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SARDAR PATEL UNIVERSITY
BSc 5th Semester Examination
2012
Thursday, 29th November
2.30 - 5:30 p.m.
US05CBCH03- Biochemistry Metabolism-1

Total Marks : 70

Q.1 Select proper option for following MCQs. [10]

(1) How many ATP synthesized from glucose degradation in anaerobic condition ?
(a) 2 (b) 8 (c) 10 (d) 36

(2) Transketolase uses one of the following co-enzyme.
(a) TPP (b) NAD (c) FAD (d) COASH

(3) After activation of falty acid, it is transported to matrix by _____.
(a) Carnitine shuttle (b) Creatinine shuttle
(c) Creatine shutle (d) All of above

(4) α-oxidation of fatty acids occurs in _____.
(a) Endoplasmic reticulum (b) Mitochondria
(c) Cytosol (d) Peroxisomes

(5) Which enzyme is lacking in Cori's disease ?
(a) Glucose-6-Phosphatase (b) Glycogen Phosphorylase
(c) Glucosyl 4-6 Transferase (d) Amylo α-1, 6-Glucosidase

(6) Pentosuria disease happened due to lacking of _____ enzyme.
(a) Lactate synthase (b) Hexose-4- Epimerase
(c) Xylitol dehydrogenase (d) Liver Phosphorylase

(7) Which enzyme is lacking in Pompe's disease ?
(a) Galactosekinase (b) Phospho Glucomutase
(c) Lysosomal α-1, 6 Glucosidase (d) UDP Hexose-4-Epimerase

(8) Gaucher's disease caused due to deficiency of _____ enzyme.
(a) Phytanate α-oxidase (b) Sphingomyelinase
(c) Glucocerebrosidase (d) Carnitine transferase

(9) Niemann's Pieck disease caused due to
(a) Large accumulation of sphingomyelin
(b) Large accumulation of lipid
(c) Large accumulation of sphingol
(d) Large accumulation of Glucocerebrosides

(10) Bone pain occurs in Gaucher's disease is due to
(a) Large accumulation of Glucocerebrosides in R.E. cells
(b) Large accululation of Sphingomyelin in liver, brain and spleen
(c) Large cells replacement in liver and spleen
(d) Marlow cells replacement by Histocytes loaded with lipid

Q.2 Answer in very short **(Any ten)** : [20]

(1) Calculate total ATP Synthesis during aerobic oxidation of glucose.
(2) Explain malate dehydrogenase enzyme reaction.
(3) Give reason : Glucose is first phosphorylated then enters into glycolysis.
(4) Write names of enzymes used for odd chain fatty acid oxidation.
(5) Write first two reactions for β-oxidation.
(6) Calculate Total ATP formation by degradation of 18C of fatty acids.
(7) Write Clinical Symptoms of Galactosemia.
(8) Discuss Clinical Symptoms of Amylopectinosis and Dexetrinolsis.
(9) Write Clinical Symptoms of Pompe's disease.
(10) Write clinical features of Gauchers's disease.
(11) What is Kerasin ? Where is it accumulated ?
(12) What do you know about Tay Sach's disease ?

Q.3 Explain the following.
(a) Cori's cycle [05]
(b) Gluconogenesis [05]

OR

Q.3 Give in detail.
(a) Regulatory steps of citric acid cycle [05]
(b) Pyruvate dehydrogenase complex [05]

Q.4 Explain in detail.
(a) Draw the complete pathwatys for falty acid synthesis. [06]
(b) Oxidation of mono unsaturated falty acid. [04]

OR

Q.4 Explain in detail.
(a) Role of liver and adipose tissues in lipid metabolism. [06]
(b) Pathway for ω-oxidation. [04]

Q.5 Write in detail.
(a) Von Gierke's Disease [05]
(b) Fructose-1- Phosphate deficient Disease [05]

OR

Q.5 Explain the following.
(a) Amylopectinosis [05]
(b) Galactosemia [05]

Q.6 Explain in detail "Nieman Pieck" and "Refsum's" disease. [10]

OR

Q.6 Explain in detail Gaucher's disorders with carnitine/carnitine acyl transferase deficiency. [10]

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