



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY**

**SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES**

**DEPARTMENT OF BIOLOGICAL SCIENCES**

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN  
BIOLOGICAL SCIENCES**

**3<sup>rd</sup> YEAR 2<sup>nd</sup> SEMESTER 2016/2017 ACADEMIC YEAR**

**MAIN CAMPUS - REGULAR**

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<b>COURSE CODE:</b>	<b>SBI 3325</b>
<b>COURSE TITLE:</b>	<b>RESEARCH METHODOLOGY</b>
<b>EXAM VENUE:</b>	<b>STREAM: (BIO)</b>
<b>DATE:</b>	<b>EXAM SESSION:</b>
<b>TIME: 2 HOURS</b>	

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**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**
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### **SECTION A: SHORT QUESTIONS (30 MARKS)**

1. List any six characteristics of a research study. (3 marks)
2. Outline any six criteria for selecting a research topic. (3 marks)
3. In a certain district with a population of 150,000, sanitary conditions are very poor (only 5% of households have latrines) and diseases associated with poor sanitation, such as, gastroenteritis and worms are very common. The Ministry of Health has initiated a sanitation project that aims at increasing the number of households with latrines by 20% each year. The project provides materials and the population should provide labour. Two years later, less than half of the target has been reached.
  - a) State the discrepancy, research question and the possible answers. (2 marks)
  - b) Briefly explain if this problem situation researchable. (1 mark)
4. Explain any three factors required to justify a selected research problem. (3 marks)
5. The presentation of research results or scientific publications from other writers without quoting the author is not appropriate. State if this statement sound true? Justify your answer. (3 marks)
6. Explain any six common mistakes in research. (3 marks)
7. With a specific example, explain when you should use multi-stage sampling method. (3 marks)
8. State any three steps in developing working hypotheses. (3 marks)
9. Giving examples, state the difference between nominal, ordinal, interval or ratio scales of measurement. (3 marks)
10. Compare and contrast validity and reliability of test instruments. (3 marks)

### **SECTION B: ESSAY QUESTIONS (40 MARKS)**

11. To invest in research is to invest for a better future. Discuss and justify your answer. (20 marks)
12. Describe some of the important research designs used in experimental hypothesis-testing in research study. (20 marks)
13. “Research is much concerned with proper fact finding, analysis and evaluation.” Discuss giving reasons in support of your answer. (20 marks)
14. Based on any three perspectives, describe the types of research study. (20 marks)