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OLABISI ONABANJO UNIVERSITY
FACULTY OF BASIC MEDICAL SCIENCES
DEPARTMENT OF BIOCHEMISTRY

2012/2013 HARMATTAN SEMESTER EXAMINATION

COURSE CODE: BCH 201/MDB 202.1

COURSE TITLE: GENERAL BIOCHEMISTRY I

DATE: 10th January, 2014

TIME ALLOWED: 2 Hours 30mins

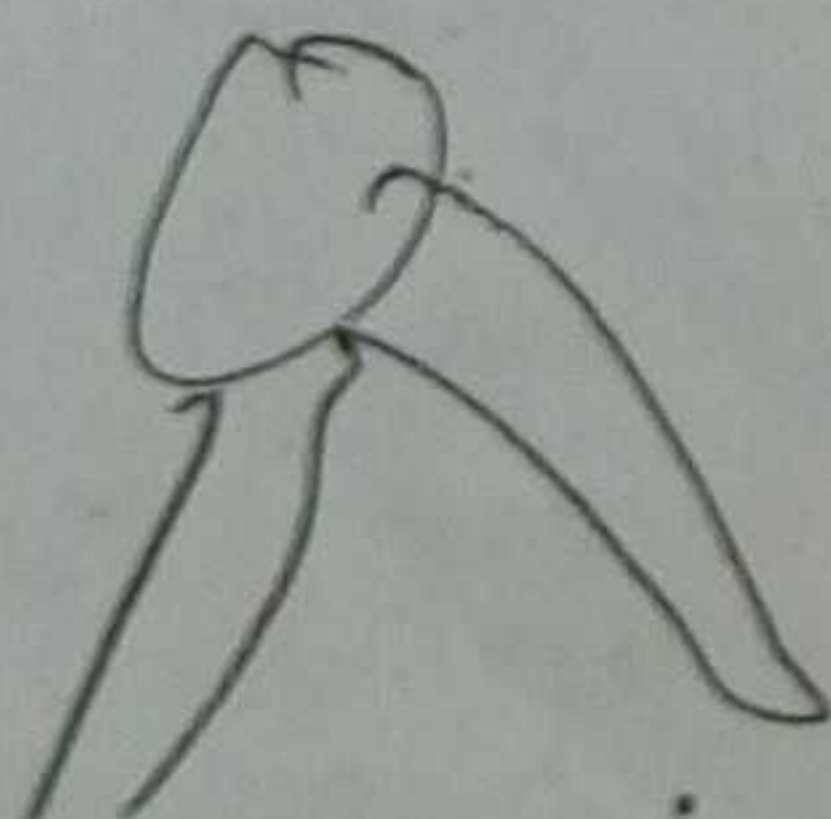
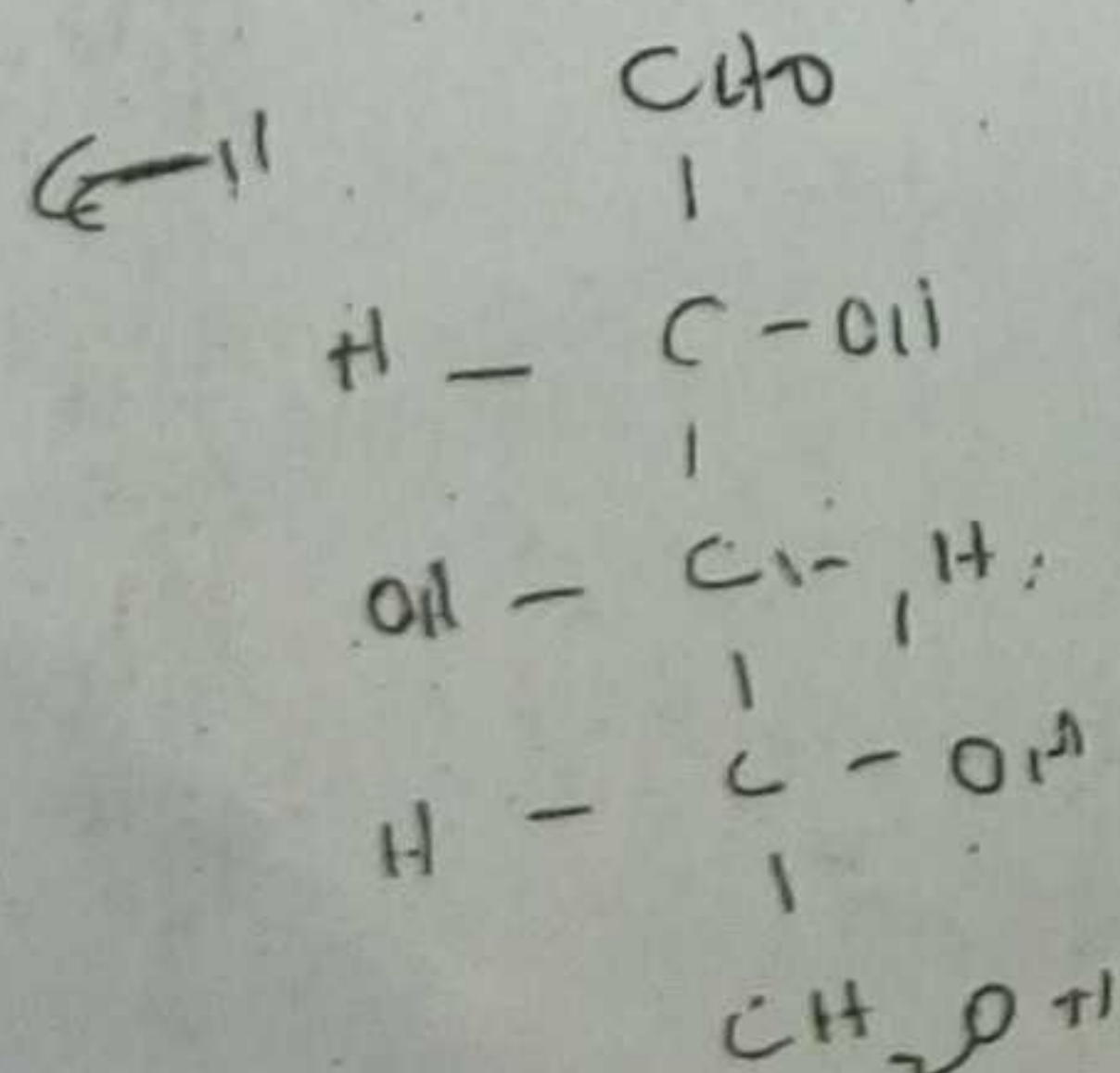
Theory (Paper II)

