Total No. of printed pages = 4

BP 605 T

Roll No. of candidate

2020

B.Pharm. 6th Semester End-Term Examination

Pharmacy

PHARMACEUTICAL BIOTECHNOLOGY

Full Marks – 75 Time – Three hours

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

1. Answer the following (MCQ) $(20 \times 1 = 20)$

(i) The First polio vaccine was developed by

(a) Inaba (b) Ogawa

(c) Salk (d) Sabine

(ii) Use of animal organs in humans is called

(a) Gene Knock out (b) Cloning

(c) Trasgenesis (d) Gene Therapy

(iii) POMATO is

(a) A transgenic plant

(b) Grafted plants of Potato and Tomato

(c) A plant obtained by organ Culture

(d) A plant developed by rDNA method

(iv) The immobilized technique involving chemical method is

(a) Covalent bond formation dependent

(b) Non-Covalent bond formal ion dependent

(c) Both (a) and (b)

(d) Ionic bond formation dependent

[Turn over

(v) Which medium is used for the production of penicillin using immobilized cells

(a) 1% peptone medium (b) Glucose Medium

(c) Yeast extract Medium (d) LB broth

(vi) Enzymes can be precipitated by using

(a) Sugar (b) Acid

(c) Salt (d) Base

(vii) The concentrated form of enzyme can be dried by using

(a) Tray dryer (b) Freeze dryer

(c) Drum dryer (d) Fluidized bed dryer

(viii) The molecular weigh of F-plasmids is

(a) 22.5×10^6 (b) 22.5×10^5

(c) 24.5×10^6 (d) 24.5×10^5

(ix) Restriction endonuclease enzymes are suitable for

(a) Cutting of DNA (b) Joining of DNA

(c) Cutting and joining of DNA (d) None of above

(x) Hepatitis B vaccine was discovered in which year

(a) 1997 (b) 1985

(c) 1988 (d) 1987

(xi) PCR is developed by

(a) Karl erekey (b) Karry muilis

(c) Watson and krick (d) None of above

(xii) The cell mediated immune response depends on

(a) Basophils (b) Monocytes

(c) Lymphocytes (d) Chromocytes

(xiii) Immunoglobulin is also called as

(a) Antigen (b) Antibody

(c) Antigen and Antibody (d) None of above

(xiv) J-chain is associated with which of the following immunoglobulin

(a) lgG (b) lgM

(c) lgD (d) lgL

(xv) A hapten is

(a) An epitope

(b) A paratope

(c) A small chemical grouping which reacts with performed antibodies

(d) A carrier

(xvi) The predominant hypersensitivity reaction involving IgE is

(a) Type-I (b) Type-II

(c) Type-III (d) Type-IV

(xvii) Yellow fever virus can be attenuated by serial passage on cultures of

(a) Embryonated eggs (b) Tissue

(c) Chick embryo Tissue (d) Pig embryo tissue

(xviii) The Chemical used for conversion of toxin into toxoid is

(a) Ethanol (b) Chloroform

(c) Formaldehyde (d) Hydrochloric acid

(xix) BCG vaccine contains

(a) Attenuated *M.tuberculosis*

(b) Killed *M.tuberculosis*

(c) Killed *M.bovies*

(d) Attenuated *M.bovies*

(xx) How many types of histone molecules are found in nature

(a) 3 (b) 4

(c) 5 (d) 6

2. Answer any Seven from the Following $(7 \times 5 = 35)$

(a) Define immobilization? Write the advantages of immobilized enzymes over free enzymes.

(b) Explain the production and industrial application of amylase.

(c) Define Vector. Write the properties and examples of some artificial vectors used in rDNA technology.

(d) Write the significance of genetic engineering in pharmacy.

(e) Classify interferons and write their functions.

(f) Write the mechanism of phagocytosis and inflammation.

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(g) Define Hypersensitivity. Explain different classes of hypersensitivity reactions.

(h) Discuss the steps involved in preparation of vaccines.

(i) Write short notes on $(2 \times 2.5 = 5)$

(i) ELISA

(ii) Mutation.

3. Answer any two from the Following $(2 \times 10 = 20)$

(a) Write the importance of PCR in rDNA technology and explain the steps involved in PCR.

(b) Define Immunity. Write the differences between active and passive immunity. Give some examples of immunizing agents under each class of immunity

(c) Explain the production procedure of Penicillins and Vitamin B_{12}.