

# JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS DEPARTMENT OF INFORMATION SYSTEMS & TECHNOLOGY UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN INFORMATION AND COMMUNICATION TECHNOLOGY 4<sup>TH</sup> YEAR 1<sup>ST</sup> SEMESTER 2018/2019 ACADEMIC YEAR

### **MAIN CAMPUS**

**COURSE CODE: IIT 3432** 

COURSE TITLE: FORENSIC COMPUTING CAPSTONE RESEARCH

EXAM VENUE: STREAM: COMPUTER SECURITY & FORENSICS

DATE: EXAM SESSION:

TIME:

### **INSTRUCTIONS**

- 1. Answer Question 1 (Compulsory) and ANY other TWO questions
- 2. Candidates are advised not to write on the question paper
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room

# **QUESTION 1 [30 MARKS]**

Distance education via online platforms is a rapidly growing method of education delivery due to its convenience, wide reach, relatively low cost, and ability to support the achievement of learning objectives. Whether the platform is Blackboard, WebCT, Moodle, Angel, or some other learning management system, online education utilizes a variety of common learning tools including discussion boards, drop boxes, automated testing, and wikis. Chief among these tools are live online sessions. The Live online sessions may be delivered in virtual classrooms from Adobe Connect, Elluminate, GoToMeeting, Wimba, or other software programs. Regardless of the software used, student attendance at live online sessions, especially optional ones, can be unpredictable at best. It is a common complaint among the online faculty at a university in the south that many, oftentimes most, of their students do not attend the live online sessions. This study will address the problem of low student attendance at nonmandatory virtual classroom meetings in online college courses. Offir, Lev, and Bezalel (2008) found the interaction level in a synchronous class, also known as web conferencing, to be a significant factor in the effectiveness of the class. Other researchers describe "the power of a synchronous online system to empower students in conversation and expression (McBrien, Jones, & Cheng, 2009). According to Skylar (2009), "research concerning the use of newer multimedia technologies, such as interactive synchronous web conferencing tools, is in its infancy and needs further and continued study" (p. 82). McBrien, Jones, and Cheng (2009) stated that "more studies are needed to explore students' perceptions of the synchronous learning experience." Answer the following questions based on the information above:

- i. Propose a title for this study.
- ii. Identify the research problem
- iii. State the purpose of this study
- iv. State any three research Objectives
- v. State any three research questions
- vi. Discuss the research gap
- vii. Briefly discuss the research strategy and paradigm you would apply in this study. Justify your choice.
- viii. Briefly discuss the methodology you would use to conduct this study

### **QUESTION 2 [20 MARKS]**

The goal of a research proposal is to present and justify the need to study a research problem and to present the practical ways in which the proposed study should be conducted. The design elements and procedures for conducting the research are governed by standards within the predominant discipline in which the problem resides, so guidelines for research proposals are more exacting and less formal than a general project proposal.

- a. Research proposal must address three basic questions. Discuss
- b. Identify and discuss four questions that should be addressed by the "Introduction".
- c. A well articulated background information is important in understanding your research proposal. Identify any five key points that must be addressed here.
- d. Briefly discuss any five mistakes you should avoid and that is likely to lead to failure to successfully complete your proposal on time
- e. Briefly discuss any five questions to ask in order to address the potential implications of your study

## **QUESTION 3 [20 MARKS]**

Carrie (2007) describes three common research approaches to conducting research as follows: quantitative, qualitative, and mixed methods. He outlines three broad classifications (or methods) of quantitative research and 5 broad classification (or methods) of qualitative research approaches.

- a. Provide a table summary showing three methods of conducting quantitative research and seven methods for conducting qualitative research.
- b. Identify and discuss the advantages of mixed methods research approach

# **QUESTION 4 [20 MARKS]**

You have been asked to carry out a research on the impact/effect of taking Web technology class on successfully completing a Web-based project. You decide to carry out a survey among Computer Forensic Students. Answer the following questions:

i)	Develop a problem statement for your research	(2 marks)
ii)	Identify any two objectives	(4 marks)
iii)	Develop two research questions from the objectives above	(4 marks)
iv)	Discuss the methodology you would use	<b>(10 marks)</b>

## **QUESTION 5 [20 MARKS]**

A literature review may consist of simply a summary of key sources, but in the social sciences, a good literature review usually has an organizational pattern and combines both summary and synthesis, often within specific conceptual categories. A summary is a recap of the important information of the source, but a synthesis is a reorganization, or a reshuffling, of that information in a way that informs how you are planning to investigate a research problem.

- a. Briefly discuss the purpose of literature review (identify at least five)
- b. Identify and discuss at least five most common mistakes often made and which should be avoided during literature review.