JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES

SPECIAL EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION SCIENCE

MAIN CAMPUS - REGULAR

COURSE CODE: **SBT 403**

COURSE TITLE: **PLANT PATHOLOGY**

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**

SECTION A: (30 MARKS)

1. Describe the conditions necessary for a plant disease to occur (3 marks)
2. A farmer in your locality consulted you as a plant pathologist to investigate his cabbage crop. Upon investigation, you discovered that the crop is infected with stem swellings along the soil line. Write a report on the possible causative organism, its virulence mechanism and then recommend management options
   (3 marks)
3. Outline the differences between epidemic and pandemic plant infections (3 marks)
4. Fourth year students undertaking research projects at the university farm encountered greater rates of crop destruction by fungal pathogens compared to bacterial pathogens. State three possible reasons for this observation (3 marks)
5. What are the symptoms of maize infection with *Striga hermontheca*? (3 marks)
6. Use examples to explain mesobiotic agents of plant infection (3 marks)
7. For a plant infective virus of your choice, discuss its transmission mechanisms
   (3 marks)
8. While on a field study, you encounter bean plant roots that form a tangled mass of galls. Name the possible causative organism for this infection and state four other symptoms you would observe on the roots (3 marks)
9. Name three ways by which parasitic higher plants can be controlled (3 marks)
10. Explain the epidemiology of *Fusarium* wilt of tomatoes (3 marks)

SECTION B: (40 MARKS)

11. Discuss five factors necessary for a fungal infection to occur in plants (20 marks)
12. Detail methods that can be used to eradicate plant pathogen inocula in a farm
    (20 marks)
13. Describe infection traits of parasitic higher plants (20 marks)
14. Discuss methods of sustainable management of plant parasitic nematodes (20 marks)