DCV-003-1013014 Seat No. _____

B. Sc. (Sem. III) (CBCS) (W.E.F.-2016) Examination

August - 2022

BT-301 : Metabolism of Biomolecules

Faculty Code : 003

Subject Code : 1013014

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 (A) Objective : **4**

(1) Induced fit theory was proposed by _____.

(2) Which is the fourth class of enzyme ?

(3) Define: Allosteric enzyme.

(4) What is Holoenzyme ?

(B) Answer in brief : **2**

(1) Describe Proximity and orientation effect.

(C) Answer in detail : **3**

(1) Explain enzyme inhibition.

(D) Write a note on : **5**

(1) Derivation of Michaelis - Menton equation.

2 (A) Objective : **4**

(1) What is Km?

(2) Enzymes are made up of _____.

(3) Removal of phosphoryl group is catalysed by _____.

(4) Define: Isoenzyme.

(B) Answer in brief : **2**

(1) Give Acid base catalysis.

(C) Answer in detail : **3**

(1) Explain classification of Enzyme.

(D) Write a note on : **5**

(1) Mechanism of Enzyme regulation.

3 (A) Objective : 4

(1) The site for Gluconeogenesis is _____.

(2) How many ATPs are produced during Glycolysis under anaerobic condition ?

(3) The complex I of ETC is _____.

(4) What is catabolism ?

(B) Answer in brief : 2

(1) Explain in brief, Fate of Pyruvate.

(C) Answer in detail : 3

(1) Explain. β oxidation.

(D) Write a note on : 5

(1) Describe: HMP pathway.

4 (A) Objective : 4

(1) Gluconeogenesis is a catabolic pathway, True/ False ?

(2) In ETC, the hydrogen ions enter inner mitochondrial compartment through special channel formed by _____.

(3) Kreb's cycle occur in _____.

(4) Importance of Glycolysis.

(B) Answer in brief : 2

(1) What is oxidative phosphorylation ?

(C) Answer in detail : 3

(1) Explain: ETC

(D) Write a note on : 5

(1) Describe: TCA cycle.

5 (A) Objective : 4

(1) Urea cycle occur in _____.

(2) Fullform: CTP.

(3) What is regenerated during Calvin cycle?

(4) What is inborn error in metabolism?

(B) Answer in brief : 2

(1) Describe: Deamination.

(C) Answer in detail : 3

(1) Explain: Biosynthesis of nucleic acid.

(D) Write a note an : 5

(1) Urea cycle.

6 (A) Objective : 4

(1) Dark reaction takes place in _____.

(2) Formation of ATP occurs during both cyclic & non cyclic photophosphorylation. True/False ?

(3) What do you understand by transamination?

(4) Nucleoside is made up of _____.

(B) Answer in brief : 2

(1) Explain process of photosynthesis where one photosystenl used.

(C) Answer in detail : 3

(1) Give details about Calvin cycle.

(D) Write a note on : 5

(1) Inborn errors of metabolism.

7 (A) Objective : 4

(1) Define: Endocrine gland.

(2) Function of Vasopressin hormone in human.

(3) Which hormones are secreted by adrenal gland?

(4) Which hormones are known as growth hormone for plant ?

(B) Answer in brief : 2

(1) Functions of Hormones.

(C) Answer in detail : 3

(1) Explain Auxin.

(D) Write a note on : 5

(1) Describe: Disorders due to hormonal imbalance in human.

8 (A) Objective : 4

(1) Give example of Auxin.

(2) Hormone from which gland, maintain calcium ion concentration in blood ?

(3) Give 2 examples of exocrine gland.

(4) _____ is stress hormone for plant.

(B) Answer in brief : 2

(1) Role of Gibberellins as plant hormone.

(C) Answer in detail : 3

(1) Write down about hormones secreted by Pituitary gland.

(D) Write a note on : **5**

(1) Explain: Exocrine gland hormones.

9 (A) Objective : **4**

(1) Define: G protein.

(2) Fluid mosaic model of plasma membrane was proposed by _____.

(3) Through which type of transportation Na+ & K+ transport in & out of the cell?

(4) Define: antiport.

(B) Answer in brief : **2**

(1) Draw a labeled diagram of Fluid mosaic model.

(C) Answer in detail : **3**

(1) Describe: Active transport across membrane.

(D) Write a note an : **5**

(1) Write down about mechanism of signal transduction.

10 (A) Objective : **4**

(1) What is cyclin protein ?

(2) Name one phospholipid present in the membrane?

(3) Define: Symport.

(4) Define: passive transport.

(B) Answer in brief : **2**

(1) Describe: Primary & secondary messenger.

(C) Answer in detail : **3**

(1) Explain: role of hormones in signal transduction.

(D) Write a note on : **5**

(1) Role of protein kinase in cell cycle regulation.
