BRAINWARE UNIVERSITY

Term End Examination 2021 - 22
Programme – Bachelor of Pharmacy
Course Name – Pharmaceutical Biotechnology
Course Code - BP605T
(Semester VI)

Time allotted : 1 Hrs.30 Min. **Full Marks : 75**

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question) 1 x 75=75

Choose the correct alternative from the following :

(1) The first synthetic antibiotic was?
a) Tetracycline b) Nystatin
c) Chloramphenicol d) Ampicillin

(2) Using genetic techniques in forensic science is also called
a) Genetic fingerprinting b) In vivo culture
c) Hybridoma technology d) Gene transfer

(3) The most commonly employed cross-linked polymer is
a) Collagen b) Cellulose
c) Polyacrylamide gel d) Cation exchange resin

(4) Glucose biosensor is an example of_____ biosensor.
a) Thermal b) Optical
c) Amperometry d) Conductometric

(5) Highest percentage of starch present in
a) Amylase b) Amylopectin
c) Both d) None of these

(6) Who is the inventor of biosensor?
a) Robert Hooke b) Thomas Alva Edison
c) Leland C Clark, Jr d) Einstein

(7) In a pregnancy kit, which molecule does the kit actually test for?
a) Baby's urine test b) Blood test
c) HCG test d) Amniotic fluid test

(8) Which of the following is a 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

(9) Which of the following is a characteristic of DNA biosensor?

a) Detects the change in light adsorption
b) Detects the photon out for luminescent
c) Detects the movement of electron between electrodes
d) Formation of DNA recognition layer

(10) Which of the following are natural mineral polymers?

a) Cellulose
b) Dextran
c) Agar
d) Silica

(11) What is the name of the method used to attach stationary solids by weak physical forces?

a) Absorption
b) Adsorption
c) Cross linking
d) Capillary action

(12) What is the suitable form of ionic group of enzymes?

a) Acidic
b) Basic
c) Both a or b
d) Neutral

(13) If the substrate contains ionic groups, what happens to the pH of the medium?

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

(14) A short peptide region fused to a protein of interest is known as_____.

a) Tag
b) Oligonucleotide
c) Fragment
d) Dime

(15) Proteins at times are not soluble in the cell and fo aggregates known as_____

a) Coagulation
b) Aggregated mass
c) Inclusion bodies
d) Insoluble mass

(16) The reporter gene in enhancer trap system is proceeded by_____

a) Intron
b) Exon
c) Promoter
d) Origin of replication

(17) Plasmids that cannot be transferred between bacteria through a pilus, then it is called as__ _____

a) Non-transmissible
b) Non-mobilizable
c) Non Transferrable
d) Immobilizer

(18) PCR was invented by

a) Kary Mullis
b) James Watson
c) John Hopkins
d) Hargobind Khorana

(19) Taq polymerase is a _____ polymerase.

a) Heat stable
b) Buffering
c) Denaturant
d) Large

(20) DNA libraries are collection of _____

a) RNA
b) Cloned DNA fragments
c) Bacteriophages
d) Viral particles

(21) c- DNA libraries are produced from

a) RNAs
b) Messenger RNAs
c) Transfer RNAs
d) Ribosomal RNAs

(22) Viral mediated gene transfer is called_____

a) Conjugation
b) Transduction
c) Transformation
d) Transversion

(23) The temperature cycles in a PCR are in the order

a) 95° , 55° , 72°
b) 55° , 72° , 95°
c) 72° , 55° , 95°
d) 95° , 72° , 55°

(24) Which enzyme is active at 72° in the polymerase chain reaction____

a) Isomerase
b) Exonuclease
c) Polymerase
d) Endonuclease

(25) The vaccines prepared through recombinant DNA technology are

a) Third generation vaccines
b) First generation vaccines
c) Second generation vaccines
d) None

(26) The DNA fragments have strictly ends due to _____

a) Endonuclease
b) Unpaired bases
c) Calcium ions
d) Free methylation

(27) Which bacterium is used in the production of insulin by genetic engineering?

