PARUL UNIVERSITY

PARUL INSTITUTE OF APPLIED SCIENCES

MID SEMESTER INTERNAL EXAMINATION, August 2018

M. Sc. Semester I Subject: Microbiology

Paper Code: 11203104 Title of the paper: Biochemistry of Macromolecules

Date: 06/09/2019 Time: 12:30-2:00

Maximum Marks: 40

Instructions:

1. All questions are compulsory and options are given in first and second question only.

- 2. Numbers to the right of question indicate the marks of respective question.
- **Q. 1** Attempt any one question of the following.

(08)

- (i) Discuss the classification of protein.
- (ii) Discuss classification of carbohydrates.
- **Q. 2** Attempt any three questions of the following.

(12)

- (i) Discuss Denaturation of Protein.
- (ii) Classify the protein on the basis of their structure.
- (iii)Write a short note on Laptin.
- (iv) Describe the structure of amino acid.
- (v) Discuss any method of Protein purification.
- **Q. 3** Do as directed. Attempt all five questions.

(05)

- (i) Write down the full form of GAG.
- (ii) Define essential Amino Acid.
- (iii) Name a intracellular GAG
- (iv) What is glycoprotein?
- (v) State any two application of protein purification.
- Q. 4 Write correct option in your answer sheet for following 15 multiple choice questions. (15)

MCQ 1	Example of essential amino acid					
	(A)	Arginine	(B)	Histidine		
	(C)	None of the above	(D)	Both of the above		
MCQ 2	The major functions of carbohydrates include					
	(A)	Structural framework	(B)	storage		
	(C)	Both a and b	(D)	None of these		
MCQ 3	The general formula of carbohydrates					
	(A)	(CH2O)n	(B)	(C4H2O)n		
	(C)	(C6H2O)n	(D)	(C2H2O)n COOH		
MCQ 4	Carbohydrates are					
	(A)	Polyhydroxy aldehydes and	(B)	Polyhydroxy aldehydes and		
		phenols		ketones		
	(C)	Polyhydroxy ketones and	(D)	Polyhydroxy phenols and alchols		
		phenols				
MCQ 5	Example of Aromatic Amino Acid is					
	(A)	Phenyl alanine	(B)	tyrosine		

