

Register Number:

B.TECH DEGREE EXAMINATIONS: MAY/JUNE 2014

(Regulation 2013)

Second Semester

BIOTECHNOLOGY

U13BTT201: Biomolecules and Genetics

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

- Compounds that have same structural formulae but differ in their spatial configuration
 - Epimers
 - Dextrorotatory
 - Stereoisomerism
 - Enantiomers
- Genotypic ratio of monohybrid cross is
- Lipids containing carbohydrates as additional group
 - Phospholipids
 - Amphipathic lipids
 - Lipoproteins
 - Glycolipids
- The bonds that forms the back bone of protein structure is
- Hybrid molecule containing positive and negative ionic groups
 - Aromatic aminoacids
 - Imino acids
 - Epimers
 - Zwitter ions
- Lipid that function as fuel reserve in animal is
- When the same gene exist in two or more alleles within a population
 - Pseudoallele
 - Multiple allele
 - homoallele
 - Codominant
- A non reducing disaccharide is
- Special nucleoprotein complexes found at the end of all linear chromosomes that caps the end
 - Centromere
 - Enantiomere
 - Chromomere
 - Telomere
- DNA in the cell remains as complex in the chromosome

PART B (10 x 2 = 20 Marks)

(Not more than 40 words)

- Comment on optical activity of sugars
- What are essential fatty acids? Give an example.

- Write about the functions of cholesterol?
- What are epimers? Give an example.
- Write down the functions of macro minerals.
- Name two acidic amino acids and draw its structure
- Differentiate – Genotype and Phenotype
- Write about the types of RNA
- What is genetic mapping?
- What is sex linked inheritance?

PART C (5 x 14 = 70 Marks)

(Not more than 400 words)

Q.No. 21 is Compulsory

- State Mendel's Law of Inheritance with suitable examples
- a) How is the classification of carbohydrates? Explain with suitable examples.

(OR)

- Write a detailed note on the structure and functions of carbohydrates
- a) What are phospholipids? Discuss its structure and function.

(OR)

- Give a detailed account on saturated and unsaturated fatty acids.
- a) How is the classification of vitamins? Discuss its physiological functions.

(OR)

- Explain the structure and properties of peptides.
- a) (i) Give an account of nucleosome model of chromosomes (8)
(ii) Write a brief note on special chromosomes (6)

(OR)

- b) (i) Differentiate between polyploidy and aneuploidy (7)
(ii) Write about chromosome linked disorders (7)
