ROBERT MUGABE SCHOOL OF HERITAGE & EDUCATION

DEPARTMENT OF TECHNICAL EDUCATION

BACHELOR OF EDUCATION SECONDARY HONOURS IN-SERVICE DEGREE

PART 2 SEMESTER 1

EXAMINATION QUESTION PAPER

MODULE CODE	:	**TSFT 213**
NARRATION	:	**ENERGY METABOLISM**
DATE	:	**2024**
TIME	:	**3 HOURS**

MAIN PAPER

INSTRUCTIONS.

ANSWER ANY **FOUR (4)** QUESTIONs.

ALL QUESTIONS CARRY EQUAL MARKS.

1. Outline the glycolytic pathway in energy metabolism, clearly specifying enzyme activity at each step. (25)

2 a. Distinguish between aerobic and anaerobic respiration during energy metabolism. (18)

b. Describe basal metabolism. (7)

3. Examine the role of B-vitamins and mineral elements in facilitating energy release during metabolism. (25)

4. Write brief notes on the following;

(i) Proton gradient (5)
(ii) Hyperglycemia (5)
(iii) Glycogenolysis (5)
(iv) Mitochondrion (5)
(v) Gluconeogenesis (5)

5a. Examine the role of the Electron Transport Chain in ATP generation (18)

5b. Calculate the BMI of a sportsman weighing 70 kg with a height of 166 cm (7)

6a. Analyze enzyme activity in Ŵhe Krebs cycle (18)

6b. Compare and contrast the roles of NAD and FADH during electron transport (7)

END OF EXAMINATION