of the above
- (iii) TRANSPOSONS
- (a) Are RNA sequences
 - (b) Are DNA sequences
 - (c) Are only found in eukaryotes
 - (d) Contain no genes
- (iv) A molecule that specifically recognises the analyte in biosensor is known as
- (a) Transducer
 - (b) Bioreceptor
 - (c) Electronics
 - (d) Amplifier

[Turn over

- (v) Which pharmacological activity is improved by transformation of cortisol to prednisolone?
- (a) Analgesic (b) Diuretics
(c) Diabetic (d) Anti-inflammatory
- (vi) Enzyme that makes DNA strands using mRNA as template strand is called
- (a) DNA polymerase (b) Reverse transcriptase
(c) S1 nuclease (d) RNase H
- (vii) Example of enzyme that produce blunt end fragments of DNA is
- (a) PvuII (b) HaeIII
(c) AluI (d) All of the above
- (viii) Vector that can propagate in two different host species is called
- (a) Alpha Phage (b) Plasmid
(c) Shuttle (d) Cosmid
- (ix) Species specific anti-viral proteins are named as
- (a) Interleukins (b) Interferone
(c) Lymphoferons (d) Macrophages
- (x) The PCR which study the RNA molecule is
- (a) Basic PCR (b) RT-PCR
(c) Long PCR (d) Hot-Start PCR
- (xi) Nucleosomes is made up of
- (a) DNA, histone core protein
(b) RNA, histone core protein
(c) DNA, cells histone core protein, linkers H1
(d) RNA, histone core protein, linker H1
- (xii) Which of the following does not apply to IgG?
- (a) Appears early in the primary immune response
(b) Neutralizes bacterial toxins
(c) Can fix complement
(d) Crosses the human placenta

- (xiii) The MHC class II beta chain has a molecular weight of
(a) 28-29 KDa (b) 43-44 KDa
(c) 34 KDa (d) 11-12 KDa
- (xiv) Where the MHC molecules located in reference to the cell?
(a) Within the nucleus of the cell
(b) Within the cytosol of the cell
(c) Within the cytoplasm of the cell
(d) On the outer layer of the cell membrane
- (xv) Western blots primarily used to detect
(a) Protein (b) Lipid
(c) RNA (d) Carbohydrate
- (xvi) Which of the following BEST describe haemolytic disease of the newborn caused by Rh incompatibility?
(a) Anaphylactic (b) Immune complex
(c) Cytotoxic (d) Delayed
- (xvii) Which of the following is a polysaccharide vaccine?
(a) Anthrax vaccine (b) Rabies vaccine
(c) Hib vaccine (d) Hepatitis A
- (xviii) Mabs are specific towards
(a) A paratope (b) An antigen
(c) An epitope (d) None of the above
- (xix) Varicella- containing vaccines should be stored at a temperature of
(a) -50°C and -15°C (b) 2°C and 8°C
(c) -2°C and -8°C (d) Below 10°C
- (xx) Which of the following is incorrect regarding HAT medium?
(a) HAT medium is a selective medium
(b) Aminiopterin in the HAT medium blocks de novo pathway of nucleotide synthesis
(c) Salvage pathway requires aminopterin and thymidine
(d) Hypoxanthine is converted to guanidine by HGPRT

Bina Chowdhury Central Library
Girijananda Chowdhury University
Hatkhowapara, Azara, Ghy-17

II. Answer any *seven* from the following questions : (7 × 5 = 35)

- (a) Write the classification of vaccines with examples.
- (b) Define hypersensitivity. Explain different classes of hypersensitivity reactions. (1+4)
- (c) Discuss the steps involved in production of monoclonal antibodies with diagram.
- (d) Explain the working principle of biosensor.
- (e) Write the applications of pharmaceutical biotechnology.
- (f) Define vectors. Write the properties of different types of vectors with example. (1+4)
- (g) Briefly discuss the steps involved in PCR.
- (h) Explain humoral and cell mediated immunity.
- (i) Describe in brief about collection, processing and storage of whole human blood.

III. Answer any *two* from the following questions : (2 × 10 = 20)

- (a) Explain different methods of enzyme immobilization and write advantages and disadvantages of each.
- (b) Discuss the penicillinase production in detail and write the application of penicillinase.
- (c) Write the principle and procedure involve in ELISA. Mention the applications of ELISA. (6+4)