

M.Sc. BIOTECHNOLOGY
Third Semester
PHARMACOLOGY (MDC)
(MBT - 306)

Duration: 3Hrs.

Full Marks: 70

Part-A (Objective) =20
Part-B (Descriptive) =50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins.

Marks: 50

Answer any four from Question no. 2 to 8
Question no. 1 is compulsory.

1. What is Pharmacogenomics? Why is its study important? (5+5=10)
2. What is blotting? Describe the southern blotting technique. (2+8=10)
3. Why is taq polymerase used in PCR? What is the role of primer in PCR? Describe the steps involved in PCR. (2+3+5=10)
4. Describe percolation, maceration, Soxhlet Extraction and supercritical fluid extraction. (2.5×4=10)
5. Write short notes on- Western Blotting, UV-Spectroscopy, Rotary Evaporator and Lyophilizer. (2.5×4=10)
6. Briefly describe- Irwins Profile Test, LD 50, IC 50 and Lipinskis Rule of Five. (2+2+2+4=10)
7. What is drug nomenclature? Describe hemostatics, anesthetics, vasodilators, emollients. (2+8=10)
8. State the common routes of administration of drugs when a drug has to be absorbed in the body. What do you mean by gene expression? Explain briefly. (5+5=10)

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Duration: 20 minutes

Marks – 20

(PART A - Objective Type)

I. Choose the correct answer:

1×20=20

1. Gene expression is related with
(a) protein synthesis (b) carbohydrate synthesis
(c) protein degradation (d) carbohydrate degradation
2. DNA-RNA-Protein is also known as
(a) Reverse transcription (b) Molecular biology law
(c) Central Dogma (d) All of the above
3. The response to a drug amongst different individual can be
(a) Same (b) Different
(c) both a and b (d) Always same
4. Proteomic studies deals with
(a) protein function (b) protein structure
(c) protein function and structure (d) amino acid sequence
5. Determination of RNA sequence of desired interest is also known as
(a) Northern blotting (b) Southern blotting
(c) Western blotting (d) RNA Blotting
6. The bond between amino acid is known as
(a) glycosidic bond (b) phosphodiester bond
(c) peptide bond (d) ester bond
7. PCR is used for
(a) Quantifying DNA (b) Amplifying DNA
(c) Preserve DNA (d) None of the above
8. Probes are
(a) single stranded (b) double stranded
(c) single or double stranded (d) only b
9. PCR stands for
(a) Primer Chain Reaction (b) Peptide Chain Reaction
(c) Polypeptide Chain Reaction (d) Polymerase Chain Reaction

10. Western blotting is used for
(a) DNA-DNA interaction (b) RNA-DNA interaction
(c) Protein-Protein Interaction (d) DNA-Protein interaction
11. Branch of pharmacology which deals with the natural drugs and their constituents
(a) pharmacognosy (b) pharmacodynamics
(c) pharmacogenomics (d) immunopharmacology
12. Puerperal fever in maternity wards is related to
(a) Lister (b) Semmelweis
(c) Gallan (d) Papyrus
13. Compound introduced by Ehrlich to treat syphilis
(a) Paracetamol (b) Acetylcholine
(c) Arsphenamine (d) Insulin
14. Gerhard Domagk is related to
(a) Prontosil (b) Penicillin
(c) Streptomycin (d) Crocin
15. Penicillin was discovered by
(a) Alexander Fleming (b) Winston Churchill
(c) Ronald Ross (d) Louis Pasteur
16. Who introduced antiseptics in surgical procedures?
(a) Lister (b) Fleming
(c) Darwin (d) Einstein
17. Branch of pharmacology which refers to application of drugs in prevention, control and treatment of disease
(a) Pharmacotherapeutics (b) Pharmacogenomics
(c) Pharmacodynamics (d) Pharmacometrics
18. Rotary evaporator is used for
(a) Drying of extract (b) Concentration of extract
(c) Extraction of components (d) None of the above
19. Lyophilizer is used in the
(a) Drying of extract (b) Concentration of extract
(c) Liquefaction of extract (d) None of the above
20. Thin Layer Chromatography is used for
(a) Separation (b) Identification
(c) only a (d) both a & b
