

B.Sc. Semester - 3 (CBCS) Examination
Nov/Dec. -2021 (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 A Answer the following (Any one out of two) (07)

- (i) Write in detail on: Mechanisms of enzyme inhibition.
- (ii) Write in detail on: Classification of enzymes.

Q-1 B Attempt any One (Out of two) (04)

- (i) Write a note on: Allosterism.
- (ii) Enlist differences of biocatalysts and chemical catalysts.

Q-1 C Attempt any Three (Out of five) (03)

- (i) What is transition state?
- (ii) What is the prime role of a cofactor?
- (iii) What is K_M ? What is the significance of it?
- (iv) What are isozymes?
- (v) What is covalent modification?

Q-2 A Answer the following (Any one out of two) (07)

- (i) Write a note on: Gluconeogenesis.
- (ii) Discuss: fate of pyruvate.

Q-2 B Attempt any One (Out of two) (04)

- (i) Write a note on: Chemiosmotic model.
- (ii) Write a note on: TCA cycle.

Q-2 C Attempt any Three (Out of five) (03)

- (i) How many ATPs are synthesized in HMP pathway?
- (ii) How many NADH molecules are synthesized during glycolysis?
- (iii) What is PMF?
- (iv) Why oxidation of fatty acid is known as β -oxidation?
- (v) How many NADH molecules are synthesized in a TCA cycle?

Q-3 A Answer the following (Any one out of two) (07)

- (i) Discuss in detail: Errors in metabolism.
- (ii) Write on: Cyclic photosynthesis.

Q-3 B Attempt any One (Out of two) (04)

- (i) Write on: Protein metabolism.
- (ii) Write on: Urea cycle.

Q-3 C Attempt any Three (Out of five) (03)

- (i) What is a photo system?
- (ii) Enlist various accessory pigments.
- (iii) What is Stickland reaction?
- (iv) What is the significance of water splitting complex?
- (v) Enlist any two disorders caused by inborn errors of metabolism.

- Q-4 A Answer the following (Any one out of two) (07)**
(i) Write in detail on: Plant hormones.
(ii) Write on: Disorders due to hormonal imbalance in humans.
- Q-4 B Attempt any One (Out of two) (04)**
(i) Write on: Any two animal hormones.
(ii) Write on general characteristics of hormones as a fine chemical of body.
- Q-4 C Attempt any Three (Out of five) (03)**
(i) Define: Hormone.
(ii) What is autocrine and paracrine?
(iii) What is a cascade mechanism?
(iv) What is the role of releasing hormones?
(v) Name the master regulatory gland.
- Q-5 A Answer the following (Any one out of two) (07)**
(i) Write on: Cell cycle regulation.
(ii) Write on: Solute transport.
- Q-5 B Attempt any One (Out of two) (04)**
(i) Write on: Architecture of cell membrane.
(ii) Write on: Hormone mediated signal transduction.
- Q-5 C Attempt any Three (Out of five) (03)**
(i) What is active transport?
(ii) Define: Symport.
(iii) Name hormones used in signal transduction.
(iv) How water is transported across cell membrane?
(v) What is signal transduction cascade?
