GAY-414 Seat No._____

B. Sc. (Sem. IV) Examination

March / April - 2017

CC-I–5 : Biotechnology

(Core Course Compulsory)

(Cellular Metabolism - II)

Time : 3 Hours] [Total Marks : 70

1 MCQ/Answer in brief : **15**

(1) How many nitrogen atoms are present in structure of urea ?

(A) 1 (B) 2

(C) 3 (D) Nil

(2) Which amino acids is majorly synthesized during transamination reaction ?

(A) Glutamate (B) Glycine

(C) Alanine (D) Serine

(3) What is true for facilitated diffusion ?

(A) Diffusion of solute results in to increase in free energy

(B) Its a endogonic reaction

(C) It is non selective process

(D) Its a exergonic process.

(4) Which of the following is neurotransmitter ?

(A) Acetyl coenzyme A

(B) Acetyl choline

(C) Insulin

(D) All

(5) Which of the following plants has Kranz anatomy in their leaves ?

(A) Sugarcane (B) Maize

(C) Pea (D) A and B both

(6) Which of the following inhibits RUBISCO's carboxylase activity ?

(A) Oxygen (B) Water

(C) Starch (D) Carbon dioxide

(7) Oligomycin inhibits _____ of mitochondrial Electron Transport System (ETS)

(A) ATP synthase

(B) NADH dehydrogenase complex

(C) Succinate dehydrogenase complex

(D) None

(8) Fatty acid synthase complex is located in _____ of a eukaryotic cell

(A) Mitochondrial matrix

(B) Chloroplast stroma

(C) Cytoplasm

(D) Cell membrane

(9) Which of the following is example of receptor enzyme ?

(A) Voltage gated Channel

(B) Insulin receptor

(C) Epinephrine receptor

(D) Steroid receptor

(10) What is true for de novo synthesis of puriene ?

(A) Inosinate functions as precursor for synthesis for Adynylate

(B) Inosinate functions as precursor for synthesis of Guanylate.

(C) Adenylate functions as a precursor for synthesis of guanylate.

(D) A and B both

(11) Define secondary messenger.

(12) Which molecule functions as primary carbon dioxide acceptor in Calvin cycle ?

(13) What is location of dark reaction enzymes in photosynthetic bacteria ?

(14) G coupled receptor is used by _____ hormone.

(15) _____ is common enzyme between mitochondrial ETS and TCA cycle.

2 Write shorts notes on any **five** : **25**

(1) Electron carries function in electron transport system.

(2) How does insulin act on target cell ?

(3) Transamination

(4) C4 pathway.

(5) Beta oxidation of fatty acid.

(6) Signal transduction pathway induced by epinephrine.

(7) Pyrimidine synthesis

3 Give detailed account on any **three** : 30

(1) Photophosphorylation in higher plants.

(2) Membrane transport that involves trans membrane proteins.

(3) Urea cycle.

(4) Purine biosynthesis.

(5) Overview of mitochondrial electron transport system.
