KIRIRI WOMEN'S UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2023/2024 ACADEMIC YEAR
FIRST YEAR, SECOND SEMESTER EXAMINATION
FOR THE DIPLOMA IN BUSINESS INFORMATION TECHNOLOGY
DIT 1005 – SYSTEM ANALYSIS AND DESIGN

Date: 19TH APRIL 2022
Time: 11:30AM – 1:30PM

INSTRUCTIONS TO CANDIDATES
ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS
QUESTION ONE (30 MARKS)

a)   Differentiate between the following terms as used in system analysis and design

  i)   Data and Information   (2 Marks)
  ii)   System and Information Systems   (2 Marks)
  iii) Open & Closed systems   (2 Marks)
  iv)   TPS and MIS   (2 Marks)
  v)   Interaction & interdependence   (2 Marks)

b)   Highlight the three types of decisions made using a management information system   (3 Marks)
c)   Define the data flow diagrams and describe how they differ from Structure charts   (5 Marks)
d)   Describe six characteristics of good information.   (6 Marks)
e)   Give two advantages of prototyping as a systems development methodology   (2 Marks)
f)   What key factors could be used to select potential bidders when purchasing hardware and
        software during system implementation   (4 Marks)

QUESTION TWO (20 MARKS)

a)   Highlight any four types of software testing taken to fully test new software in preparation for
        deployment   (4 Marks)
b)   Explain three functions of CASE tools   (6 Marks)
c)   Write an Open question that an analyst could use in a questionnaire to find out users views on the
        performance level of the system.   (4 Marks)
d)   Using a diagram, describe the various stages of a typical SDLC.   (6 Marks)

QUESTION THREE (20 MARKS)

a)   Describe the various areas of maintenance for a new system   (8 Marks)
b)   In your own words, explain why many systems get abandoned or fail. (6 Marks)
c)   Outline the characteristics of good systems design   (6 Marks)

QUESTION FOUR (20 MARKS)

a) Design a flowchart based on the following scenario. The program prompts the user to enter his/her name and age and determine whether the user is an adult or not. If he/she is below 21 years old, the user would be a teenager else he/she would be an adult. The user would be prompted after each person, if he/she wishes to enter any more name, the program continues to run until the user enters "NO or "N" (6 Marks)

b) Discuss the four reports produced by management information systems (8 Marks)

c) List and explain three factors that affect the quality of a system. (6 Marks)

QUESTION FIVE (20 MARKS)

a) Gold customers spending $500 - $1999 get an 8% discount while silver customers spending $500 - $2000 get a 3% discount. Gold customers spending $2000 or more get a 10% discount while silver customers spending $2000 or more get a 5% discount. Gold customers spending less than $500 get a 2% discount while silver customers spending less than $500 get a 0% discount.

    i) Draw a decision table for the membership rule. (7 Marks)

b) During development of Safari park hotel System, there were many rules documented, that is a procedure for becoming a member of safari park hotel, rule for using the facilities in the hotel etc. The membership rule stated "Anyone whose age is 18 or more than that can become a member of the hotel. There are two types of memberships depending upon the duration of membership. First is for 6 months and other is for 1 year 6 months membership fee is ksh 1000 and 1 year membership fee is Ksh 1500".

    i) Draw a decision tree for the membership rule (6 Marks)

    ii) Draw a decision table for the membership rule. (7 Marks)