[58/A-8] Seat No. ..... No. of Printed Pages : 02

SARDAR PATEL UNIVERSITY
B.SC. 5th Semester Examination 2019
Subject Code: US05CBCH03
(Metabolism I)
Friday, 15th Nov. 2019.

10:00 AM. To 1:00 PM **Total Marks: 70**

Q1. Choose the correct option and write it in the answer sheet: **[10]**

1. What is the site for gluconeogenesis ?
   a) Liver b) Blood
   c) Brain d) Lung

2. The main stores of glycogen are found in .....
   a) Brain b) RBC
   c) Both a and b d) Skeletal muscule.
3. Name the pathway for glucose synthesis by non carbohydrate precursor.
   a) Glycogenesis b) Glycogenolysis
   c) Alanine and ammonia Glycolysis d) Gluconeogenesis

4. What is lypolysis?
   a) Hydrolysis of TAG b) Formation of TAG
   c) Formation of ketonebodies. d) None
5. What is the biosynthetic source of steroid hormones?
   a) Ketonebodies b) Cholesterol
   c) Sugar d) Protein

6. What are the functions of dietary fat?
   a) Provide energy b) Form part of cellular membrane
   c) Cell signalling d) All options given are correct

7. McArdle(GSD type V) disease occurs due to the deficiency of
   a)Muscle Phosphorylase b) Hexose aminidase
   c)Glucokinase d) None

8. Anderson's (GSD type IV) disese occurs due to deficiency of
   a) Glucose 6 Phoshatase. b) Muscle phoshorylase.
   c) Glycogen debranching enzyme d) Glycogen branching enzyme.

9 Tay-Sachs disese is due to the deficiency of .
   a) Hexoseaminidase b)Alpha galactosidase
   c) Hexokina d) Glucocerebrosidase

10. Macullar pallor and retinal cheryred spot is clinical symptoms of ...disease.
   a) Gaucher b) Tay-Sach
   c) NiemannnPick d) None

[P.T.O.]

Q2. Answer the followings in short (any ten) **[20]**

1. What is the Glycolysis? Name its key regulatory enzyme.
2. Name the pathways of glucose utilization in RBC.
3. What is the biological role of Oxaloacetate?
4. What is the specific role carnitine in lipid metabolism?
5. Define lipid and where are lipids stored in our body?
6. What dose fattyacid oxidation mean?
7. What are the clinical symptoms of Anderson's (Type IV)disease?
8. What are the various body parts affected during McArdle's,Hers'and Taru's diseses ?
9. What is lipid storage disorder?
10. Which two fatty acids are known to be essential for human?
11. What are major symptoms of Tay_Sachs diseases ?
12. What are the Glycogen storage disease?

Q3. A) What is TCA cycle? Describe all steps of TCA cycle. **[06]**

B) Discuss the amphibolic role of Krebs cycle. **[04]**

OR

Q3. A) Write detail about glycolysis mentioning the steps and the energy yield. **[06]**

B) Write about the significance of Luebering Rapapport pathway. **[04]**

Q4. A) Discuss in detail the steps of β-oxidation of fatty acid with 16 carbon atoms **[07]**

B) Why it is said that keton bodies synthesized in liver and utilized in the peripheral tissues? **[03]**

OR

Q4. Discuss the steps and regulation of denovo synthesis of cholesterol. **[10]**

Q5. A) Discuss in detail hepatic deficiency of glucose 6 phosphatase can cause Von Gierke's disease **[07]**

B) Explain glycogen storage disease are genetic enzyme deficiencies. **[03]**

OR

Q5. List out various types of glycogen storage disease and write detail about Pompe's disease (Type II) and cori's disease (Type III). **[10]**

Q6. A) Write detail notes on Gaucher disease. **[06]**

B) What are major sphingolipid accumulated in Gaucher, Niemann-Pic, Krabbe, Fabry and Tay-Sachs disease? **[04]**

OR

Q6. A) Write detail notes on Niemann-Pic disease. **[06]**

B) Discuss about Refsum disease. **[04]**

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