



**Centre for Distance Learning**

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

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**SPDBT 101- CELL BIOLOGY AND GENETICS**

**Assignment -1 5 X 3 = 15**

1. Discuss on Limitations of Mendels laws
2. Write notes on prokaryotic and eukaryotic elements
3. Write the difference between Exocytosis and Endocytosis
4. What is cell cycle and explain different stages of cell cycle
5. Explain Dihybrid cross and Law of independent assortment and significance

**Assignment -2 5 X 3 = 15**

6. Given an account of Hardy – Weinbery law and genetic equilibrium
7. What are the Principles and applications of Back Cross and testcross
8. Give a detailed account on extra chromosomal inheritance
9. Write detailed account on structure and functions of mitochondria
10. Discuss the significance of monohybrid and dihybrid crosses in genetic

**SPDBT 102-BIOMOLECULES**

**Assignment -1 5 X 3 = 15**

1. Write about classification and properties of proteins
2. Discuss the general properties and functions of carbohydrates
3. Write the structures and properties of cholesterol

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**Assignment -2 5 X 3 = 15**

6. Describe the principle, instrumentation and applications of Infrared spectroscopy
7. Write notes on
  - (i) applications of Iso-electric focusing
  - (ii) two dimensional gel-electrophoresis ( 2D )
8. Explain the applications of radioisotopes in biological sciences
9. Explain the Principle, description and applications of Gel – filtration
10. Elaborate the Principle and applications of Agarose gel electrophoresis

**SPDBT 104 - ENZYMOLOGY AND METABOLISM**

**Assignment -1 5 X 3 = 15**

1. Define ‘enzyme specificity’. Discuss the factors influencing ‘enzyme specificity’
2. Explain the ‘Transition state theory’ of enzymes
3. Explain the chemistry of glycogen metabolism
4. What is SCID? Explain the Causes, symptoms prevention of SCID
5. Explain the kinetics of enzyme – catalysed reactions using Michaelis – Menten equation

**Assignment -2 5 X 3 = 15**

6. Explain the reactions of Urea cycle
7. Explain different stages of electron Transport chain
8. Explain the phenomenon of ‘Irreversible enzyme Inhibition’ with examples
9. Explain in detail the synthesis of pyrimidine nucleotides

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4. Discuss the structural differences between DNA and RNA
5. Give an account of classification and functions of lipids

**Assignment -2 5 X 3 = 15**

6. Discuss the various aspects of heterophony saccharides
7. Give an account of structure and properties of unsaturated fatty acids
8. Discuss the tertiary and quaternary structure of proteins
9. Explain the determination of amino acid sequence of protein
10. Write an essay on structure and properties of simple and complex triglycerides

**SPDBT 103- BIOCHEMICAL TECHNIQUES AND BIostatISTICS**

**Assignment -1 5 X 3 = 15**

1. Describe the principle, procedure and applications of Ion exchange chromatography
2. What is radioactivity? Explain the radioactivity decay, detection and the measurement of radioactivity
3. Explain the principle, methodology and applications of x-ray diffraction
4. Explain the definition, description tests of significance – F, T and chi-square tests
5. Explain the advantages of TLC over paper chromatography and applications of TLC

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10. Explain the chemistry of ‘Krebs Cycle’

**SPDBT 105 - MICROBIOLOGY & IMMUNOLOGY**

**Assignment -1 5 X 3 = 15**

1. i) Describe clinically important bacteria  
ii) Describe the structure of Bacferiophage
2. What are different types of bacteria found in milk and how they are responsible to spoil the food
3. Describe cytokine characteristics and their involvement in Immunological reactions
4. What is hypersensitivity? Give an account of different types of hypersensitivity
5. Write briefly on the structure of antibodies and their classification

**Assignment -2 5 X 3 = 15**

6. How lysogeny differs from lytic life – cycle in case of lambda phage
7. i) Differentiate between Plant and animal viruses  
ii) How Plant Viruses are transmitted
8. Describe different types of Antigens and classify them
9. Give an account of Primary and Secondary lymphoid organs
10. What are Viruses? How do they differ from bacteria give examples of bacterial and viral diseases in Man

**NOTE:**

1) Last date for submission of assignments for all the courses / paper is- 15.03.2018 2) Non-submission of assignments as per the scheduled dates mentioned above attracts a fine of Rs. 200/- upto 26.03.2018 per each assignment of a course / paper and under any circumstances the assignments will not be accepted from 27th March, 2018. 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

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