



BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Sc.(MLT)-2022/B.Sc.(MLT)-2023

Course Name – Biochemistry and Biophysics

Course Code - BMLTC202

(Semester II)

Full Marks: 60

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own

words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

- Choose the correct alternative from the following :
- (i) Identify 'X' in the following reaction. X +H2O ---> Glucose + Fructose
 - a) Sucrose

b) Lactose

c) Maltose

- d) Starch
- (ii) Point-out the cardio protective fatty acid is
 - a) Omega-3-fatty acid

b) Lauric Acid

c) Oleic Acid

- d) Palmitic acid
- (iii) Find out which one of the following about HDL isnot ture
 - a) least lipid content and maximum protein
- b) Reservoir of apo-protein A,B,C
- c) Highest electrophoretic mobility
- d) inversely proportional to risk of CAD
- (iv) Write the name of detoxifing molecule which detoxify of our brain
 - a) Glutamate

b) Glutamined) Aspertate

- c) Alanine
- (v) All are true about urea cycle, except- Select
 - a) Aspartateconverted to fumarate
- b) Ornithine-cituline transporter amino acids
- c) N-Acetyl gutamate is allosteric inhibitor
- d) Aspertate argino succinate shunt
- (vi) Choose which of the following is wrong about glutathion
 - a) Contain sulfhydryl group

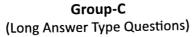
- b) Anti-oxidant
- c) Transport amino-acids across cellmembrane
- d) Made all essential amino acid
- (vii) Chose which amino acids excretion occur through urine in cystinuria?
 - a) Cystine, Lysine, Tyrosine and alanine
- b) Cystine, ornithine, leucine and arginine
- c) Cystine, Lysine, ornithine and alanine
- d) Cystine, Lysine, ornithine and arginine
- (viii) Predict which one is the most thermostable prair is

		b) A:	=U	
	a) A=T	d) A:	=G	
	c) GEC	hydro:	xylation of	
(ix)	a) A=1 c) G=C Post -translational defect in scurvy is due to non-l			
	Predict the hame now	b) Is	Olencine	
	a) Proline	d) G	lycine	
	c) Leucine Select which isn't true about Vit.B12			
(x)	a) Not present in foods of vegetable sources	b) C	obalt containing vitamin	
	to the forest of castle is required to the	d) _S	ACD is due to vit. B12 deficiency	
	absorption	absorption /rite the name of vitamin which is most potent anti-oxidant and prevent autooxidation b) Retinal		
(xi)	Write the name of vitamin which is most potent a	ลทุก-0	xiuant and i	
(//	a) Tocopherol	b) R	etinal _{scor} bic acid	
		d) A	SCOLDIC neva	
(xii)	c) Pyridoxine Select which of the following bases contain two k	(eto g	Toups.	
• •	a) Adenine	<i>D</i> <i>-</i>		
		d) C	ytosine has 16 carbon atoms	
(xiii)	c) Thymine Identify the the correct one from following, Palm	itate	1183 10 6812011	
	with		double bonds	
	a) 2 double bonds	7/ V D) 3	lone of these	
	c) One double bond	a) iv	ion reactions from the following	
(xiv)	 c) One double bond Recognize which one isn't involved in oxidation-r 	euuci	L. Judenes	
	a) Oxygenases	D) F	1901018363	
	c) Peroxidases	a) L	Dehydrogenase	
(xv)	Which of the following statements accura	itely	describes the composition of	
	hyaluronic acid and heparin?			
	a) Hyaluronic acid is composed of repeating units of glucuronic acid and N-acetylglucosamine, while heparin consists of repeating units of iduronic acid and N-acetylglucosamine. c) Hyaluronic acid is composed of repeating units of iduronic acid and N-acetylglucosamine, while heparin consists of repeating units of glucuronic acid and N-acetylglucosamine.	d)	Both hyaluronic acid and heparin are composed of repeating units of glucuronic acid and N-acetylglucosamine. Hyaluronic acid is composed of repeating units of glucuronic acid a glucose, while heparin consists of repeating units of iduronic acid and glucose.	ınd
	Gro	up-B		
	(Short Answer		Questions) 3	x 5=15
3. De: 4. Wr	plain solution of glycine cannot rotate the plane scribe the reaction mechanism of transmethylatite down the structural differentiation between	tion w pyrar	vith proper reaction. nose and furanose form	(3) (3) (3)
if ye	e temperature optimum for an enzyme is 37 deg ou increase the temperature from 37 degrees C	grees I to 5(C, explain what will most likely happen I degrees C?	(3)

6. "The kidney and mono-sodium phosphate regulate in body buffer system"- Justify this statement with example. (3)

OR

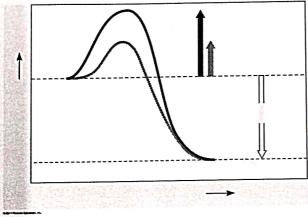
How do you determine the pH of a substance with an H concentration of 3.2×10–3 and give clinical significance on the basis of the blood pH range.



5 x 6=30

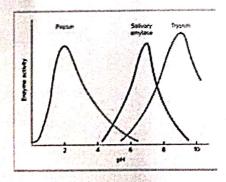
8. [Explain with structural diagram why DNA's elongation always occur at 5'->3' direction. Describe and differentiate between of coagulation, precipitation and color reaction of protein Classify vitamins along with example and their deficiency disorder. Write the difference between competitive, non-competitive and uncompetitive inhibition 	
-	along with the proper example & explanation. Calculate the pl value of glutamic acid and the explain with graph. pK1-2.19, pK2-9.67, pKr-	(5)
	1.25	(5)

12.



Analyze the this grath give proper diagrametic explanation.

OR



(5)

Critically alalyze this graph on the basis of enzyme activity
