



SOUTH EASTERN KENYA UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY & BACHELOR OF SCIENCE IN COMPUTER SCIENCE

SCI 306: ICT PROJECT MANAGEMENT

DATE: 11TH APRIL 2017

TIME: 8.00 -10.00 AM

INSTRUCTIONS TO CANDIDATES

- **Section A(Compulsory)**
 - **Answer ANY TWO questions from section B**
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Question One

- Define the term “quality” as applied to an IT project. **(2 marks)**
- Describe five competencies a project manager should possess. **(5 Marks)**
- Explain four causes of failed projects. **(4 Marks)**
- Briefly explain FOUR main criteria for assessing the success of a project. **(4 Marks)**
- List FIVE techniques for obtaining user requirements. **(5 Marks)**
- The sales department in your company, who have their own in-house sales system, are being relocated to new offices where they will also have a new server-based sales database system. The IT section have set out an outline plan for the IT aspects of the move, with 9 main tasks

(with Estimated durations):

A	order and deliver the new database system and server	4 weeks
B	design and install the network infrastructure	7 weeks
C	order, deliver and install new PCs and printers	9 weeks
D	test the database system, server and network	3 weeks
E	test the PCs with the server and network	2 weeks
F	copy existing sales data to the new database system	1 weeks
G	copy other existing PC software to the new PCs	3 weeks
H	test all software and database on the new PCs and server	1 weeks
I	train users	2 weeks

Tasks A, B and C can be undertaken at the same time, but A and B must be completed before D can start. Tasks C and D must be completed before E can begin. E must be completed before F and G can start. F and G can be undertaken at the same time, but both must be completed before H can start. I must follow

- g. Draw a Gantt chart for the same project. **(5 Marks)**
- h. Highlight three general software project risks stating a method mitigation solution for each. **(3 Marks)**
- i. Distinguish between a risk and hazard. **(2 Marks)**

SECTION B (ANSWER ANY TWO QUESTIONS)

Question Two

- a. Explain six resources needed in software development projects **(6 Marks)**
- b. Prototypes can be used in iterative agile development. Outline three advantages and three disadvantages of using prototypes. **(6 marks)**
- c. Briefly describe the project management activities in the order in which they must happen stating the deliverable(s) out of each activity. **(8 Marks)**

Question Three

Your company has decided that it needs a new sales recording system and that an off-the- shelf package is the best solution. The main tasks have been identified and durations assessed as follows:

A	Draw up a functional requirements specification	4 weeks
B	Consider various relevant software packages and select one	3 weeks
C	Identify and specify the necessary hardware and communications equipment	2 weeks
D	Order the hardware and equipment	1 week
E	Identify the key package modifications needed to meet the functionality required	2 weeks
F	Modify the software package as necessary	8 weeks
G	Accept delivery and install all hardware and equipment needed for the package	10 weeks
H	Design a training plan	3 weeks
I	Set up a testing plan	3 weeks
J	Unit test all the amended package modules	4 weeks
K	Train the users	3 weeks
L	Full integration and acceptance testing	3 weeks
M	Implement the new system	1 week

- B cannot start until A is completed
- C, E, H and I cannot start until B is completed
- D cannot start until C is completed
- F cannot start until E is completed
- G cannot start until D is completed
- J cannot start until F, G and I are completed
- K cannot start until H is completed
- L cannot start until J and K are completed
- M cannot start until L is completed

- a. Draw a Critical Path Method diagram for these 13 project tasks (A to M) showing the earliest and latest start and finish times and float of each task. **(14 Marks)**
- b. Describe how each of the following changes to task durations (on their own) would affect the critical path and project duration.
- i) Task B - reduced to 1 week
 ii) Task F - increased to 11 weeks
 iii) Task G - reduced to 7 weeks **(6 Marks)**

Question Four

- a. What are the FIVE key steps in the risk management planning process? **(5 Marks)**
- b. The table below shows the costs and benefits of developing and implementing an ICT project in an organization. Study it and answer the questions that follow. The discounting rate is 10%.

s/no	Cash flow description	Year0	Year1	Year2	Year3	Year4	Year5
1	Development cost	400000					
2	Operation and maintainance		12000	13000	15000	16000	18000
5	Benefits derived from the system	0	140000	160000	180000	200000	220000

Compute

- i. The discounted cost for the system **(6 Marks)**
- ii. The discounted benefits for the system **(5 Marks)**
- iii. Work out the break even period and state whether the project is worthy doing or not. **(4 Marks)**