

**PARUL UNIVERSITY**  
**PARUL INSTITUTE OF APPLIED SCIENCES**  
**MID SEMESTER INTERNAL EXAMINATION, MARCH 2018**  
**M. Sc. Semester II & IMSC Semester VII**  
**Subject: Biochemistry**

**Paper Code: 11203155**

**Title of the paper: Intermediary Metabolism**

**Date: 02 /03 /2020**

**Time: 2:30 p.m – 4:00 p.m**

**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.

<b>Q. 1</b>	Attempt any one question of the following. (i) Discuss Glycolysis in detail. (ii) Explain in detail Hexose monophosphate shunt.	<b>(08)</b>
<b>Q. 2</b>	Attempt any three questions of the following. (i) What is Cori cycle? Discuss. (ii) Discuss any two disorders of galactose metabolism. (iii) What is called Anaplerotic reaction? Discuss. (iv) Discuss Uronic acid pathway. (v) Explain P/O ratio.	<b>(12)</b>
<b>Q. 3</b>	Do as directed. Attempt all five questions. (i) Define Gluconeogenesis. (ii) "Fat burns in the flame of carbohydrate" Explain. (iii) Define oxidative phosphorylation. (iv) What are the steps of oxidative phosphorylation? (v) Why is the electron transport chain important?	<b>(05)</b>
<b>Q. 4</b>	Write correct option in your answer sheet for following 15 multiple choice questions.	<b>(15)</b>

MCQ 1	Glycolysis is also known as _____			
	(A)	EMP Pathway	(B)	TCA Cycle
	(C)	Both of the above	(D)	None of the above
MCQ 2	GLYCOLYSIS is the sequence of _____ enzyme-catalyzed reactions			
	(A)	10	(B)	11
	(C)	12	(D)	13
MCQ 3	In glycolysis, 1 mol of glucose is partially oxidised to _____ of pyruvate			
	(A)	1 mole	(B)	2 mole
	(C)	3 mole	(D)	4 mole
MCQ 4	Glycolysis is the central pathway for _____.			
	(A)	Glucose catabolism	(B)	Glucose anabolism
	(C)	sucrose catabolism	(D)	None
MCQ 5	Phase one of Glycolysis is called.			
	(A)	Preparatory phase	(B)	Pay off phase
	(C)	Starting phase	(D)	None
MCQ 6	_____ Are involved in the synthesis of			

	compounds.			
	(A)	Anabolism	(B)	Catabolism
	(C)	TCA	(D)	None
MCQ 7	_____ represents fat component, since the major source is fatty acid oxidation			
	(A)	Acetyl co A	(B)	Oxaloacetate
	(C)	Glycerol	(D)	Fatty acid
MCQ 8	What phase of cellular respiration has the highest ATP yield?			
	(A)	Gluconeogenesis	(B)	Glycolysis
	(C)	Krebs cycle	(D)	Oxidative phosphorylation
MCQ 9	Why is oxygen necessary in aerobic cellular respiration?			
	(A)	Creating oxaloacetic acid in TCA	(B)	Needed for glycolysis to begin respiration
	(C)	Provides hydrogen nuclei to create proton gradient	(D)	Final electron acceptor in the ETC
MCQ 10	The primary purpose of the electron transport chain in mitochondria to_____.			
	(A)	Directly phosphorylate AMP	(B)	Generate energy to sequester protons in the intermembrane space
	(C)	Synthesize ATP synthase	(D)	Directly phosphorylate ADP
MCQ 11	Which of the following electron carriers is not able to transfer one electron at a time?			
	(A)	FMN	(B)	NADH
	(C)	FAD	(D)	Heme
MCQ 12	The relative concentrations of ATP and ADP control the cellular rates of_____.			
	(A)	Glycolysis	(B)	Citric acid cycle
	(C)	Oxidative phosphorylation	(D)	All of the above
MCQ 13	The breakdown of glycogen to form glucose occurs in the_____.			
	(A)	Liver by phosphorolysis	(B)	Muscles by phosphorolysis
	(C)	Liver by hydrolysis	(D)	Both a and b
MCQ 14	_____ tissue can do glucose alanine cycle.			
	(A)	Liver	(B)	RBC
	(C)	Muscle	(D)	Both a and c
MCQ 15	The precursor of glycogen in the glycogen synthase reaction is_____.			
	(A)	Glucose 1 P	(B)	UDP glucose
	(C)	Glucose 6 P	(D)	UTP glucose

-- All The Best--