



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

B. Pharm. (Second Semester - Regular) Examinations, August - 2026

BP203T - Biochemistry

Time: 3 hrs.

Maximum: 75 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A

(10 x 2 = 20 Marks)

Q.1. Answer **ALL** the questions

- What is the significance of acetyl-CoA in fatty-acid oxidation?
- Mention two steroid hormones derived from cholesterol.
- What is the role of pyridoxal phosphate in amino-acid metabolism?
- Name the end product of purine catabolism in humans.
- What is the Watson-Crick model?
- What is the role of tRNA in protein synthesis?
- What is Michaelis-Menten equation?
- Give two examples of clinically important isoenzymes.
- State the net ATP yield of glycolysis.
- What are the three components of a nucleotide?

PART – B

(2 x 10 = 20 Marks)

Q.No. 2. Answer **ANY TWO** questions (Long Answer Question)

- Describe enzyme kinetics in detail using the Michaelis-Menten equation, Michaelis-Menten plot and Lineweaver-Burk plot.
- Describe the organization of the mammalian genome and explain the flow of genetic information from DNA to protein.
- Describe β -oxidation of palmitic acid in detail. Calculate the energy yield obtained from complete oxidation of palmitic acid.

PART – C

(7 x 5 = 35 Marks)

Q. No.3. Answer **ANY SEVEN** questions (Short Answer Question)

- Explain the classification of carbohydrates with suitable examples.
- How many NADH molecules are produced from one acetyl-CoA in the TCA cycle?
- Differentiate between substrate-level phosphorylation and oxidative phosphorylation.
- Explain the semi-conservative model of DNA replication.
- Discuss the relationship between cholesterol and steroid hormone synthesis.
- Explain the significance of redox potential in biological systems.
- Explain the regulatory steps of glycolysis.
- Explain the six major classes of enzymes with examples.
- Describe the relationship between vitamins and coenzymes.

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