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**GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA,
GUNUPUR
(GIET UNIVERSITY)**



B. Tech (Third Semester - Regular) Examinations, November - 2024

23BBTPC23002 - Biochemistry

(Branch: Biotechnology)

Time: 3 hrs

Maximum: 60 Marks

**Answer ALL questions
(The figures in the right hand margin indicate marks)**

PART – A

(2 x 5 = 10 Marks)

Q.1. Answer **ALL** questions

	CO #	Blooms Level
a. Give the epimers of glucose?	CO1	K2
b. Name the disease caused by the deficiency of Vitamin B1 and Vitamin C?	CO2	K3
c. Write the intermediate reactions of Glycolysis and TCA cycle?	CO3	K3
d. Name the amino acids contributed by α -ketoglutarate?	CO4	K3
e. What is coenzyme? Write its functions.	CO6	K1

PART – B

(10 x 5 = 50 Marks)

Answer **ALL** the questions

	Marks	CO #	Blooms Level
2. a. What is carbohydrate? Classify the monosaccharides with examples?	5	CO1	K1
b. Classify the fatty acids with suitable examples?	5	CO1	K3
(OR)			
c. Highlight the secondary structure of proteins with suitable diagram?	5	CO1	K3
d. Write the notes on Ramachandran Plot?	5	CO1	K2
3.a. Discuss the double helical model of DNA?	5	CO2	K2
b. Elaborate about nucleoside and nucleotides? Give the labelled structure of t-RNA?	5	CO2	K4
(OR)			
c. What are Minerals? Write the types of minerals along with the disease associated due to their deficiency?	5	CO2	K1
d. What are hormones? Classify the hormones based on the distance over they act?	5	CO3	K1
4.a. Discuss briefly about the steps of Glycolysis?	5	CO3	K2
b. Elaborate the detail process of ETS with suitable diagram?	5	CO3	K4
(OR)			
c. Explain the process for the biosynthesis of glycogen?	5	CO3	K2
d. Give the major steps of β -Oxidation of fatty acids?	5	CO4	K3
5.a. Emphasize the role of precursor for the biosynthesis of amino acids?	5	CO4	K3
b. Write the de novo pathway for the synthesis of pyrimidine?	5	CO4	K2
(OR)			
c. Explain the mechanism of light reactions of photosynthesis?	5	CO5	K2
d. Highlight the regulatory steps of gluconeogenesis with reactions?	5	CO5	K3
6.a. Discuss the major properties of enzymes?	5	CO5	K2
b. Classify the enzymes with suitable examples?	5	CO6	K3
(OR)			
c. Demonstrate the Mechanism of enzyme action with diagram?	5	CO6	K2
d. Write short notes on activation energy.	5	CO6	K3

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