

SEAT No. _____

No. of Printed Pages : 2

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SARDAR PATEL UNIVERSITY
B.SC. 5th Semester Examination 2020
Subject: Biochemistry
Subject Code: US05CBCH23
(Human Metabolism I)

Date: ~~28/12/2020~~ Mon day
Time: 2:00 PM to 4:00 PM

Total Marks: 70

Q1. Choose the correct option and write it in the answer sheet:

[10]

- _____ is the exclusive source of energy to the brain under normal conditions.
a) Glucose b) Fructose c) Amino acids d) Fatty acids
- When oxygen is not available, pyruvate is reduced to lactic acid by _____.
a) PDH b) LDH c) GPT d) GOT
- In the RBC of man altered route of glycolysis is known as _____.
a) R.L cycle b) TCA cycle c) Cori cycle d) None
- Glycogenesis is the polymerization of glucose in to _____.
a) Starch b) Cellulose c) Glycogen d) None
- _____ is the key enzyme of glycogen break down.
a) PDH b) SDH c) LDH d) Glycogen phosphorylase
- When blood glucose is normal, within normal limits, it is referred to as _____.
a) Hypoglycaemia b) Hyperglycaemia c) Normoglycemia d) None
- The stored fat (TAG), is degraded by a _____ in adipose tissue
a) Peptidase b) Uriase c) Amylase d) Lipase
- Activation of fatty acid occurs in the _____.
a) Ribosome b) ER c) Mitochondria d) Cytosole
- Ceramide is the common constituent of all _____.
a) Glycolipids b) Phospholipids c) Lipoproteins d) None
- _____ is major storage compound in Niemann-Pick disease.
a) Ceramide b) Glucose c) GM₂ d) Spingomylin

[1]

P.T.O

[04]

Q2. (A) Fill in the blanks

1. _____ is defective enzyme in Niemann-Pick disease.
2. _____ is also known as animal sterol.
3. Glycolysis is unique in that, it occurs even in the absence of _____
4. Glycogenesis is regulated by the _____ enzyme.

[04]

Q2. (B) True or False

1. Glucagon increase glycogen break down.
2. Gluconeogenesis is not anabolic process.
3. Carbohydrates are the principal source of energy.
4. Long chain fatty acid used a carrier system known as carnitine shuttle.

[20]

Q3. Answer the followings in short (any ten)

1. Define metabolism, exergonic and endergonic reactions.
2. Briefly explain how oxaloacetate converted to citrate.
3. What are inhibitors of glycolysis?
4. What is gluconeogenesis?
5. Define glycogenesis and write name of hormone which regulates this process.
6. What are various glycogen storage disorders?
7. Define diabetes mellitus and hypoglycaemia.
8. Write functions of cholesterol?
9. What are various classes of lipids?
10. What are saturated fatty acids? Write the chemical structure of palmitic acid.
11. Name the various lipid storage diseases
12. Write importance of adipose tissue.

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Q4. Write answers in details (Any Four)

1. Describe all reactions of citric acid cycle.
2. What are major pathways of carbohydrates metabolism? Write about gluconeogenesis.
3. Differentiate liver glycogen and muscle glycogen and write about glycogenolysis.
4. Discuss about VonGierke's disease.
5. Explain all reactions of β -oxidation of palmitic acid.
6. Why cholesterol is known as animal sterol? Briefly explain about biosynthesis of cholesterol.
7. Write detail about Niemann-pick disease.
8. Write notes on hypercholesterolemia.

~~_____ X _____~~

[2]