Seat Number | | | | | | |

CJ-19

BP-605-T

Pharmaceutical Biotechnology

(736605)

Total Pages : 7]

Time : 3 Hours **Max Marks : 75**

Note : (1) Do not write anything on question paper except Seat No.

(2) Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.

(3) Students should note, no supplement will be provided.

(4) *All* questions are compulsory.

(5) Draw a neat labelled structure.

1. Choose the proper alternative of the following : 20×1=20

(*i*) Which of the following materials is used for emzyme immobilization by means of cross linking ?

(*a*) Cellulose

(*b*) Collagen

(*c*) Polyacrylamide gel

(*d*) Polyvinyl alcohol

(*ii*) Which of the following biosensors measures change in heat ?

(*a*) Colorimetric (*b*) Optical

(*c*) Piezoelectric (*d*) Calorimetric

P.T.O.

(iii) DNA ligase catalyses the formation of ..... bond.

(a) Ionic (b) Electrostatic

(c) Covalent (d) Hydrogen

(iv) Joining of the primer to the single stranded DNA in PCR is called :

(a) Denaturation (b) Annealing

(c) Extension (d) Elongation

(v) Telomeric sequences are found in :

(a) HAC (b) BAC

(c) YAC (d) PAC

(vi) Which of the following cell type produces antibodies ?

(a) Macro phage (b) T-Lymphocytes

(c) Natural killer (d) Plasma cell

(vii) Hybridoma technology was developed by :

(a) Kohler and Milstein

(b) Khorana and Nirenberg

(c) Khorana and Korenberg

(d) Beedle and Tautum

(viii) Which of the following gels is commonly used in Western blotting ?

(a) Agarose gel

(b) Polyacrylamide gel

(c) High resolution gel

(d) Both (a) and (b)

(ix) The critical factor which influence the stability of vaccines is :

(a) Moisture (b) Light

(c) Temperature (d) Gas

(x) The process of weakening a pathogen is called :

(a) Vaccination

(b) Attenuation

(c) Immunization

(d) Virulence

(xi) Method used to get immobilized enzyme is :

(a) Adsorption

(b) Absorption

(c) Chemical reaction

(d) Ion exchange

(*xii*) PCR is used :

(*a*) To diagnose genetic disease

(*b*) To solve crime

(*c*) To study gene function

(*d*) All of the above

(*xiii*) Northern blotting is :

(*a*) Widely different than Southern blotting

(*b*) Another name of Southern blotting

(*c*) Analogous to Southern blotting

(*d*) None of the above

(*xiv*) ELISA stands for :

(*a*) Enzyme Linked Immune System Assay

(*b*) Enzyme Linked Immunosorbent Assay

(*c*) Enzyme Ligase Immunosorbent Assay

(*d*) Enzyme Linked Immunosorbent Assessment

(*xv*) The term Southern blotting refer to :

(*a*) Comparison of DNA fragment from two sources

(*b*) Attachment of probes to DNA

(*c*) Transfer of probes to DNA fragment electrophoretic gel to nitrocellulose sheet.

(*d*) Transfer of DNA fragment in-vitro cellulose membrane to electrophoretic gel

(*xvi*) Restriction endonucleases :

(*a*) Synthesize DNA

(*b*) Restrict Nuclear Activity

(*c*) Cleave DNA fragment

(*d*) Break DNA at random

(*xvii*) Which of the following Antibody gives primary immune reaction ?

(*a*) IgG (*b*) IgM

(*c*) IgA (*d*) IgE

(*xviii*) The source of Interferon alpha is :

(*a*) Fibroblast

(*b*) Leukocytes

(*c*) Natural killer cell

(*d*) All of the above

(*xix*) Polymerase enzyme used for PCR study is extracted from :

(*a*) *E. coli* (*b*) *B. subtilis*

(*c*) *T. aquaticus* (*d*) *A. niger*

(xx) Which of the following is role of bactriophase in transduction ?

(a) Vector

(b) Donor

(c) Recipient

(d) Episome

20

2. Attempt any *two* :

(i) What is Genetic Engineering ? Explain steps involved in genetic engineering.

(ii) Write a note on enzyme immobilization in brief.

(iii) Write the principle and procedure involved in ELISA. Mention application of ELISA.

7×5=35

3. Attempt any *seven* :

(i) Write a note on Biosensors.

(ii) Define clonning vector. Explain briefly about different types of cloning vector with example of each.

(iii) What is PCR ? Explain in detail about the steps involved in PCR.

(iv) Explain different types of immunity.

(v) Explain in brief production of Hepatitis-B vaccine using *r*-DNA technology.

(vi) Write a note on principle, procedure and application of Southern blotting.

(vii) Differentiate between eukaryote and prokaryote genetic organization.

(viii) What is plasma substitutes and what are its ideal properties ?

(ix) Differentiate between submerged and solid state fermentation.