MCQ 6 Example of Imino Acid is (A) Proline (B) Valine (C) Isoleucine (D) Leucine, MCQ 7 Glucose is stored in plant in the form of the following is stored. (B) glycogen (C) cellulose (D) sucrose MCQ 8 Purely Ketogenic amino acids: (D) Both A and B MCQ 9 Purely Ketogenic amino acids: (D) Both A and B MCQ 9 Smallest carbohydrates are trioses. Which of the following is a triose? (C) Inbulose (C) ribose (D) glyceraldehyde MCQ 10 Which of the following is a reducing sugar (A) glucose (B) dihydroxyacetone MCQ 10 Which of the following is a reducing sugar (C) erythulose (D) None of these MCQ 11 In what category of organic molecules are sugars placed? (A) Protein (B) Lipid (C) Hormones (D) carbohydrates MCQ 12 What are long chains of sugars called<								
(A) Proline (B) Valine (C) Isoleucine (D) Leucine, MCQ 7 Glucourse is stored in plant in the form (B) glycogen (A) starch (B) glycogen (C) cellulose (D) sucrose MCQ 8 Purely Ketogenic amino acids: (E) Lysine (C) Only A (D) Both A and B MCQ 9 Smallest carbohydrates are trioses. Which of the following is a triose? (E) (E) ribulose (C) ribose (D) glyceraldehyde (E) glyceraldehyde MCQ 10 White-of the following is a reducing sugar (D) glyceraldehyde (E) MCQ 10 White-of the following is a reducing sugar (B) dihydroxyacetone (D) None of these (E) MCQ 11 In what category of organic molecules are sugars placed? (E) (D) carbohydrates MCQ 11 In what category of organic molecules are sugars placed? (E) (D) carbohydrates MCQ 14 <		(C)	Both of the above	(D)	None of the above			
(C) Isoleucine (D) Leucine,	MCQ 6	Example of Imino Acid is						
MCQ 7 Glucose is stored in plant in the form of (A) starch (C) cellulose (D) sucrose MCQ 8 Purely Ketogenic amino acids: (A) Leucine (B) Lysine (C) Only A (D) Both A and B MCQ 9 Smallest carbohydrates are trioses. Which of the following is a triose? (A) glucose (B) ribulose (C) ribose (D) glyceraldehyde MCQ 10 Which of the following is a reducing sugar (A) glucose (B) dihydroxyacetone (C) erythulose (D) None of these MCQ 11 In what category of organic molecules are sugars placed? (A) Protein (B) Lipid (C) Hormones (D) carbohydrates MCQ 12 What are long chains of sugars called (A) Monosaccharides (B) Disaccharides (C) Polysaccharides (D) proteins MCQ 13 Ketone group containing Carbohydrate (A) fructose (B) ribulose (C) dihydroxy acetone. (D) All of the above MCQ 14 Purely ketogenic Amino Acid (A) lucine (B) lactose (C) RNA (D) protein		(A)	Proline	(B)	Valine			
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MCQ 8 Purely Ketogenic amino acids: (A) Leucine (B) Lysine (C) Only A (D) Both A and B MCQ 9 Smallest carbohydrates are trioses. Which of the following is a triose? (A) glucose (B) ribulose (C) ribose (D) glyceraldehyde MCQ 10 Which of the following is a reducing sugar (A) glucose (B) dihydroxyacetone (C) erythulose (D) None of these MCQ 11 In what category of organic molecules are sugars placed? (A) Protein (B) Lipid (C) Hormones (D) carbohydrates MCQ 12 What are long chains of sugars called (A) Monosaccharides (B) Disaccharides (C) Polysaccharides (B) Disaccharides (C) Polysaccharides (B) Disaccharides (C) dihydroxy acetone. (B) ribulose (C) dihydroxy acetone. (C) All of the above MCQ 14 Purely ketogenic Amino Acid (A) lucine (B) lactose (C) RNA (D) protein		(A)	starch	(B)	glycogen			
(A) Leucine (B) Lysine (C) Only A (D) Both A and B MCQ 9 Smallest carbohydrates are trioses. Which of the following is a triose? (A) glucose (B) ribulose (C) ribose (D) glyceraldehyde MCQ 10 Which of the following is a reducing sugar (A) glucose (B) dihydroxyacetone (C) erythulose (D) None of these MCQ 11 In what category of organic molecules are sugars placed? (A) Protein (B) Lipid (C) Hormones (D) carbohydrates MCQ 12 What are long chains of sugars called (A) Monosaccharides (B) Disaccharides (C) Polysaccharides (D) proteins MCQ 13 Ketone group containing Carbohydrate (A) fructose (B) ribulose (C) dihydroxy acetone. (D) All of the above MCQ 14 Purely ketogenic Amino Acid (A) lucine (B) lactose (C) RNA (D) protein		(C)	cellulose	(D)	sucrose			
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(A) glucose (B) dihydroxyacetone (C) erythulose (D) None of these MCQ 11 In what category of organic molecules are sugars placed? (A) Protein (B) Lipid (C) Hormones (D) carbohydrates MCQ 12 What are long chains of sugars called (A) Monosaccharides (B) Disaccharides (C) Polysaccharides (D) proteins MCQ 13 Ketone group containing Carbohydrate (A) fructose (B) ribulose (C) dihydroxy acetone. (D) All of the above MCQ 14 Purely ketogenic Amino Acid (A) lucine (B) lactose (C) RNA (D) protein		(C)	ribose	(D)	glyceraldehyde			
(C) erythulose (D) None of these MCQ 11 In what category of organic molecules are sugars placed? (A) Protein (B) Lipid (C) Hormones (D) carbohydrates MCQ 12 What are long chains of sugars called (A) Monosaccharides (B) Disaccharides (C) Polysaccharides (D) proteins MCQ 13 Ketone group containing Carbohydrate (A) fructose (B) ribulose (C) dihydroxy acetone. (D) All of the above MCQ 14 Purely ketogenic Amino Acid (A) lucine (B) lactose (C) RNA (D) protein	MCQ 10	Which of the following is a reducing sugar						
MCQ 11 In what category of organic molecules are sugars placed? (A) Protein (B) Lipid (C) Hormones (D) carbohydrates MCQ 12 What are long chains of sugars called (A) Monosaccharides (B) Disaccharides (C) Polysaccharides (D) proteins MCQ 13 Ketone group containing Carbohydrate (A) fructose (B) ribulose (C) dihydroxy acetone. (D) All of the above MCQ 14 Purely ketogenic Amino Acid (A) lucine (B) lactose (C) RNA (D) protein		(A)	glucose	(B)	dihydroxyacetone			
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(C) dihydroxy acetone. (D) All of the above MCQ 14 Purely ketogenic Amino Acid (A) lucine (B) lactose (C) RNA (D) protein	MCQ 13	Ketone group containing Carbohydrate						
MCQ 14 Purely ketogenic Amino Acid (A) lucine (B) lactose (C) RNA (D) protein		(A)	fructose	(B)	ribulose			
(A) lucine (B) lactose (C) RNA (D) protein		` '		(D)	All of the above			
(C) RNA (D) protein	MCQ 14	Purely ketogenic Amino Acid						
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		(A)		(B)	lactose			
MCQ 15 Muscle cells store energy in the form of				` ,	protein			
	MCQ 15							
(A) starch (B) glycogen		(A)		(B)				
(C) cellulose (D) steroids		(C)	cellulose	(D)	steroids			