



GITAM
UNIVERSITY
(Estd. u/s 3 of the UGC Act, 1956)

Centre for Distance Learning

(Approved by Joint Committee of UGC-AICTE-DEC)

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SPDBT - 101: CELL BIOLOGY & GENETICS

ASSIGNMENT – I 5 X 3 =15 Marks

1. Explain ultra structure, composition and function of Plasma membrane.
2. Describe structure and functions of Ribosomes.
3. Write in detail the law of independent assortment and law of segregation.
4. Give an account of sex linked inheritance.
5. What is Hardy–Weinberg law and explain its applications.

ASSIGNMENT – II 5 X 3 =15 Marks

6. Explain different stages of Mitosis.
7. Give an account of structure and function of Mitochondria.
8. Write the principles and applications of Back cross and test cross.
9. Explain gene interaction with examples .
10. Give an account of multiple allelism.

SPDBT - 102: BIOMOLECULES

ASSIGNMENT – I 5 X 3 =15 Marks

1. Write about the modified amino acids.
2. Give an account on tertiary and quaternary structure of proteins.

3. Give an account on classification of carbohydrates.
4. Give an account on classification of lipids.
5. Explain the structure and properties of nitrogen bases.

ASSIGNMENT – II 5 X 3 =15 Marks

6. Explain the classification and properties of amino acids.
7. Explain the solid phase peptide synthesis of proteins.
8. Explain the structure and properties of fatty acids.
9. Explain the classification and properties of lipids.
10. Give an account on RNA.

SPDBT-103: BIOCHEMICAL TECHNIQUES AND

BIOSTATISTICS

ASSIGNMENT – I 5 X 3 =15 Marks

1. Write about the principle, description and applications of ion exchange chromatography.
2. Describe in detail about the two dimensional gel electrophoresis (2D) and visualization of proteins in gel.
3. What is Circular Dichroism? Write the principles and instrumentation of circular dichroism.
4. Write about the applications of radioisotopes in biological sciences.
5. Describe in detail about the sampling theory.

ASSIGNMENT – II 5 X 3 =15 Marks

6. Explain about the R_f value and write about the advantages of TLC over conventional paper chromatography.
7. What is native PAGE? Give an account on isoelectric focusing.
8. Write about the principles and applications of analytical ultracentrifuges.
9. What is radioactive decay and write about the liquid scintillation counting and quenching?
10. Write about the scientific data description and chi-square test.

SPDBT - 104: ENZYMOLOGY AND METABOLISM

ASSIGNMENT – I 5 X 3 =15 Marks

1. Give an account on coenzymes.
2. Give an account on zymogen activation and covalent modification.
3. Explain the process of glycolysis and its regulation.
4. Write about the urea cycle.
5. Give an account on synthesis of pyrimidine nucleotides.

ASSIGNMENT – II 5 X 3 =15 Marks

6. Explain the importance of Michaelis – Menten equation and Line Weaver –Burk plot.
7. Give an account on enzyme immobilization.
8. Give an account on electron transport chain.
9. Explain the synthesis of triglycerides and phospholipids.
10. Explain the formation of deoxy ribonucleotides.

SPDBT- 105: MICROBIOLOGY AND IMMUNOLOGY

ASSIGNMENT – I 5 X 3 =15 Marks

1. Give an account of different techniques of bacterial culture.
2. Explain briefly different types of animal viruses.
3. Describe about cells and organs of immune system.
4. Give an account of cytokines.
5. Give a brief note on immunological tolerance.

ASSIGNMENT – II 5 X 3 =15 Marks

6. Explain in detail microbial activity of soil.
7. Give an account on multiplication of λ phage.
8. Explain different types of vaccines.
9. Describe in detail about antibody diversity.
10. Explain different types of autoimmunity and auto immune diseases.

NOTE:

- 1) Last date for submission of assignments for all the courses / papers is- 15-10-2017
- 2) Non-submission of assignments as per the scheduled date mentioned above attracts a fine of Rs. 200/- upto 31-10-2017 per each assignment of a course / paper and under any circumstances the assignments will not be accepted from 1st November, 2017.
- 3) Assignments are to be written in the Book-lets provided by CDL and other formats are not accepted.
- 4) Answer all 10 questions, in a single book only.