



HCW-003-1013014

B. Sc. (Sem. III) (CBCS) Examination

October/November - 2017

BT-301 : Metabolism of Biomolecules

Faculty Code : 003

Subject Code : 1013014

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- 1 (A) Objective type Questions : 4
1. Enzymes doesn't affect the rate of biochemical reaction and affects the direction of the reaction. TRUE/FALSE.
 2. _____ enzyme catalyze transfer of a group between a pair of substrate.
 3. The multiple forms of an enzyme catalysing the same reaction are known as _____.
 4. K_m and V_{max} is useful to study various environment parameters affecting the enzyme. TRUE/FALSE.
- (B) Answer in brief : (Any 1 out of 2) 2
1. Define: Enzyme, Allosteric enzyme.
 2. Define : Coenzymes, Cofactors.
- (C) Answer in detail : (Any 1 out of 2) 3
1. Explain Acid base catalysis.
 2. Explain irreversible enzyme inhibition.
- (D) Write a note on : (Any 1 out of 2) 5
1. Nomenclature and classification of enzyme.
 2. Enzyme regulation.

- 2 (A) Objective type Questions : 4**
1. One glucose molecule produces 2 numbers of ATP, during glycolysis. TRUE/FALSE.
 2. Pentose Phosphate Pathway is also known as Pyro Phosphate Pathway. TRUE/FALSE.
 3. Full form of HMP is _____.
 4. Triacylglycerols are stored in _____ tissues and serves as a energy reserve of the body.
- (B) Answer in brief : (Any 1 out of 2) 2**
1. Define : Glycolysis.
 2. What is oxidative phosphorylation?
- (C) Answer in detail : (Any 1 out of 2) 3**
1. Write the salient features of Glycolysis.
 2. Give overview of kreb cycle.
- (D) Write a note on : (Any 1 out of 2) 5**
1. Write a note on glycolysis with energetics.
 2. Write a note on β oxidation of fatty acids.
- 3 (A) Objective type Questions : 4**
1. Proteins are sulfur containing macromolecules consisting of L- α -amino acids as the repeating units. TRUE/FALSE.
 2. What is the end product of amino acid metabolism?
 3. PKU occurs due to the deficiency of _____ enzyme.
 4. Nucleotides consist of a nitrogenous base, _____ and _____.

- (B) Answer in brief : (Any 1 out of) 2
1. What is Transamination ?
 2. What is photosynthesis ?
- (C) Answer in detail : (Any 1 out of 2) 3
1. Write overall reaction and energetics of urea cycle.
 2. Explain synthesis of AMP and GMP from IMP.
- (D) Write a note on : (Any 1 out of 2) 5
1. Write a note on urea cycle.
 2. Explain inborn errors in metabolism.
- 4 (A) Objective type Questions : 4
1. Insulin is an example of peptide hormone.
TRUE/FALSE.
 2. _____ hormones are synthesized by the follicles and corpus luteum of ovary.
 3. _____ are compounds that positively influence cell enlargement, bud formation and root initiation.
 4. Hypothyroidism is an endocrine disorder.
TRUE/FALSE.
- (B) Answer in brief : (Any 1 out of 2) 2
1. Define : Hormones.
 2. Name the hormones secreted by pituitary gland.
- (C) Answer in detail : (Any 1 out of 2) 3
1. What is the role of auxin hormone ?
 2. What is the significance of animal hormones ?
- (D) Write a note on : (Any 1 out of 2) 5
1. Write a note on Plant hormones.
 2. Write a note on Animal hormones.

- 5 (A) Objective type Questions : 4
1. Who devised the fluid mosaic model for biological membrane?
 2. Signal transduction pathways includes the binding of ligands to receptors, triggering events inside the cell. TRUE/FALSE.
 3. Full form of Cdks is _____.
 4. _____ diffusion is the spontaneous phenomenon that increases the entropy of a system and decrease free energy.
- (B) Answer in brief : (Any I out of 2) 2
1. What is signal transduction?
 2. Write the composition of cell membrane.
- (C) Answer in detail : (Any 1 out of 2) 3
1. Explain the architecture of membrane.
 2. Explain Active and Passive transport.
- (D) Write a note on : (Any I out of 2) 5
1. Write a note on signal transduction Cascade.
 2. Explain regulation and function of protein kinases.
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