

PARUL UNIVERSITY

PARUL INSTITUTE OF APPLIED SCIENCES

REGULAR INTERNAL EXAMINATION 2022-23

B.Sc. SEMESTER 2

Subject Name: Biochemistry II

Subject Code: 11102155

Date: 04/04/2023

Time: 8:00 to 9:30 am

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)

- 1) Explain glycolysis with its energetics in detail.
- 2) Explain urea cycle and explain its energetics.

Q-2. Attempt any three questions of the following.

(12)

- 1) What is anabolism and catabolism?
- 2) Write down the cellular location of different carbohydrate metabolic pathways.
- 3) What is HMP shunt? Why it is important?
- 4) Give SGPT/SGOT reaction and discuss its clinical significance.

5) Explain oxidative and non-oxidative deamination with examples.

Q-3. Do as directed. Attempt all five questions.

(05)

- 1) Name five essential amino acids.
- 2) Which molecule act as precursor for Histidine synthesis?
- 3) What is protein turnover?
- 4) Give complete reaction of alcoholic fermentation.
- 5) Give net reaction of TCA cycle.

Q-4. Write correct option in your answer sheet for following fifteen multiple choice Questions.

(15)

1.	Which molecule act as link between TCA cycle and Urea cycle?			
	(A)	Oxaloacetate	(B)	Melate
	(C)	Fumerate	(D)	All of above
2.	Following is an example of non-essential amino acid			
	(A)	Lysine	(B)	Threonine
	(C)	Valine	(D)	Glutamine
3.	Pyruvate act as precursor molecule for following amino acid			
	(A)	Alanine	(B)	Valine
	(C)	Leucine	(D)	All of the above

4.	Protein turnover of average human body is.....			
	(A)	50-100g	(B)	25-75g
	(C)	300-400g	(D)	500-1000g
5.	High blood serum level of SGPT indicates			
	(A)	Hepatitis	(B)	Pancreatitis
	(C)	Gastritis	(D)	All of the above
6.	Which acts as electron carrier for oxidative deamination			
	(A)	NAD ⁺	(B)	NADP ⁺
	(C)	Both of above	(D)	None of above
7.	How many ATPs are utilized during Urea cycle?			
	(A)	2	(B)	4
	(C)	3	(D)	6
8.	How many ATPs are produced during Lactate fermentation			
	(A)	5	(B)	4
	(C)	3	(D)	2
9.	Cellular location of Pyruvate dehydrogenase complex			
	(A)	Cytosol	(B)	Mitochondrial matrix

	(C)	Inner membrane of mitochondria	(D)	Microsomes
10.	Aconitase convert _____ to _____			
	(A)	Oxaloacetate to Citrate	(B)	Citrate to Isocitrate
	(C)	Succinate to Fumerate	(D)	Melate to oxaloacetate
11.	How many NADH ₂ will be produced from 1 glucose molecule			
	(A)	6	(B)	8
	(C)	10	(D)	12
12.	Subcellular location of Kreb's cycle is			
	(A)	Cytosol	(B)	Inner membrane of mitochondria
	(C)	Mitochondrial matrix	(D)	Microsomes
13.	Net substrate level ATP produced during glycolysis are			
	(A)	2	(B)	4
	(C)	6	(D)	8
14.	Which sugar is present in ATP?			
	(A)	Ribose	(B)	Ribulose
	(C)	Deoxyribose	(D)	Deoxyribulose
15.	Which of the following is high energy phosphate compound?			

	(A)	Phosphoenolpyruvate	(B)	Glucose-6-Phosphate
	(C)	Glycerol-3-phosphate	(D)	None of above