

SARDAR PATEL UNIVERSITY
B.Sc (IV Semester) EXAMINATION
Monday, 11th April 2016
10:30 am to 1:30 pm
US04CBNF02: BIOCHEMISTRY

Total Marks- 70

Note: i) Attempt all questions.
 ii) Marks are indicated on the right hand side.

- Q.1 Answer the following Multiple Choice Questions. All are compulsory** **10**
1. Epimers of glucose is
 a) Fructose b) Galactose c) Ribose d) Deoxyribose
 2. Lactose and maltose are
 a) Monosaccharide b) Disaccharide c) Both d) None
 3. Glycogen is converted to glucose in which of the following processes?
 a) Gluconeogenesis b) Glycogenesis c) Glycogenolysis d) Glycolysis
 4. During cellular respiration, most of the ATP made, is generated by
 a) Oxidative phosphorylation b) Photophosphorylation c) Glycolysis d) Substrate-level phosphorylation.
 5. What is the function of ATP(adenosine triphosphate)?
 a) Message carrier b) Store and transport energy c) Make proteins d) Breakdown sugars
 6. Which of following is an anomeric pair?
 a) D-glucose and L-glucose b) D-glucose and D-fructose c) α -D-glucose and β -D-glucose d) α -D-glucose and β -L-glucose
 7. Fats and oils are
 a) Proteins b) Nucleic acids c) Polysaccharides d) Lipids
 8. Which of the following lipids forms a bilayer between two watery regions, such as in the plasma membrane of a cell?
 a) Steroids b) Neutral fats c) Waxes d) Phospholipids
 9. An example of a saturated fatty acid is
 a) Palmitic acid b) Erucic acid c) Linoleic acid d) Oleic acid
 10. How many FADH₂ and NADH molecules are produced, respectively, during one turn of the fatty acid cycle?
 a) 1, 2 b) 1, 1 c) 1, 3 d) 2, 1

- Q.2 Attempt any ten of the following** **20**
1. Give the structure of Glucose and galactose.
 2. Differentiate between homopolysaccharide and heteropolysaccharide.
 3. Explain – All monosaccharides are reducing in nature.
 4. Explain Anaerobic respiration.
 5. Give the importance of HMP shunt.
 6. Write structure and importance of Tri-acylglycerol.
 7. Write biological roles of lipid in brief.
 8. Name 2 pentose sugar with its importance.
 9. Why TCA operates only in aerobic conditions
 10. Elaborate the basic steps of fatty acid synthesis
 11. Differentiate between saturated and unsaturated fatty acid.
 12. Explain the meaning of β oxidation term in fatty acid oxidation

P.T.O

Q3	Discuss the structures, properties and importance of disaccharides	10
	OR	
Q3 A	Give a detail account on Polysaccharides.	06
B	List the properties and importance of monosaccharides.	04
Q4 A	Explain Kreb's cycle in detail.	06
B	Explain pyruvate dehydrogenase complex.	04
	OR	
Q4	Write a short note on following:	10
	i) Cori cycle	
	ii) Glycogenesis	
Q5 A	Draw the basic structure of fatty acid with two examples	05
B	Briefly describe the nomenclature of fatty acids	05
	OR	
Q5	Explain the properties, structure and significance of phospholipids and glycolipids in detail.	10
Q6	Explain β oxidation.	10
	OR	
Q6 A	Explain the synthesis of fatty acid and its role in various biological events.	06
B	What are ketone bodies? How is it formed in cells	04

(2)