



## TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

**UNIVERSITY EXAMINATION FOR:**

BMLS

ABT 4121 : STRUCTURE OF BIOMOLECULES

SPECIAL SUPPLEMENTARY EXAMINATION

**SERIES:SEPT. 2017**

**TIME:2 HOURS**

**DATE:**Pick DateSelect MonthPick Year

### **Instructions to Candidates**

You should have the following for this examination

*-Answer Booklet, examination pass and student ID*

This paper consists of Choose No questions. Attempt Choose instruction.

**Do not write on the question paper.**

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### **Question ONE**

- a. Using illustrations, differentiate between aldoses and ketoses (4mks).
- b. Using named examples, explain the difference between D- and L-sugars (4mks).
- c. Name two amino acids required in formation of purine bases (2mks).
- d. Explain the functional differences between the following oligopeptides:
  - i. Oxytocin and Vasopressin (2mks).
  - ii. Glutathione and Bradykinin (2mks).
- e. Using an illustration, show the formation of monoacylglycerol (3mks).
- f. Name two amino acids required for formation of pyrimidine bases (3mks).
- g. Name any four compounds that have a basic amino acid skeletal structure but do not occur in proteins (3mks).

- h. Describe eicosanoids (3mks).
- i. The two ends of a polynucleotide chain are asymmetric. Explain. (4mks).

#### Question TWO

- (a) Discuss the biological importance of monosaccharides (10mks).
- (b) Discuss biomedical importance of disaccharides (10mks).

#### Question THREE

- a. Name any three conjugated proteins and state their prosthetic groups (3mks).
- b. Classify proteins according to their functional properties (6mks).
- c. Describe the biomedical importance of amino acids (11mks).

#### Question FOUR

- (a) Discuss the biomedical importance of Lipids (10mks).
- (b) Describe the structure of DNA using Watson and Crick hypothesis (10mks)

#### Question FIVE

Discuss the properties of monosaccharides under the following sub-headings:

- (a) Asymmetric carbon. (5mks).
- (b) Formation of closed ring structures (4mks).
- (c) Formation of iodo compounds (3mks).
- (d) Oxidation (8mks).