Bs/ZOO/M4(T)

2025

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4th Semester

ZOOLOGY

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Paper Code: ZOO/M4 (T)

(Fundamentals of Biochemistry)

Full Marks: 75 Pass Marks: 40%

Time: 3 hours

(PART : B-DESCRIPTIVE)

(c) Secondary structure (a) (Marks: 50)

The figures in the margin indicate full marks for the questions

1. Define monosaccharide. Write notes on disaccharides and polysaccharides. 1+9=10

Or

Elucidate glycolysis with a detailed diagram. 10

2. What are glycolipids? Discuss the structures of triacylglycerols and phospholipids. 1+9=10

(Turn Over)

UI-CXE

What are steroids? Discuss types of steroids. Add a note on its significance of human health. 1+6+3=10

3. What are amino acids? Classify amino acids according to their side chains with examples.

1+9=10

Paper Code of O/M4 (T)

Write notes on any two of the following:

5×2=10

- (a) Non-essential amino acids
- (b) Physiological importance of essential amino acids PART: B-DESC
- Secondary structure of protein
- 4. Define deoxyribonucleic acid. Explain the complementarity of DNA with suitable illustration.

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Write notes on any two of the following:

 $5 \times 2 = 10$

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- (a) Denaturation and renaturation of DNA
- (b) Types of RNA
- (c) Hypo and hyperchromicity of DNA

(Continued)

5. Explain the nomenclature and classification of enzymes.

Or

Write notes on the following:

5×2=10

10

- (a) Isozymes
- Factors affecting enzyme catalyzed reactions



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(4th Semester)	Date
Manusaccharide is joined by a glycosidic	Z /h
ZOOLOGY	Date
(c) in the (MINOR) iduob see 1	LIBRARY CONTRIBUTE NACIONAL
(ch actival in statisfied)	
(Fundamentals of Biochemistry)	3. IApi
essential components of cell	(22)
(PART: A—OBJECTIVE)	
(Marks: 25) on thoses	(ii)
involved obrem oured shirt resmin veneray	(0)
The figures in the margin indicate full marks for th	e questions
soluble in water but insoluble in organic	(0)
I. Put a Tick (✓) mark against the correct answer	r in the
brackets provided:	1×10=10
shiqilodqs	4. Pho
1. Synthesis of sugar from fats is	(a)
(a) glycogenolysis (non) main	(0)
membrane ()	
(b) carbohydration () and over	(0)
(c) gluconeogenesis ()	
ensure accumulation of cholesterol in the	(d)
(d) glycogenesis ()	

	disaccharide?
	(a) Lactose is found in milk ()
	(b) Monosaccharide is joined by a glycosidic bond (14) 1002
	(c) It is a double sugar ()
11	(d) All of the above OON (oq)
3. I	Lipids are
	(a) essential components of cell membrane
Aug.	(b) absent in eggs
	(c) involved in short-term energy
the [410=10	(d) soluble in water but insoluble in organic solvents ()
	Phospholipids (a) are hygroscopic in nature ()
	(b) exhibit non-permeability in cellular membrane ()
	(c) have no application in nanotechnology (
	(d) ensure accumulation of cholesterol in the body ()
Bs/ZOO/M	

(a)	a non-cyclic amino acid ()	
(b)	the only cyclic amino acid (•))
(c)	known for its sulfhydryl group	
(d)	achiral in structure do ad (10 :) of	
6. Prot	ein structure is stabilized due to	
(a)	covalent and hydrogen bonds	()
(ь)	disulfide and ionic bonds) -55
(c)	hydrophobic interactions () (2)
	All of the above ()	
7. Ade	nine and guanine are	10, V _{me}
	volume of substrate present () sinbingy	
10	tearement concentration	
(b)	cyclic adenosine monophosphate	()
c)	purine (()	
(d)	adenylate kinase and () at a	
		er a save ser

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5. Proline is

8. Protein synthesis involves				
(a) only messenger and transfer RNA ()				
(b) small nuclear RNA and micro				
(c) only ribosomal RNA ()				
(d) None of the above successful history				
The property that distinguishes enzymes from other catalyst is				
(a) rigidity ()				
2 Code				
(c) exhibition grow (cotte) id (* LIBRANIY				
(d) inhibition () also and lottle (b)				
10. $V_{\rm max}$ in enzyme kinetics refers to				
(a) volume of substrate present ()				
(b) maximum concentration of reactants				
(c) maximum rate of an enzyme catalyzed reaction ()				
(d) a universal constant (a) (a)				
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II. Match the following:				
1.	Ribose	(a)	Treat skin condition	
2.	Topical Steroids	(b)	Building block of nucleic acid	
3.	Side chain	(c)	Simple sugar	
4.	Nucleoside	(d)	Helper molecules	
5.	Cofactors	(e)	Distinctive for each amino acid	



- III. Write short notes on any five of the following: 2×5=10
 - (a) Carbohydrates



(b) Gluconeogenesis in lo manapiturges isocyolosis (p)



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(c) Biological significance of phospholipids



(d) Proteins



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(10)

(e) Nucleotides



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(**11**)

(f) Cofactors



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(g) Lineweaver-Burk plot





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