



**DAYSTAR UNIVERSITY**  
**SCHOOL OF SCIENCE, ENGINEERING, AND HEALTH**  
**COMPUTER SCIENCE DEPARTMENT**  
**FINAL EXAMINATION JANUARY 2019 SEMESTER**  
**ACS313: INFORMATION TECHNOLOGY RESEARCH METHODS**

**DATE: MAY 2019**

**TIME: 2 HOURS**

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**INSTRUCTIONS:**

Answer all questions in section I and any two in section II

**Total Marks: 70**

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**Section I:**

**30 Marks**

**Question One**

- a) Discuss any **THREE** research designs and give examples of scenarios in which they would be most suitable. **(9 marks)**
- b) Study the following scenario: *A Computer Science Lecturer for the course CS111 : Introduction to Programming course using C programming language. The Lecturer would like to research on what affects or determines the students' performance in this course, in relation to students' mathematical abilities, attitude towards programming and social life.*
- i) Write an appropriate research title for the above scenario. **(3 marks)**
- ii) State the most appropriate research design and discuss why. **(3 marks)**
- iii) Write a suitable hypothesis for this research. **(3 marks)**
- iv) Discuss your population and the sampling strategy you would apply. **(2 marks)**
- v) Write a research question that would require descriptive data and include relevant statistics with explanation. **(5 marks)**
- vi) Write a research question that would require inferential data and include relevant statistics with explanation. **(5 marks)**

**Section II: Answer any TWO questions in this section****40 marks****Question Two****20 marks**

- a. Define the term applied research. **(2 marks)**
- b. Discuss the purpose of a research proposal? **(4 marks)**
- c. Discuss **TWO** differences between deductive and inductive approaches in research. **(4 marks)**
- d. Define the questionnaire research instrument, including **TWO** tips on how to design a good questionnaire. **(6 marks)**
- e. Explain the meaning of a conceptual framework and give an example. **(4 marks)**

**Question Three****20 marks**

- a. Discuss any **FOUR** sections of a research proposal. **(4 marks)**
- b. Define Literature Review? **(2 marks)**
- b. Define an interview research instrument and state an advantage and disadvantage. **(4 marks)**
- c. Discuss any **TWO** differences between quantitative and qualitative research. **(6 marks)**
- d. Explain the meaning of a theoretical framework. **(4 marks)**

**Question Four****20 marks**

- a. Define basic research. **(2 marks)**
- b. Differentiate between primary and secondary data? Give an example of each. **(5 marks)**
- c. Define a focus group discussion and state **TWO** reasons when it would be most suitable. **(5 marks)**
- d. Differentiate between quantitative and qualitative research. **(6 marks)**