

B.Sc. Semester - 3 (CBCS) Examination
Oct/Nov. -2019 (Old Course)
BIO-TECHNOLOGY (CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Q. 1 Answer all the questions:**a. Answer one out of two-****(07 Marks)**

- i. Define enzyme inhibition. Discuss the important type of reversible enzyme inhibition.
- ii. Give the detail account of covalent and allosteric regulation of enzyme.

b. Answer one out of two-**(04 Marks)**

- i. Write four important properties of enzyme.
- ii. Explain Michaelis-Menten constant in detail.

c. Answer any three out of five-**(03 Marks)**

- i. Give one example of Isoenzyme.
- ii. Give example of one enzyme involved in metal ion catalysis.
- iii. In conjugate enzyme the protein part is called.....
- iv. Write function of ligase.
- v. Give the example of one enzyme involved in acid base catalysis.

Q. 2. Answer all the questions:**a. Answer one out of two-****(07 Marks)**

- i. Discuss steps of glycolysis.
- ii. Explain β -oxidation of fatty acid.

b. Answer one out of two-**(04 Marks)**

- i. Illustrate the gluconeogenesis in detail.
- ii. Briefly write about electron transport chain.

c. Answer any three out of five-**(03 Marks)**

- i. Which pathway produces ribose sugar for nucleotide synthesis.
- ii. What are the sites for TCA cycle in cell.
- iii. Mention function of F₀-F₁ ATPase in ETC.
- iv. How many ATP produced during conversion from pyruvate to acetyl co-A.
- v. Which enzyme required for activation of fatty acid during oxidation.

Q. 3 Answer all the questions:**a. Answer one out of two-****(07 Marks)**

- i. Explain light reaction in photosynthesis.
- ii. Illustrate urea cycle in detail.

b. Answer one out of two-**(04 Marks)**

- i. Write notes on transamination with one example.
- ii. Write about Phenylketonuria and Alkaptonuria.

c. Answer any three out of five-**(03 Marks)**

- i. Which vitamin required for transamination reaction.
- ii. Write importance of dark reaction in photosynthesis.
- iii. Major organ for urea cycle is.....
- iv. Glutamine amidotransferase is required for pyrimidine synthesis-True/False
- v. What is salvage pathway?

Q. 4 Answer all the questions:

a. Answer one out of two-

(07 Marks)

- i. Explain the role of auxin in plant.
- ii. Discuss the name of hormone and its function released from pituitary gland.

b. Answer one out of two-

(04 Marks)

- i. Write four differences between animal hormone and plant hormone.
- ii. Discuss disorder related to hormone released from thyroid gland.

c. Answer any three out of five-

(03 Marks)

- i. Give example of one exocrine gland.
- ii. Which plant hormone required for fruit ripening.
- iii. Write function of Antidiuretic hormone.
- iv. Deficiency of which hormone increase glucose level in blood.
- v. Give example of artificial auxin.

Q. 5 Answer all the questions:

a. Answer one out of two-

(07 Marks)

- i. Illustrate the structure of plasma membrane in detail.
- ii. Give the mechanism of regulation of cell cycle by protein kinase.

b. Answer one out of two-

(04 Marks)

- i. Differentiate primary and secondary active transport.
- ii. Explain signal transduction cascade with one example.

c. Answer any three out of five-

(03 Marks)

- i. Facilitated diffusion is active process-True/False
- ii. What is CDK.
- iii. Mention name of any one factor affect membrane fluidity.
- iv. Which hormone required membrane receptor for signaling.
- v. What do you understand by cascade in signaling.
