



EMBU UNIVERSITY COLLEGE

(A Constituent College of the University of Nairobi)

2015/2016 ACADEMIC YEAR

SECOND SEMESTER EXAMINATION

**THIRD YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
(WATER RESOURCES MANAGEMENT) AND BACHELOR OF SCIENCE
(MANAGEMENT OF AGROECOSYSTEMS AND ENVIRONMENT)**

AEM 301: RESEARCH METHODS AND COMMUNICATION

DATE: APRIL 13, 2016

TIME: 02:00-04:00

INSTRUCTIONS:

Answer Question ONE and ANY Other TWO Questions

QUESTION ONE

- a) State the objectives and importance of research in agricultural resources management. (6 Marks)
- b) Describe the main stages of the scientific method. (6 Marks)
- c) Outline the importance of publishing the results of scientific work. (6 Marks)
- d) Describe THREE probability sampling techniques commonly used in scientific research. (6 Marks)
- e) Describe THREE considerations you will take into account when selecting a research problem for your class project. (6 Marks)

QUESTION TWO

- a) Describe the characteristics of a good research design. (8 Marks)
- b) A 4th year student in EUC wants to determine the optimal amount of fertilizer to use in growing a certain variety of maize (*Zea mays*) at the university farm. Describe an experimental design that the student can use to obtain the required data. (12 Marks)

QUESTION THREE

- a) Briefly discuss the criteria for selecting an appropriate method of data collection. (10 Marks)
- b) Describe the steps involved in processing of raw data. (10 Marks)

QUESTION FOUR

- a) Discuss the main components of a research (journal) paper. (12 Marks)
- b) Briefly discuss FOUR other types of scientific writing. (8 Marks)

QUESTION FIVE

Local communities living along River Kapingazi are recording high levels of a waterborne disease. They are suspecting that it is caused by the contaminated river water which they use for their domestic needs. Design a study which can be undertaken to investigate whether the river is the cause of the increased disease incidence in the community, stating how you will communicate the results to different stakeholders. (20 Marks)

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