ROBERT MUGABE SCHOOL OF EDUCATION AND CULTURE

DEPARTMENT OF SCIENCE AND TECHNICAL EDUCATION

BACHELOR OF EDUCATION SECONDARY IN-SERVICE HONOURS DEGREE BIOLOGY

LEVEL 2 SEMESTER 1

EXAMINATION QUESTION PAPER

MODULE CODE	**CBIS 211**
MODULE NARRATION	**PLANT PHYSIOLOGY**
DATE	**2024**
DURATION	**3 HOURS**

INSTRUCTIONS TO CANDIDATES:

1. Answer any **three** questions.

2. All questions carry equal marks

1. a) Define plant physiology (3)

b) Discuss the function of the following cell organelles in relation to their structures:

i) Chloroplast (3)

ii) Vacuole (4)

iii) Plasma membrane (5)

c) Examine the concept of water potential and water movement in plant physiology. (10)

2. Give acritical analysis of the C3 and C4 carbon dioxide fixation (25)

3. Mycorrhizae association is one of the nutritional adaptations that have evolved among plants. Examine how mycorrhizae assist plants in the uptake of nutrient elements. (25)

4a. i) Define seed viability. (2)

ii) Describe an experiment to demonstrate ways of testing seed viability (5)

b) Explain the importance of seed dormancy in plant physiology. (18)

5. i) Examine the structure of the phloem vessels and its adaptation to translocation. (10)

ii) Discuss any two hypothesis to explain mechanism of translocation in plants. (15)

END