



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY
UNIVERSITY EXAMINATION 2023/2024
FIRST YEAR SECOND SEMESTER EXAMINATION FOR DOCTOR OF
PHILOSOPHY IN BUSINESS INFORMATION SYSTEMS
DEPARTMENT OF INFORMATION SYSTEMS AND TECHNOLOGY
(KISUMU CAMPUS)

COURSE CODE: IIS 6123
TITLE: DESIGN SCIENCE IN INFORMATION SYSTEM
DATE: DEC 2024
EXAM SESSION: 9-12.00 NOON
DURATION: 3 HOURS
VENUE: KISUMU CAMPUS

INSTRUCTIONS

1. This paper contains FIVE (5) questions.
2. Answer ANY THREE (3) questions.
3. Write all answers in the booklet provided.

QUESTION ONE (20 MARKS):

Current literature focusing on Design Science Research (DSR) includes discussions on the use of DSR, the importance of rigour and relevance, types of artefacts and the difference between design science and design research.

- a) Outline the types of artefacts produced in IS, the underlying philosophy and methods used, the reason for selecting DSR. **(10 marks)**
- b) Discuss how you as a student have experienced the use of DSR in your post graduate studies. **(10 marks)**

QUESTION TWO (20 MARKS):

Based on the guidelines provided by Hevner et al (2004) for DSR research in IS and the feedback provided by the students, some adapted set guidelines are suggested for a PhD student considering the use of DSR in postgraduate studies. State and explain the guidelines and present the in a table format. **(20 marks)**

QUESTION THREE (20 MARKS):

Compare and contrast between a theory and a model. Further describe some of the important design science used in experimental hypothesis testing research study. **(20 marks)**

QUESTION FOUR (20 MARKS):

Discuss the critical steps in design research. Using suitable examples, highlight the main issues which should receive the attention of the researcher in formulating the research problem. **(20 marks)**

QUESTION FIVE (20 MARKS):

In designing a study, the researcher should construct a conceptual context that positions her to address a problem or issues in a particular way. This is an interactive and iterative process that enables the researcher to argue for presumed relationships among her problem, purposes and paradigmatic stance and to establish a theoretical base for the questions that will guide her inquiry. Describe your understanding of the meaning and purpose of the conceptual context within an overall research design. Then discuss how your understanding of the meaning and purpose of the conceptual context for your proposed study has informed or been informed by, (a) the way in which you are portraying yourself as a researcher, and (b) the type of qualitative methods you will be using. **(20 marks)**

END