JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF AGRICULTURAL AND FOOD SCIENCES

UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE IN HORTICULTURE

3RD YEAR 2ND SEMESTER 2016/2017 ACADEMIC YEAR

REGULAR

COURSE CODE: AHT 3321

COURSE TITLE: HORTICULTURAL MACHINES AND FARM POWER

EXAM VENUE: **STREAM:**

DATE: **EXAM SESSION:**

TIME:

Instructions
1. Answer ALL questions in Section A (compulsory) and ANY TWO questions in Section B
2. Candidates are advised not to write on the question paper
3. Candidates must hand in their answer booklets to the invigilator while in the examination room

SECTION A [30 MARKS]

Answer ALL questions in this section

1. List three construction features of IC engine (3 marks)
2. Explain the following operation and state the implements used for each operation.
    a. Primary tillage (5 marks)
    b. Secondary tillage (5 marks)
3. Give two classifications of farm power used in agricultural operations (4 marks)
4. What reasons makes adoption of wind power on many farms low? (2 marks)
5. Name three sources of farm power (3 marks)
6. Explain two classifications of heat engines (4 marks)
7. What are the main functions of a sprayer? (4 marks)

SECTION B [40 MARKS]

Answer ANY TWO questions from this section

1. State the difference between
    a. Spark ignition IC engine and Compression ignition IC engine (6 marks)
    b. Two stroke cycle diesel engine and Two stroke cycle diesel engine (8 marks)
    c. What advantages does CI engine have over SI engine (6 marks)
2. a. What factors are considered in the selection of a tractor? (15 marks)

    b. List five basic components of a sprayer (5 marks)

3. a. On the basis of structural design, tractors are classified into three classes. What are they? (6 marks)
    b. What are the advantages of using a disc plough for land preparation? (14 marks)
4. What are the advantages and disadvantages of the following sources of power?
    a. Animal power? (10 marks)
    b. human power (4 marks)
    c. mechanical power (6 marks)