

Roll No.....

Total No. of Questions : 13]

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J-3035[S-35]

[2037]

B.Sc. (BI) (Semester - 3rd)

METABOLISM (B.Sc. (BI) - 303)

Time : 03 Hours

Maximum Marks : 75

Instruction to Candidates:

- 1) Section - A is **compulsory**.
- 2) Attempt any **Nine** questions from section B.

Section - A

Q1)

(15 × 2 = 30)

- a) What is gluconeogenesis?
- b) What is glycogenesis?
- c) Briefly define metabolic mill.
- d) Briefly explain chemiosmotic hypothesis.
- e) What is template? Define briefly.
- f) Briefly define RNA polymerase.
- g) What is the role of methionine in protein synthesis?
- h) How is chain termination carried out in protein synthesis?
- i) What is denaturation of proteins?
- j) What is redox potential and free energy?
- k) What is the role of quinones in metabolism?
- l) Describe the mechanism of oxidative phosphorylation.
- m) What is transamination?
- n) What is Glucose : Nitrogen ratio and its significance?
- o) What is enzyme inhibition and its functional role?

P.T.O.

Section - B

(9 × 5 = 45)

- Q2)** Describe in detail Embden Meyerhoff glycolytic pathway.
- Q3)** Describe ketosis and its metabolic significance.
- Q4)** Explain different pathways of intermediary metabolism of carbohydrates.
- Q5)** Give the current view of location of enzymes and components of the respiratory chain.
- Q6)** Describe electron transport mechanism and its significance.
- Q7)** Give different steps of RNA synthesis in detail.
- Q8)** Give in detail the steps of translation in protein synthesis.
- Q9)** Describe various mechanisms of ATP formation.
- Q10)** Give in detail replication and repair of DNA.
- Q11)** Give a detailed account of metabolism of glycogen.
- Q12)** Write down the fate of tyrosine metabolism.
- Q13)** What are the kinetic properties of enzymes affecting their metabolic activities.