a) Saccharomyces
b) Rhizobium
c) Escherichia
d) Mycobacterium

(28) The trade name of human insulin is ____

a) Humatrope
b) Humulin
c) Intron
d) Activase

(29) Recombinant plasmids are added to a bacterial culture that has been pretreated with __ ion s

a) Iodine
b) Magnesium
c) Calcium
d) Ferric

(30) Which enzyme is used to join together two different types of DNA molecules?

a) Ligase
b) Endonuclease
c) Exonuclease
d) Protease

(31) Which of the following enzymes in bacteria are responsible for restricting the growth of vi ruses?

a) Restriction endonuclease
b) Topoisomerase
c) Gyrase
d) Protease

(32) All of the following are applications of rDNA technology except

a) Treatment of human genetic disorders
b) Production of human proteins in bacterial cell s
c) Using bacteria to detect the presence of carcin ogens
d) Altering plants to make them resistant to pests

(33) Which molecules move faster in gel electrophoresis?

a) Longer
b) Smaller
c) Positively charged, negatively charged
d) Heavier, lighter

(34) Which of the following techniques involves molecules of single stranded DNA bound to g lass slides or silicon chips?

a) DNA microarrays
b) Southern blots
c) PCR
d) Electroporation

(35) The source DNA for interferon production was isolated from

a) mRNA of host
b) dsDNA of host
c) Chemical synthesis
d) Mutated cell

(36) Which type of hypersensitivity reaction occurs via IgE reaction?
a) Type IV hypersensitivity reactions
b) Type III hypersensitivity reactions
c) Type II hypersensitivity reactions
d) Type I hypersensitivity reactions

(37) Which of the following drug induce all the four types of hypersensitivity reactions?
a) Penicillin
b) Sulfonamides
c) Local anaesthetic
d) Salicylates

(38) Type I hypersensitivity requires which of the following initial priming events to occur
a) Sensitization
b) Secondary immune response
c) Cellular trauma
d) Degranulation

(39) Which of the following is main mediator/initiator for type II hypersensitivity reactions?
a) Antibodies
b) Mast cells
c) Erythrocytes
d) Histamines

(40) Which of the following is a common treatment for type III hypersensitivity reactions?
a) Anti inflammatory steroid treatment
b) Anti histamine treatment
c) Hyposensitization injection
d) rhoGAM injection

(41) Which one of the following is not an example of type IV hypersensitivity reaction?
a) Latex allergy
b) Contact dermititis
c) Hemolytic disease of the new born
d) A positive tuberculin skin test

(42) Cancer results when a mutation leads to which of the following?
a) Cell death
b) Apoptosis
c) Loss of cell cycle control
d) Shutdown of cell cycle

(43) What kind of defense barrier is provided by the mucous membrane?
a) Physical
b) Mechanical
c) Chemical
d) Biological

(44) Antibodies disappears very quickly in which immunity?
a) Active
b) Passive
c) Auto immune
d) Natural induced

(45) How many types of antibody are present?
a) 2
b) 4
c) 5
d) 6

(46) Which of the following produces monoclonal antibodies?
a) Fermentation technology
b) Hybridoma technology
c) Genetic engineering
d) None of these

(47) Which of the following is predominant immunoglobulin in the body?
a) IgA
b) IgE
c) IgM
d) IgG

(48) Which of the following IgG is targeted against polysaccharides of encapsulated bacteria?
a) IgG1
b) IgG2
c) IgG3
d) IgG4

(49) Which of the following is serum hepatitis?
a) HAV
b) HBV
c) HCV
d) HIV

(50) Immunity in which lymphocytes recognizes the antigen and microorganisms is called as

a) Phagocytosis
b) Cell mediated immunity
c) Tissue grafting
d) Humoral immunity

(51) Western blotting is the technique for the detection of

a) Specific DNA in a sample
b) Specific RNA in a sample
c) Specific protein in a sample
d) Specific glycolipid in a sample

