



1<sup>ST</sup> SEM. 2017/2018

# UNIVERSITY OF SWAZILAND

## RE-SIT/SUPPLEMENTARY EXAMINATION PAPER

**PROGRAMME:** B. Sc. AGRON.; B.Sc. ANIMAL SCIENCE;  
B.Sc. HORT.; B.Sc. FSNT II. AND B.Sc.  
TADAM II

**COURSE CODE:** AS 202/ASC 203

**TITLE OF PAPER:** BIOCHEMISTRY

**TIME ALLOWED:** TWO (2) HOURS

**INSTRUCTIONS:** ANSWER ANY FOUR (4) QUESTIONS.

**THIS PAPER SHOULD NOT BE OPENED UNTIL THE CHIEF  
INVIGILATOR HAS GRANTED PERMISSION.**



**QUESTION 1**

Explain and illustrate the production of biomolecules from the following:

- a. Pyruvate (8 Marks)
- b. Lactate (8 Marks)
- c. Actetate (9 Marks)

**QUESTION 2**

Discuss five possible responses when food is mixed with water (25 Marks)

**QUESTION 3**

Using structures to illustrate you answers, write short notes on:

- a. Sugar epimers (5 Marks)
- b. Ketoses and aldoses (5 Marks)
- c. Pyrimidines of nucleosides (5 Marks)
- d. Catecholamine (5 Marks)
- e. Water soluble vitamins (5 Marks)

**QUESTION 4**

Compare and contrast the following:

- a. Catabolism and anabolism (5 Marks)
- b. RNA and DNA (8 Marks)
- c. Phospholipid and triacylglycerides (4 Marks)
- d. Saturated fatty acid and unsaturated fatty acids (4 Marks)
- e. Essential amino acid and non-essential amino acid (4 Marks)

**QUESTION 5**

- a. Discuss the urea cycle in the eukaryotic cell. (15 Marks)
- b. Briefly describe and illustrate transamination in the animal body (10 Marks)