(University of Choice)

MASINDEMULIROUNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

SECOND SEMESTER EXAMINATIONS

FOR THE DEGREE OF MASTER OF SCIENCE IN PLANT BREEDING

COURSE CODE: APB 825

COURSE TITLE: REGULATORY MECHANISMS IN PLANT DEVELOPMENT

DATE: 26TH APRIL, 2022 **TIME:** 2-5PM

INSTRUCTIONS TO CANDIDATES

Answer all questions in section A and any two in section B

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

This paper consists of 3 printed pages. Please Turn Over

Section A (30 Marks)

1. Briefly describe how transcriptional factors are regulated **(5 marks)**

2. What are the types of gene regulations that affect plant development? Explain each **(6 marks)**

3. Describe how plants respond to changes in the environment, maintain homeostasis and regulate fluids **(7 marks)**

4. How do plants regulate their hormones in order to maintain the optimum endogenous levels?

   (7 marks)

5. How do plant hormones differ from animal hormones?**(5 marks)**

Section B (40 marks)

1. Describe how plants regulate gene expression specifically in response to stress cue of your choice

   (20 marks)

2. Why is gene regulation important in plant development? Describe the process?**(20 marks)**

3. Enumerate traditional and non-traditional phytohormones and describe how each per se/with interactions regulates plant development **(20 marks)**