INSTRUCTION: ANSWER FIVE (5) QUESTIONS ONLY

1. (a) Give a detailed description of the process of RNA synthesis.
 (b) Describe the processing of the nascent RNA in the cytoplasm. capping - 5' ends attached
polyadenylation - 3' ends
splicing
2. (a) Describe the following major classes of sugars giving at least two examples each mucopolysaccharides
 - i. Anomers ribose
 - ii. Epimers glucose
 - iii. Enantiomers fructose
- (b) i. Draw the structure of ribose
 ii. How many stereoisomers does this sugar possess? Explain
- 3a. Briefly classify lipids based on their structures.
- b. What are plasma proteins?
- 4.(a) Copy and Complete the table below

Coenzyme	Vitamin source	Type of reaction	Group transfer
NAD ⁺	Nicotinic acid / niacin Vit B ₃	Oxidation - Reduction	H ⁺ , O ₂ , e ⁻
FAD	Riboflavin (Vitamin B ₂)	Oxidation - Reduction	H ⁺ , O ₂ , e ⁻
Pyridoxal Phosphate	Vit. B ₆	Trans - Amination	Amino group
Biotin	Vit. B ₇ (Biotin)	Carboxylation	CO ₂
Thiamine Pyrophosphate	Thiamine (Vit B ₁)	Decarboxylation	Aldehyde

- b) Write short note on lactate dehydrogenase. Bromelainase, glucose and glucose sugar
- c) Transferrin. Use Michael's method equation into two lines for



5(a) What do you understand by the term

(i) Buffer solution (ii) Buffering Capacity

(b) Describe (showing calculations) how you will prepare a 0.20M Sodium Acetate buffer of pKa pH 4.74 (Given Molar masses of CH_3COOH = 60.04, CH_3COONa = 80.05, density of CH_3COOH = 1.11 and % purity = 80%) $\text{pH} = 4.76$

6. Write short notes on the following

(i) Phosphodiester Bond (ii) Nucleoside (iii) RNA (iv) DNA

Short chain
long
5' to 3' chain

DNA base
value of
molecular
weight

Log pH

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Kita paku
syukur
dan
pang

G A
C T U
R U