JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN ACTURIAL SCIENCE WITH IT

2ND YEAR 1ST SEMESTER 2015/2016 ACADEMIC YEAR

MAIN CAMPUS

COURSE CODE: SCS 203

COURSE TITLE: INFORMATION SYSTEMS ANALYSIS AND DESIGN

EXAM VENUE: STREAM: ACTURIAL

DATE: JAN-APRIL 2017 EXAM SESSION:

TIME: 2.00 HOURS

Instructions:

1. **Answer Question 1 (Compulsory) and ANY other two questions**
2. **Candidates are advised not to write on the question paper**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room**

QUESTION ONE - (30 MARKS)

a) Discuss the following information system. (6 Marks)

   i. Transaction processing systems.
   ii. Decision support systems
   iii. Executive support systems

b) Discuss primary roles of the System Analyst. (6 Marks)

c) The three key elements of feasibility study include technical, economic and operational feasibility. Discuss. (6 Marks)

d) Outline the guidelines for developing a prototype. (6 Marks)

e) Explain two advantages and disadvantages of a prototype. (4 Marks)

QUESTION TWO (20 MARKS)

a) Explain the characteristics of a system citing the importance in system analysis (4 marks)

b) Analyse the following scenario and answer the questions below.

The Sales department of the ABC company receives orders from customers by mail. The customer credit limit is checked against a list supplied by the Accounts department each week. If the order is within the given credit limit an order acknowledgment is posted to the customer and a copy is sent to Accounts. The order is passed to the Warehousing and Despatch department where it is filled and despatched to the customer with a delivery note, a copy of which is also sent to the Accounts department. When stock in the warehouse needs to be replenished a re-order card containing stock details is sent to the Accounts department who place the order and return the card. On receipt of the goods, the goods received note is forwarded to Accounts.

   i. What problem does the model seem to solve? (2 Marks)
   ii. List down the functional requirements. (2 Marks)
   iii. Identify the actors (4 Marks)
   iv. Identify the use cases. (User stories) (4 Marks)

QUESTION THREE (20 MARKS)

a) Discuss the phases of the system development life cycle (10 Marks)

b) Define a system. Explain the components of a system. (5 marks)

c) Describe the benefits of using tool in the development of information system (5 marks)

QUESTION FOUR (20 MARKS)

a) During changeover to a new system, a strategy needs to be adopted in order to transition to the new system. Briefly list and explain **THREE** such strategies **(8 marks)**

b) Study the following scenario and answer the questions that follow.

When a library first receives a book from a publisher it is sent, together with the accompanying delivery note to the library desk. Here the delivery note is checked against a file of books ordered. If no order can be found to match the note, a letter of enquiry is sent to the publishers. If matching order is found, a catalogue note is prepared form the details on the validated delivery note. The catalogue note, together with the book, is sent to the registration department. The validated delivery note is sent to the Accounts department where it is stored. On receipt of the invoice from the publisher, the accounts department checks its store of delivery notes. If the corresponding delivery note is found then an instruction to pay the publishers is made and subsequently a cheque is sent. If no correspondence delivery note is found, the invoice is stored in a pending file.

i. Draw a context diagram. (4 Marks)

ii. Draw a Data flow diagram. (4 Marks)

iii. Draw entity relation diagram. (4 Marks)

QUESTION FIVE (20 MARKS)

a) Explain Waterfall model using as an approach of system development (8 Marks)

b) Discuss the characteristic of a good information systems (4 Marks)

c) Explain any **FOUR fact finding** techniques used for gathering of data during system development citing advantages: **(8 Marks)**