MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

THIRD YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

AGR 301: STATISTICAL AND RESEARCH METHODS IN AGRICULTURAL

EDUCATION AND EXTENSION

DATE: 13/11/2020   **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) Describe four characteristics of a good research hypothesis   (4 marks)

b) Distinguish between the following

    i.   Independent variable and dependent variable   (4 marks)

    ii.   Continuous variable and discrete variable   (4 marks)

c) Differentiate between the following

    i.   Nominal scale and ordinal scales of measurements   (4 marks)

    ii.   Interval scale and ratio scales of measurements   (4 marks)

d) In an agriculture test, students obtained marks ranging from 60% to 74%. The frequency distribution of marks is as shown in the table below.

Student score	Frequency
60-62	5
63-18	18
66-68	42
69-71	27
72-74	8

Calculate the

a)   Mean mark of the class   (6 marks)

b)   Variance of the scores   (4 marks)

c)   Standard deviation of the scores   (2 marks)

d)   Draw a histogram and a cumulative frequency curve that can help interpret the age distribution of the farmers   (10 marks)

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

QUESTION TWO (20 MARKS)

a)   State the meaning of a research proposal   (2 marks)

b)   Describe the components of a research proposal in agriculture education   (18 marks)

QUESTION THREE (20 MARKS)

a)   State four research designs.   (2 marks)

b)   Giving two examples in each case describe the four research designs stated in 3 (a) above.

                                                                                                                  (8 marks)

c)   Describe two sources of literature review   (4 marks)

d)   Explain FOUR reasons for conducting literature review   (8 marks)

QUESTION FOUR (20 MARKS)

a)   Explain THREE sources of research problems   (6 marks)

b)   Giving one example in each case, describe the three ways of classifying research (14 marks)

QUESTION FIVE (20 MARKS)

a)   State five NON- RANDOM sampling methods used in research methodology   (5 marks)

b)   Using one example in each case, describe processing of data under the following

        i.   Data validation   (5 marks)

        ii.   Data editing   (5 marks)

        iii.   Data coding   (5 marks)

        iv.   Data tabulation   (5 marks)