UNIVERSITY EXAMINATIONS

EXAMINATION FOR SEPTEMEBR/DECEMBER 2015/2016 FOR BACHELOR OF SCIENCE IN COMPUTER SCIENCE

RCCS 104   SYSTEM ANALYSIS AND DESIGN

DATE   30th November 2015   TIME: 2 HOURS

GENERAL INSTRUCTIONS:

Students are NOT permitted to write on the examination paper during reading time.

This is a closed book examination. Text book/Reference books/notes are not permitted.

SPECIAL INSTRUCTIONS:

This examination paper consists Questions in Section A followed by section B.

Answer **Question 1 and any Other Two** questions.

QUESTIONS in ALL Sections should be answered in answer booklet(s).

1. **PLEASE start the answer to EACH question on a NEW PAGE.**
2. **Keep your phone(s) switched off at the front of the examination room and NOT on your person.**
3. **Keep ALL bags and caps at the front of the examination room and DO NOT refer to ANY unauthorized material before or during the course of the examination.**
4. **ALWAYS show your working.**
5. **Marks indicated in parenthesis i.e. ( ) will be awarded for clear and logical answers.**
6. **Write your REGISTRATION No. clearly on the answer booklet(s).**
7. **For the Questions, write the number of the question on the answer booklet(s) in the order you answered them.**
8. **DO NOT use your PHONE as a CALCULATOR.**
9. **YOU are ONLY ALLOWED to leave the exam room 30minutes to the end of the Exam.**

(SECTION A - COMPULSORY)

QUESTION ONE (30 MARKS)

a)The system specification is turned into a system that is tested and then put into use, State four main activities that are found in the implementation phase **(4 marks)**

b) Explain any FOUR six factors to consider while undertaking input design **(6 marks)**

c) Many organizations are disappointed with the way their computer projects have failed.

Describe the six reasons for the failure of computer projects **(6 marks)**

d) The introduction of computer based information systems can generate amount of fear and reluctance on the part of the users: List four reasons [or such users' resistance. For each

reason provide an explanation **(4 marks)**

e) Security of information systems is the protection of availability, confidentiality and integrity. Outline six ways of minimizing risks or the threats to information system security**(6 marks)**

f) Give at least tour reasons why an organization conducts system analysis **(4 marks)**

SECTION B (ANSWER ANY TWO QUESTIONS)

QUESTION TWO (15 MARKS)

a)Assume you arc a systems analyst for a consulting company and have been asked to assist the Chief Executive Officer (CEO) of a regional bank, The bank recently implemented a plan to reduce the number of staff including loan officers as a strategy to maintain profitability. Subsequently the bank has experienced chronic problems with backlogged loan requests because of the limited number or loan officers who are able to review and approve or disapprove loans, The CEO of the bank is interested in solutions that would allow the approval process to move faster without increasing the number of loan officers, and has engaged your company to come up with suggestions.

Required:

i)What type of Information system would you recommend to the bank and why? **(5 marks)**

ii)Briefly explain any TWO types of feasibility study. **(4 marks)**

iii) System analysts require skills for system development process: briefly explain any four of these skills **(2 marks)**

b)A college offers correspondence courses to students. Each course lasts 20 weeks and is based on a weekly study module and progress test. At the end of the course students sit an invigilated examination. The college Registrar deals with enquiries and applications and students applying who have sufficient qualifications are asked to register by completing and submitting an application form. After approval by the Academic Director, the application form is returned to the Registrar who creates a student file. The accounts department receives the application form and using information from the student file creates an invoice that is sent to the student. Payment made is registered on the invoice file. The first batch of student material and tests is issued from the library only to students who have paid fees (this information is taken from the invoice file). Progress tests are marked by academic stall and the results, together with comments are sent out with next week's study block. The library will only issue study material/progress tests when a student has returned test answers from the previous week.

Construct a level data flow diagram for the college.   **(4 marks)**

QUESTION THREE (15 **MARKS**)

a) No matter how well the users of a system are satisfied, the system cannot be considered complete and successful until documented to a high standard. Briefly describe four reasons why much emphasis is placed on high quality documentation   **(4 marks)**

b) Explain two advantages and two disadvantages or using observation as a method to determine system requirements   **(2 marks)**

c) Briefly explain TWO types of CASE tools   **(4 marks)**

d)A customer has engaged your software development company to develop a new order processing system, howeverthe time frames are very tight and inflexible for delivery of at least the basic part of the new system, Further, and user requirements are sketchy and unclear. Explain two system development strategies that might be advantageous to use in this engagement.
                              (5 marks)

QUESTION FOUR (15 Marks)

a)Draw a decision table for the following narrative.

Students who have passed both coursework and examination for a diploma course are allowed to graduate. They are also issued their diploma scrolls provided they have competed payment of all fees. Students who have passed their course work only must attend further examination coaching

before sitting for the nextexam. Those who have passed their exams but not their course work are required to attend a semester remedial classes. Any student who has not paid his/her fees is issued with a warning letter. **(3 marks)**

b) Explain three reasons why end users should be involved in system development **(4 Marks)**

c)An information systems project is operationally feasible if the proposed system will operate and be used once it is installed, Identify four factors the form the criteria for project selection
(4 marks)

d) The accuracy and quality of systems is often assessed during 'Structured walkthroughs.

Outline five advantages of 'Structured walkthroughs', **(4 marks)**

QUESTION FIVE (15 MARKS)

a)The consultant has identified a number of activities. their preceding activities and time estimates for the redefinition project (see below), There is an overhead cost of Kshs. 1750 per day,

Activity	ActivityDescrintion	Preceding Activities	Estimated duration (days)	Cost (Kshs)
A	Define and agree on terms of reference	-	6	13000
B	Re-define functional requirements	A	4	19000
C	Define non-functional requirements	A	2	14500
D	Define process models	[3	7	12800
E	Models	B	4	16800
F	Define static infrastructure requirements	C I	8	1100
G	Prepare final report and recommendations	D.E.F	4	11500

<u>Required</u>

(i) Draw a network chart for this project: **(2 Marks)**

(ii) Identify the critical path: **(2 Marks)**

(iii) State the estimated duration of the project: **(2 Marks)**

(iv) If the activity E overruns by 2 days. What effect does it have on the duration of the project?

(2 Marks)

(v) Compute the total cost of the project **(2 Marks)**

b) Highlight three advantages which can be derived from the use of structured systems development methodologies. **(3 Marks)**

c)The maintenance phase of an information system project is just as important as the time during which the project is developed. Outline some of the typical activities that might go on during a typical maintenance phase of the following:

(i) Six months after new IS project has been commissioned. **(1 Mark)**
(ii) Arter three years of successful running. **(1 Mark)**