JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS
DEPARTMENT OF INFORMATION SYSTEMS AND TECHNOLOGY

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION ARTS
SCHOOL BASED
2ND YEAR 1ST SEMESTER
SEPTEMBER/DECEMBER 2022/2023
ACADEMIC YEAR
MAIN CAMPUS

COURSE CODE: ITB 9205

COURSE TITLE: INFORMATION SYSTEMS ANALYSIS AND DESIGN

EXAM VENUE: STREAM

DATE: EXAM SESSION

TIME: 3HOURS

INSTRUCTIONS
1. Answer question **ONE (compulsory)** and any other **two** questions.
2. Candidates are advised not to write on the question paper
3. Candidates must hand in their answer booklet to the invigilator while in the examination room
4. The consists of **three** printed pages

QUESTION ONE (30 MARKS)

a) Define the term "system" and highlight any **three** characteristics of system. (5mks)
b) Differentiate between an open and a closed system. (2mks)
c) Briefly explain **four** systems models. (8mks)
d) Define the term information system. (2mks)
e) State **three** categories of information. (3mks)
f) Define system analyst. (2mks)
g) Give two required skills for an analyst. (2mks)
h) Define the following systems concept:
   (i)   Decomposition (2mks)
   (ii)   Modularity (2mks)
   (iii) Coupling (2mks)

QUESTION TWO (20MARKS)

a) (i) Briefly explain system development methodology. (2mks)
   (ii) State and explain any **four** system development methodology. (8mks)

b) i)   What are the **three** tools and techniques used in structured system development? (3mks)
   ii) Describe the term conceptual data modelling. (2mks)
   iii) What is entity relational model? (2mks)

c) Explain the following terms as used in E-R model:
   (i)   Entity (1mk)
   (ii)   Relationship (1mk)
   (iii) Attributes (1mk)

QUESTION THREE (20MARKS)

a) Explain System Design. (2mks)
b) Explain the stages of System Development Life Cycle **SDLC**. (14mks)
c) Define feasibility and state two examples. (4mks)

QUESTION FOUR (20 MARKS)

a) What is prototyping? (2mks)
b) Briefly explain **three** file organization in system development. (6mks)
c) State **four** types of files used in system. (2mks)
d) Explain **four** functions of database management system (DBMS). (8mks)
e) Give two types of relationships exist among entitles. (2mks)

QUESTION FIVE (20MARKS)

a) State **four** media devices used in providing Computer based outputs.　(4mks)
b) Give two types of outputs.　(2mks)
c) Briefly explain system security.　(2mks)
d) Give **four** organizations that promote ethical issues in an information system. (4mks)
e) Describe system change over strategies as used in system development　(8mks)