(KNOWLEDGE FOR DEVELOPMENT)

KIBABII UNIVERSITY

(KIBU)

UNIVERSITY EXAMINATIONS

2022/2023 ACADEMIC YEAR

END OF SEMESTER EXAMINATION

YEAR TWO SEMESTER ONE EXAMINATION

FOR THE BACHELORS DEGREE OF

(BUSINESS MANAGEMENT)

COURSE CODE: BIT 311

COURSE TITLE: SYSTEM ANALYSIS AND DESIGN

DATE: 19/12/ 2022 TIME: 9.00A.M- 11.00A.M

INSTRUCTIONS

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE (COMPULSORY) [30 MARKS]

a. Define the following terms

i. information system (2mks)

ii. business profile (2mks)

b. Every system has a boundary and environment. Differentiate between the two terms (2mks)

c. With aid of an example in each case describe the following types of information systems

i. DSS (3mks)

ii. TPS (3mks)

d. Differentiate between the following

i. economic and technical feasibility studies (2mks)

ii. functional and nonfunctional requirements (2mks)

e. State any three advantages of a database management system (3mks)

f. Outline three technological drivers for today's information systems (3mks)

g. Tom noted with concern that an information system project that he was supervising was derailing. Outline three possible causes of the derailment. (3mks)

h. i)Outline any three components of a use case (3mks)

ii) Give any two principles of user interface design (2mks)

QUESTION TWO [20 MRKS]

a) Differentiate between a data model and a process model (4mks)

b) Briefly describe the following system building blocks

i. Process building block (2mks)

ii. Communication building block (2mks)

c) State the four principles of Agile system development methodologies (4mks)

d) Outline the four major components of a data flow diagram (4mks)

e) Briefly explain any four business drivers for today's information systems (4mks)

QUESTION THREE [20 MARKS]

a) Give any four knowledge, skills and competencies required by a system analyst to carry out his job effectively. (4mks)

b) State the five phases involved in GUI design and development (5mks)

c) Give two characteristics of each of the following normalization techniques

i. 1st normal form (2mks)

ii. 2nd Normal form (2mks)

iii. 3rd normal form (2mks)

d) John intents to develop a food ordering system and has sought for your assistance to help him come up with context diagram. Sketch the food ordering context diagram. (5mks)

QUESTION FOUR [20 MARKS]

a) Paul intents to use a use case diagram to analyze a proposed information system. Outline three advantages he would realize while using this tool (3mks)

b) State any three rules that one must observe when drawing a data flow diagram. (3mks)

c) Outline any four attributes of an ER Model (4mks)

d) Differentiate between LEVEL0 and Level 1 DFD (4mks)

e) With aid of a diagram describe the system development life cycle using the iterative model (6mks)

QUESTION FIVE [20 MARKS]

a) Differentiate between a Logical data model and Physical data model (3mks)

b) Give any three advantages of prototyping during system development process (3mks)

c) Outline the five components of an information system. (5mks)

d) State the any five characteristics of a DBMS (5mks)

e) With aid of a diagram describe the system development life cycle using the spiral model (6mks)