

Roll No:

Jamia Hamdard
Department of Biochemistry
School of Chemical and Life Sciences, New Delhi-110062

M.Sc. Biochemistry, Semester-III Examination-2023
Paper Title: METABOLISM II- Lipid, Amino Acid and Xenobiotic Metabolism
Paper Code: MBC 303

Time: 3 hours Max Marks: 75

Note: This paper has 3 sections A, B, and C, Attempt all the three sections

Section A: Answer all the questions; Section B: Answer any 2 out of 4; Section C: Answer all the questions, each question has an internal choice

Abbreviations Used

CLO- Course Learning Outcome, PLO- Program Learning Outcome, BTL- Bloom Taxonomy Level: BT level 1-Remember; BT level 2-Understand; BT level 3-Apply; BT level 4-Analyse; BT level 5-Evaluate, BT level 6-Create

Section A (Attempt all questions)

(10X1=10 Marks)

Q. No	Questions	BTL	CLO	PLO
a	Two essential fatty acids that must be obtained from the diet are.....	1	2	3
b	The futile step during biological nitrogen fixation is	3	2	3
c	Glyoxylate is a key intermediate during carbon fixation pathway	4	5	2
d	DNA polymerase does not discriminate between dUTP and	1	4	3
e	 is the inhibitor of aromatic amino acid biosynthesis enzyme 5-enolpyruvylshikimate-3-phosphate (EPSP) synthase	3	3	2
f	Acidic, sialic acid containing ceramide oligosaccharides are called	5	4	3
g	 is an activator of pancreatic proteolytic enzymes.	4	4	3
h	spontaneously break down to form creatinine.	4	4	3
i	The most common reaction in drug metabolism is.....	2	2	3
j	Unsaturated fatty acids have lesser melting point than saturated fatty acids (True or False)	2	2	3

SECTION B: Long type Questions (Attempt any two out of four)**(2X15=30 Marks)**

Q. No	Questions (Any Two)	BTL	CLO	PLO
1	Discuss in detail the exogenous transport of Lipids	3	2	3
2	Discuss the significance of the Urea cycle and strategies to counter mutations in the enzymes of the Urea cycle	5	3	2
3	Discuss the Importance and regulation of Ribonucleotide reductase	2	2	3
4	Give a detailed account of Biological Nitrogen fixation	1	1	2

SECTION C: Short-type Questions. (Attempt all questions, each question has an internal choice)**(7X5=35 Marks)**

Q. No	Questions	BTL	CLO	PLO
1	What is the Importance and salient features of Entner-Doudoroff Pathway OR Explain the process of Non-Photosynthetic Photophosphorylation	4	5	3
2	Discuss the Purine Nucleotide Cycle OR Explain with examples the importance of Suicide substrates	3	2	3
3	Briefly Explain the stages of amino acid breakdown and the role of aminotransferases. OR Discuss the importance of the Glucose alanine cycle	4	3	2
4	Briefly explain the biosynthesis and significance of Ketone Bodies OR Discuss the function and biosynthesis of High density Lipoproteins	2	2	3
5	What is Carnitine shuttle discuss its importance OR Discuss the mechanism of transport of Acetyl CoA from mitochondria to the cytoplasm for fatty acid biosynthesis	5	2	3
6	Explain the significance of Phase-I xenobiotic metabolism reactions OR Discuss the role of salvage pathways in nucleotide metabolism	5	2	3
7	Discuss Phenylketonuria disorder OR Discuss Lipid storage diseases	4	2	3