(52) Arrange the following in correct order__ 1. Southern blotting -----a. Alwine 2. Western bl otting------b. EM Southern 3. Northern blotting-----c. A.Jeffrey 4. DNA fingerprinting--d. Towbin

a) 1-a, 2-c, 3-d, 4-b
b) 1-b, 2-d, 3-a, 4-c
c) 1-b, 2-a, 3-d, 4-c
d) 1-b, 2-c, 3-a, 4-c

(53) Which of the following technique is used in DNA finger printing?

a) Western blotting
b) Southern blotting
c) Northern blotting
d) Eastern blotting

(54) Labelled antibodies are used to detect

a) Detect the presence of a particular DNA mole cule in southern blotting
b) Detect the presence of a particular RNA mole cule in southern blotting
c) Detect the presence of a particular protein mol ecule in southern blotting
d) Detect the presence of a particular protein mol ecule in western blotting

(55) DNA finger printing was developed by

a) Francis Crick
b) Khorana
c) Alec Jeffrey
d) James Watson

(56) Which is a typical feature of a prokaryotic cell?

a) DNA is absent
b) Cell wall is absent
c) Nucleus is absent
d) RNA is absent

(57) Which ribosome is present in prokaryotic cell

a) 80S
b) 70S
c) 50S and 40S
d) 60S and 30S

(58) Genetic mutation occurs at the time of

a) DNA repair
b) DNA replication
c) Cell division
d) RNA transcription

(59) Ultimate source of genetic variation is?

a) Mutation
b) Sexual reproduction
c) Meiosis
d) Evolution

(60) Mutation is generally due to

a) Lethal gene
b) Dominant gene
c) Recessive gene
d) Complementary gene

(61) In mutational event, when adenine is replaced by guanine, it is

a) Transition
b) Transcription
c) Transversion
d) Frame shift mutation

(62) Muller was first to produce induced mutations in by exposing them x rays.

a) Paramecium
b) Arabidopsis
c) Drosophila
d) Xenopus

(63) Mutation is

a) Change which affects the offspring's of F2 ge
b) Change that is inherited

neration

c) Change in parents not inherited
d) Plant growth controlling factor

(64) X ray causes mutation by

a) Deletion
b) Transition
c) Transversion
d) Base substitution

(65) The induction of mutation by X rays was discovered by

a) Muller
b) Hugo de Vries
c) Weismann
d) Morgan

(66) A mutation that does not alter the protein production is called a

a) Deletion mutation
b) Inversion mutation
c) Silent mutation
d) Transverse mutation

(67) Original: ATCCAT mutation: ATCGCAT which type of mutation is occurred?

a) Deletion
b) Inversion
c) Insertion
d) Transverse

(68) Who first isolated citric acid?

a) Thomas Edison
b) Carl Wilhelm
c) Charles Darwin
d) Francis Crick

(69) Which of the following organisms is not used for the production of citric acid?

a) Aspergillus wentii
b) Bacillus licheniformis
c) Candida oleophila
d) Saccharomyces cerevisiae

(70) Citrate is the feedback inhibitor of _____

a) Hexokinase
b) Phosphofructokinase
c) Pyruvate dehydrogenase
d) Malate dehydrogenase

(71) Who discovered the citric acid cycle?

a) Hans Krebs
b) Carl Wilhelm
c) Wehmer
d) Adam

(72) How inoculum is prepared in the production of antibiotics?

a) On solid media
b) On liquid media
c) First on solid media than on liquid media
d) On suspension

(73) pH required for the production of penicillin will be _____

a) 8.0
b) 7.5
c) 6.5
d) 5.0

(74) The doubling time of Penicillium notatum is _____

a) 6 hrs
b) 5 hrs
c) 4 hrs
d) 3 hrs

(75) What is the precursor of penicillin?

a) Benzylpenicillin
b) Isopenicillin N
c) phenylacetic acid
d) L-α aminoadipic acid