Sem-I Semester
10/1/2024
MPO
Pharmacology

Duration : 3 hours **Total Marks : 75**

Q. 1 Attempt all multiple-choice questions **20 M**

Sr No	Questions		Options
1	A genomic DNA possesses functioning units, a group of genes under the influence of promoters known as	a	operons
		b	genes
		c	anticodon
		d	codon
2	nucleosome is the primary structure of ——?	a	Chromosome
		b	Solenoid
		c	Thymine
		d	Chromatin
3	What separates one nucleosome core from another?	a	Spacer DNA
		b	Solenoid
		c	Thymine
		d	Chromium
4	In DNA adenine normally pairs with	a	Guanfacine
		b	Cytosine
		c	Thymine
		d	Uracil
5	Gene mapping provides useful information about chance of	a	inheritance of disorders
		b	inheritance of genes
		c	inheritance of recessive gene
		d	inheritance of dominant gene
6	-------- is a typical trimeric G protein	a	Actin
		b	Transducin
		c	Protamin
		d	Creatinine
7	Which of the following plasma membrane receptors activate signalling pathways usually by forming molecular dimers that result in protein phosphorylation reactions upon binding of their specific ligand?	a	Receptor tyrosine kinases
		b	Ion Channel
		c	G protein coupled Receptors
		d	Nuclear Receptors

8	Which of the following has an antagonistic action to adenylate cyclase?	a	The active GTP-á subunit of a G protein
		b	Phosphodiesterase
		c	Cyclic adenosine monophosphate (cAMP)
		d	Protein kinase
9	Which of the following signalling molecules enters the cell to initiate its action?	a	Thyroxin
		b	Insulin
		c	Glucagon
		d	Transferrin
10	Phosphatidylinositol bisphosphate (PIP2) can be cleaved by phospholipase C to produce lipid-derived second messengers. Which of the following are the two second messengers derived from PIP2?	a	Phosphatidylcholine and cyclic AMP (cAMP)
		b	Diacylglycerol (DAG) and inositol trisphosphate (IP3)
		c	Protein kinase C (PKC) and nitric oxide (NO)
		d	Inositol triphosphate (IP3) and protein kinase C (PKC)
11	SDS stands for	a	Silicon decasilver
		b	Salycylic decasulphate
		c	sodium dodecylsulphate
		d	Sodium decasulphate
12	Enzymes that cut DNA at or near a specific recognition nucleotide sequence are known as.....	a	Restriction enzymes
		b	Recognition enzymes
		c	Polypeptides
		d	Cutter Proteins
13	----- is aprocess of transferring a desirable DNA into the living cell through, the use of glass micropipette	a	Micropepetting
		b	Micromodification
		c	Microinjection
		d	Micronization
14	Treatment of disease by inducing, enhancing, or suppressing immune response in known as -----	a	Immunotherapy
		b	Immunity
		c	Chemotherapy
		d	Homeopathy

15	Vector based cancer vaccine uses ----- as vector to stimulate patients' immune system.	a	Virus
		b	Proteins
		c	Amino acids
		d	Free radicals
16	Monoclonal Antibodies attached with chemotherapy drug are known as	a	Chemoattractant
		b	Chemo-cure
		c	Chemo-labelled
		d	Chemotherapeutic agent
17	.....are antibodies from nonhuman species whose protein sequence is modified to increase their similarity to antibody variant produced in human body.	a	Humanized antibodies
		b	Monoclonal antibodies
		c	Labelled antibodies
		d	Vector antibodies
18	------ is to bring cells or tissues to a zero metabolism and nondividing state.	a	Apoptosis
		b	Cell Death
		c	Cryopreservation
		d	Humanization
19	------is a measure of proportion of live, healthy cells within a population	a	Cell viability
		b	Cryopreservation
		c	Vitality
		d	Flow cytometry
20	Measuring properties of cells as they flow in a fluid suspension across an illuminated light path is known as -----	a	Cryptology
		b	Cell Analogy
		c	Flow cytometry
		d	Cytology

Q. 2 Answer Any Two from the following. **20 M**

1. Write a note on different types of cloning vectors used in recombinant DNA technology and enlist two applications of recombinant DNA technology.

2. What is humanization of antibody therapy. Give its advantages and applications with suitable examples

3. Write in detail about different types of cell culture media and add note on cryopreservation

Q. 3 Answer Any Seven from the following. **35 M**

1. Give a detailed account on genome Organization
2. Classify receptor family and add a detailed note on Tyrosine kinase receptors.
3. Elaborate on mitogen-activated protein kinase (MAPK) signalling
4. Write in detail about PCR and their applications.
5. Give application of gene therapy in clinical practice with examples.
6. Define proteomics and write their applications in detail.
7. Elaborate on applications of immunotherapeutic in clinical practice.
8. Elaborate on general procedure for cell cultures preparation emphasising on isolation of cells, subculture, and characterization of cells.
9. Write in detail about Principles and applications of cell viability assays.

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