KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS, 2020/2021 ACADEMIC YEAR
SECOND YEAR, SECOND SEMESTER EXAMINATION
FOR THE DEGREE OF BACHELOR OF SCIENCE
(COMPUTER SCIENCE)

KCS 205 - SYSTEM ANALYSIS AND DESIGN

Date: 15th December, 2020

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Time: 8.30am – 10.30am

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

a)   For any system to exist it must be developed. Explain the importance of system development to an organization.

(2 Marks)

b)   System analysis is a critical phase during system development and involves various steps. Describe the analysis step of conventional SAD

(6 Marks)

c)   A system goes through a life cycle during its existence. Explain.

(5 Marks)

d)   Before a system is implemented it must be modeled. Explain the concept of modeling and distinguish between logical and physical models.

(6 Marks)

e)   A system analyst uses various tools during information collection. Describe four traditional information-gathering tools available for the analyst.

(8 Marks)

f)   CASE tools are increasingly being used in SAD. Explain the role of Computer Assisted Software Engineering (CASE) tools in system development   (3 Marks)

QUESTION TWO (20 MARKS)

a)   System development involves progressing from one level to another. Explain the concept of the systems development life cycle.

(8 Marks)

b)   A system must be tested before implementation. Explain the importance of system testing giving examples of types of tests.

(6 Marks)

c)   The user's request form provides information for system development. What information does it provide and why is it so important in the initial investigation.

(6 Marks)

QUESTION THREE (20 MARKS)

a)   Outline five main components of documentation in a systems project.

(5 Marks)

b)   Identify the security requirements of a system and the appropriate procedures and precautions

(5 Marks)

c)   Describe five design methodologies used in system design.

(10 Marks)

QUESTION FOUR (20 MARKS)

a)   Problem Analysis, Requirements Analysis, Logical Design and Feasibility Analysis are four activities involved in system development. Describe each activity and the participants involved. Which do you regard as the most important activity? Explain your reasoning.

(8 Marks)

b)   A data flow diagram (DFD) is a tool used by the analyst to analyze collected data. Briefly describe data flow diagrams. What is their importance in SAD and how do they differ from flowcharts?

(8 Marks)

c)   Every system development must be managed. Explain why it is so critical to manage this activity   (4 Marks)

QUESTION FIVE (20 MARKS)

a)   Explain the difference between blackbox and whitebox testing giving examples

(6 Marks)

b)   Describe four types of systems.

(6 Marks)

c)   Describe four information-gathering tools available for the analyst.

(8 Marks)