



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

AEE 413: AGRICULTURAL INFORMATION MANAGEMENT

DATE: 6/12/2019

TIME: 8.30-10.30 AM

INSTRUCTIONS:

Answer *ALL* questions from Section A and any other *TWO* from Section B:

SECTION A: COMPULSORY: (30 MARKS)

QUESTION ONE (30 MARKS)

- a) Explain the following terms:
 - i. Information resources (2 marks)
 - ii. Communication of information (2 marks)
- b) Explain the THREE main classification of agricultural systems (6 marks)
- c) Explain the three levels of data abstraction (6 marks)
- d) Discuss FIVE reasons which caused a paradigm shift from file system to database management system (DBMS) (5 marks)
- e) Describe five Principles of systems approach (5 marks)
- f) Describe the Four types of resources needed before agricultural information can lead to the changes desired by the individuals, communities, organizations or states (4 marks)

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

QUESTION TWO (20 MARKS)

- a) Discuss FIVE common problems encountered in a Database Management System (DBMS) (10 marks)

- b) Describe the major groups of activities that make up Information Management (10 marks)

QUESTION THREE (20 MARKS)

- a) Discuss five major Agricultural Organizations and research centers producing agricultural information (10 marks)
- b) Discuss FIVE areas where the ability of geographic information system (GIS) to analyze and visualize agricultural environments and work flows has proved to be beneficial to the farming industry (10 marks)

QUESTION FOUR (20 MARKS)

- a) With the aid of a diagram, describe the main information flows in an agricultural technology innovation process (10 marks)
- b) Discuss five Information and Communications Technology (ICT) tools applied in the agriculture sector (10 marks)

QUESTION FIVE (20 MARKS)

- a) Describe FIVE key functions of database (10 marks)
- b) Discuss FIVE Characteristics of Agricultural Systems (10 marks)