(Knowledge for Development)

KIBABII UNIVERSITY

(KIBU)

UNIVERSITY EXAMINATIONS
2020/2021 ACADEMIC YEAR
END OF SEMESTER EXAMINATIONS
YEAR TWO SEMESTER ONE EXAMINATIONS

FOR THE DEGREE OF
BACHELORS OF SCIENCE
(INFORMATION TECHNOLOGY)

COURSE CODE: BIT 215

COURSE TITLE: SYSTEMS ANALYSIS AND DESIGN

DATE: 21/06/2021 **TIME: 2.00 P.M. – 4.00 P.M.**

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE AND ANY OTHER TWO QUESTIONS

QUESTION ONE [COMPULSORY] (30 MARKS)

a. Describe the unique role of *systems analysts* in the development of information systems. **[2 Marks]**

b. (i) Explain why information systems (IS) are essential in organizations. **[2 Marks]**

(ii) Explain the difference between front-office information systems and back-office information systems. **[2 Marks]**

c. Describe two cross lifecycle activities that overlap multiple system development phases. **[4 Marks]**

d. Differentiate between PERT and Gantt charts as project management tools. **[2 Marks]**

e. It is important to find out how the end users and managers feel about the problem solution that the system analyst has identified. Discuss. **[3 Marks]**

f. Explain any two reasons why many information systems projects fail. **[4 Marks]**

g. A *relationship* is a natural business association between entities. Identify the relationship between student and lecturer. **[1 Mark]**

h. Kibabii University uses a database to record the marks that students get in different exams of different courses. As a system designer, you have been asked to construct an E-R diagram that models student, course offering and exam as entities, and uses a ternary relationship for the database. Use the following attributes (Student - regno, fname, lname; course offering – courseno, semester, year, room; exam examid, name, time, place). **[10 Marks]**

QUESTION TWO (20 MARKS)

a. The management of Kibabii University is considering developing a new library information system to replace the system currently in use. They may choose between purchasing a commercial off-the-shelf (COTS) software package or custom-built the system. Explain two pros and two cons of using off-the-shelf applications compared to custom-built applications. **[8 Marks]**

b. Describe any four different types of *stakeholders* who use or develop information systems, and give examples of each. **[12 Marks]**

QUESTION THREE (20 MARKS)

a. For each letter of the **PIECES** framework, create your own example of a problem that a system analyst might discover in an obsolete information system. **[10 Marks]**

b. Describe the waterfall method of systems development and briefly explain why this method is less popular now than it used to be. **[10 Marks]**

QUESTION FOUR (20 MARKS)

a. Differentiate between the system life cycle and a system development methodology. **[2 Marks]**

b. Describe any five underlying principles for system development. **[10 Marks]**

c. Describe the kind of knowledge and skills that a systems analyst should possess. **[8 Marks]**

QUESTION FIVE (20 MARKS)

a. Explain the difference between logical and physical system models. **[2 Marks]**

b. Describe the three technological perspectives of information systems that system designers and builders tend to focus on. **[6 Marks]**

c. Describe the basic steps for designing output. **[8 Marks]**

d. Identify any four types of system conversion strategies. **[8 Marks]**