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PBC-003-001318 Seat No. _____

Second Year B. Sc. (Biotechnology) (Sem. III) (CBCS) Examination

November / December - 2018

BT P - 301 : Basic Aspects of Cellular Metabolism

Faculty Code : 003
Subject Code : 001318

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

1 Answer in one word or line : **20**

(1) Define Enzyme.

(2) Transferase belongs to which class of enzyme.

(3) Give a difference between chemical and biocatalyst.

(4) The full form of Km is _____

(5) The substrate and inhibitor are similar in _____ inhibition.

(6) What is allosteric Enzyme?

(7) Name the enzyme responsible for disulphide bond.

(8) Give the example of protein present in hair and nails?

(9) What is the function of ribonuclease ?

(10) Define zinc finger.

(11) What is the site of glycolysis ?

(12) What is the full form of PDH ?

(13) How many ATP are form by only TCA cycle ?

(14) What is the significance of PPP pathway ?

(15) What is gluconeogenesis ?

(16) Define transamination .

(17) What is the full form of LDL, CM in lipid metabolism.

(18) What is uniporter ?

(19) Why G protein is called so ?

(20) What is the role of glucagon in glucose metabolism ?

2 (a) Attempt any **three** questions out of the following : **6**

(1) Give general property of enzymes.

(2) Give primary structure of protein .

(3) What is metabolism ? Give one example.

(4) Define photosynthesis. Give the overall reaction.

(5) What is deamination ?

(6) What is cofactor ?

(b) Attempt any **three** questions out of the following : **9**

(1) Explain the proximity and orientation effects.

(2) Explain the structure of haemoglobin.

(3) Explain the total ATP gain of only glycolysis.

(4) Define decarboxylation.

(5) Explain primary messenger.

(6) Draw the complete structure of plasma membrane.

(c) Attempt any **two** questions out of the following : **10**

(1) Write a detail note on isoenzymes .

(2) Explain the covalent and allosteric regulation.

(3) Give a detail account of glycolysis.

(4) What is beta oxidation ? Explain in detail.

(5) What is P class ? Explain in detail.

3 (a) Attempt any **three** questions out of the following : **6**

(1) What is enzyme inhibition ?

(2) Briefly explain fibrous protein.

(3) Briefly explain acetyl Co A formation.

(4) Briefly explain urea cycle.

(5) Explain the main functions of intrinsic proteins.

(6) Define insulin.

(b) Attempt any **three** questions out of the following : **9**

(1) Explain the Line weaver equation.

(2) Draw the structure of a secondary protein.

(3) Explain the anaerobic fate of pyruvate.

(4) Explain the detail of fate of carbon skeleton of amino acids.

(5) Explain the history of plasma membrane.

(6) Explain the catalytic mechanisms.

(c) Attempt any **two** questions out of the following : **10**

(1) Write a detail note on Michaelis Menten equation.

(2) Give a detail account of protein sequencing.

(3) Explain the PPP pathway in detail.

(4) Explain the inborn errors of metabolism.

(5) Explain the detail account of 5 Secondary messengers.
