

B.Sc. Semester - 3 (CBCS) Examination
Oct/Nov - 2024 (As Per Syllabus Year June-2016)
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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- Que.1(A) Answer the following. (Any one out of two) (07)
- (1) Write a detail account on nomenclature and classification of enzyme.
 - (2) Discuss in detail about allosteric regulation by enzyme.
- Que.1(B) Attempt any one. (04)
- (1) Acid base catalysis.
 - (2) Isoenzymes.
- Que.1(C) Attempt any three. (03)
- (1) In four-digit enzyme commission number system, first digit represents.....
 - (2) Full form of I.U.B.
 - (3) Enzyme that catalyze the transfer of functional groups is known as a.....
 - (4) Define: Coenzyme.
 - (5) Mention one example of chemical catalysis.
- Que.2(A) Answer the following. (Any one out of two) (07)
- (1) Discuss in detail about reaction steps of glycolysis.
 - (2) Write in detail on krebs cycle.
- Que.2(B) Attempt any one. (04)
- (1) Site of oxidative phosphorylation.
 - (2) Importance of gluconeogenesis.
- Que.2(C) Attempt any three. (03)
- (1) Mitochondria contain the respiratory assembly, the enzymes of the citric acid cycle and the enzymes of fatty acid oxidation. (True/False).
 - (2) Which component are oxidized by β -Oxidation?
 - (3) Krebs cycle is also known as a.....
 - (4) Full form of ETC.
 - (5) Full form of HMP.
- Que.3(A) Answer the following. (Any one out of two) (07)
- (1) Explain- How does the structure of the chloroplast affect photosynthesis?
 - (2) Discuss in detail about oxidative-deamination.
- Que.3(B) Attempt any one. (04)
- (1) Overview of urea cycle.
 - (2) Enlist inborn errors of metabolism.

- Que.3(C) Attempt any three. (03)
- (1) Full form of NADH.
 - (2) The concentration of extracellular amino acids is always higher than the intracellular amino acids. (True/False)
 - (3) Sodium ions are important to maintain acid-base balance of the body (True/False)
 - (4) The amino acids glutamate and glutamine are the principal donors of amino groups in transamination reactions. (True/False)
 - (5) Nitrogen is the end product of protein metabolism. (True/False)
- Que.4(A) Answer the following. (Any one out of two) (07)
- (1) Write a note on disorders due to hormonal imbalance in human.
 - (2) Discuss in detail about thyroidal hormones.
- Que.4(B) Attempt any one. (04)
- (1) Exocrine hormones.
 - (2) Enlist types of plant hormones.
- Que.4(C) Attempt any three. (03)
- (1) Epinephrine is released from the thymus glands. (True/False)
 - (2) Liver secretes insulin. (True/False)
 - (3) Glucagon stimulates adenylate cyclase in tissue cells. (True/False)
 - (4) Which hormone can control carbohydrate metabolism?
 - (5) Define: Hormones.
- Que.5(A) Answer the following. (Any one out of two) (07)
- (1) Give a detail note on signal transduction cascade.
 - (2) Discuss in detail about solute transport across membrane.
- Que.5(B) Attempt any one. (04)
- (1) Composition of membrane.
 - (2) Importance of protein kinase in cell cycle regulation.
- Que.5(C) Attempt any three. (03)
- (1) Transduction cascade carried out by many enzymes. (True/False)
 - (2) Function of protein kinase.
 - (3) Which components are present in membrane?
 - (4) Which solute is transported across membrane?
 - (5) Mention one name of hormone used in signal transduction.
