



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION
SCIENCE WITH IT**

4th YEAR FIRST SEMESTER 2019/2020 ACADEMIC YEAR

MAIN CAMPUS - REGULAR

COURSE CODE: SBT 402

COURSE TITLE: MORPHOGENESIS AND ANATOMY

EXAM VENUE: STREAM (BED. SC)

DATE: EXAM SESSION:

TIME: 2 HOURS

Instructions:

- 1. Answer ALL questions in Section A and Any two questions in Section B**
 - 2. Candidates are advised not to write on question paper**
 - 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**
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SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. Describe multiplication as a procedure in tissue culture. (3 marks)
2. Explain alternation of generations in angiosperms. (3 marks)
3. Provide a well labeled diagram of a mature pollen grain. (3 marks)
4. Differentiate endospermic from exalbuminous seeds giving an example in each case. (3 marks)
5. Outline the functions of the various components of the gynoecium in a flowering plant. (3 marks)
6. Explain the function of the proteins released by the pollen wall during the fertilization process. (3 marks)
7. Outline three functions of the dermal tissue in plants. (3marks)
8. Describe microsporogenesis in plants. (3 marks)
9. Explain why the process of tissue culture is easier as compared to cloning animals. (3 marks)
10. Define the sporopollenin stating its functions. (3 marks)

SECTION B: ESSAY QUESTIONS (40 MARKS)

11. Describe the development of a female gametophyte in plants. (20 marks)
12. Describe embryogeny in dicots. (20 marks)

13. Describe organogenesis in plants. (20 marks)

14. Describe Apical meristems in plants. (20 marks)