5C

Seat No.:_____ No. of Printed Pages: 2

[50/AT]

SARDAR PATEL UNIVERSITY

B. Sc. (Biochemistry) – Fifth Semester Examination (CBCS)

26th October 2018, Friday

10:00 a.m. to 1:00 p.m.

US05CBCH03: Metabolism - I

Total Marks: 70

Note: (1) Figures to the right indicate marks.
(2) Draw a neat and labeled diagram, wherever necessary.

Q. 1 Choose the most appropriate answer from the four alternatives given: [10]

i. **Cori's cycle is also known as_____.**
(a) Glucose alanine cycle (b) Lactic acid cycle (c) Citric acid cycle (d) TCA cycle

ii. **The conversion of fats to glucose in plants & microbes is carried out by_____.**
(a) Tricarboxylic acid cycle (b) Pentose phosphate pathway
(c) Glyoxylate cycle (d) Repaport cycle

iii. **In cholesterol biosynthesis, reduction of HMG CoA by lead to formation of_____.**
(a) Acetyl CoA (b) Aceto-acetyl CoA (c) Cholesterol (d) Mevalonate

iv. **Ketone bodies are synthesized in_____.**
(a) Brain (b) Kidney (c) Liver (d) Muscle

v. **Hereditary fructose intolerance is associated with_____enzyme deficiency.**
(a) Aldolase B (b) Decarboxylase (c) Isomerase (d) Fructokinase

vi. **Deficiency of Glucose 6 phosphatase enzyme frequently seen in_____.**
(a) African (b) American (c) Indian (d) Rusian

vii. **Muscle phosphorylase enzyme deficient in _____disease.**
(a) Andersen's (b) Mc Ardles's (c) Hers's (d) Forbe's

viii. **Niemann Pick's disease arise due to accumulation of _____.**
(a) Sphingol (b) Sphingomyelin (c) Glucocerebroside (d) Ganglioside

ix. **Painful and deformed joints is a symptoms of_____disease.**
(a) Gaucher (b) Farber's (c) Febry's (d) Tay Sach's

x. **Carnitine palmitoyl transferase I deficiency inherited as _____manner.**
(a) Autosomal recessive (b) X linked (c) Autosomal dominant (d) Y linked

Q.2 Answer any <u>TEN</u> from the following: [20]

i. Write names of enzymes associated with TCA cycle.

ii. What is substrate level phosphorylation? Write at least 1 such reaction.

iii. Write significance of Repaport - Leubering cycle.

(PTO)

iv. Name different hormones for the regulation of fat metabolism.

v. Why Eskimos have low incidence of heart disease even they consume fat rich diet?

vi. What are ketone bodies?.

vii. Write significance of Repaport - Leubering cycle.

viii. What is von Gierke's disease

ix. Write short note on galactosemia

x. Classify Niemann Pick disease

xi. Enlist various types of lipid storage diseases.

xii. Given an overview of Tay Sach's disease

Q.3 Explain gluconeogenesis along with its regulation [10]

OR

Q.3 Describe glycolysis along with structures and regulation. [10]

Q.4 (a) Discuss the role of adipose tissues in lipid metabolism. [5]

(b) Explain oxidation of odd chain fatty acids. [5]

OR

Q.4 Write a detail notes on the following:

(a) Fatty acid synthase complex [5]

(b) Energetics and regulation of β (beta) oxidation [5]

Q.5 Write detail notes on the following:

(a) Pompe's disease (b) Amylopectinosis [5+5]

OR

Q.5 Write detail notes on the following:

(a) Limit dextrinosis [5]

(b) Glucose 6 Phosphate dehydrogenase deficiency and resistance to malaria [5]

Q. 6 Discuss Refsum's disease and Gaucher's disease. [5+5]

OR

Q. 6 Write detail notes on Niemann Pick disease and Krabbe's disease. [5+5]

—X—