



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

**SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF SCIENCE IN COMPUTER SCIENCE**

SCT 401: SOFTWARE PROJECT MANAGEMENT

DATE: THURSDAY, 12TH APRIL 2012

TIME: 11.00 A.M – 1.00 P.M

INSTRUCTIONS – Answer Question One and any other TWO

QUESTION ONE Total 30 marks

- a. State what software project management, explaining its importance. (3 marks)
- b. Part of a project manager's task is to come up with a Software Project Management Plan. Name 5 components you would expect to see in this plan and explain their use (5 marks)
- c. In order to plan a project successfully, a good software project manager should ask himself 5WHH questions. Expand at least 3 of the 5WHH and explain what each means. (3 marks)
- d. Explain what constitutes project success. (3 marks)
- e. Studies have shown a number of factors contribute to project success. State and explain 3 success factors. (3 marks)
- f. The waterfall approach has been found to be an impediment to project success. Name and describe an alternative software method that contributes towards project success. (3 marks)

QUESTION 2 Total 20 marks

- a. Explain what is meant by software cost estimation. (4 marks)
- b. Name and describe two parameters normally used to calculate the cost of a software project. (4 marks)
- c. List and explain two methods used when estimating software costs. (4 marks)
- d. Define NPV and give the formula for calculating it (2 marks)

- e. State which project of the two in the table below should be selected by calculating the NPV for both. (6 marks)

Interest Rate 10%

PROJECT 1	YEAR 1	YEAR 2	YEAR 3	TOTAL
REVENUES	200,000	300,000	400,000	900,000
COSTS	250,000	0	0	250,000
CASH FLOW	-50,000	-200,000	400,000	150,000
	0.91	0.83	0.75	
				0
PROJECT 2				0
REVENUES	100,000	200,000	300,000	600,000
COSTS	300,000	100,000	0	400,000
CASH FLOW	-200,000	100,000	300,000	200,000
	0.91	0.83	0.75	

QUESTION THREE Total 20 marks

- State the definition of quality as relates to software project management. (2 marks)
- State what is a quality management plan and explain two components of such a plan (4 marks)
- Name and describe two distinct standards used quality management. (4 marks)
- The government has commissioned a CDF monitoring tool to be developed by your company. SeaShores Software Specialists Ltd, where you are a major partner and head of the programming team, wins the contract. Well into the third year of software development, while reviewing the progress of the software, the Database team leader and Programming team leader come to see you. The Programming Team leader complains that the Database version that he was given to work with was the year 2 database and not year 3 database. On further investigation, it becomes apparent that the Database Team leader seems be generating a lot of dissatisfaction with other team leaders over the matter of which is the current database version that is to be used. As project manager, you need to equip him with knowledge and skills to ensure that he keeps track of his teams progress on developing the database.
 - Describe what problem your teams are facing. (2 marks)
 - State and describe briefly one method you would teach the database team leader s/he to prevent that problem. (3 marks)
- The project ends. Describe the role(s) that SeaShores Software Specialists Ltd will continue to play in the project. Name the documents that would be used to structure this relationship. (5 marks)

QUESTION FOUR **Total 20 marks**

- a. Define Requirements Management and name three of the stages in requirements management. (5 marks)
- b. State three components that give rise to a good requirement. (3 marks)
- c. Describe the importance of collecting requirements, where these should be documented, and name two stakeholders that requirements can be collected from. (4 marks)
- d. The Chancellor of Pwani University wishes to obtain a software system for online and distance learning. He expects registration to be done by the current registrar, and students both in the Coast and upcountry provinces to access the courses. To begin with, the school of Computer Science has been asked to adopt the new system beginning next semester. You are the project manager tasked with achieving the goal of an online and distance learning software system.
- i. Name the stakeholders in this scenario (2 marks)
- ii. Name two requirements and the methods you would utilise to collect this information. (4 marks)
- iii. Outline two risks, and two risk management strategies you would adopt. (2 marks)

QUESTION 5 **Total 20 marks**

- a. Define scope creep as it relates to software project management. (2 marks)
- b. Construct a network (Critical Path Method) so as to satisfy the scheduling requirements shown in the table below, indicating the Critical Path with a bold line. (5 marks)

Activity	Completion time (days)	Immediate predecessor activities
A	2	-
B	2	A
C	8	A
D	3	B
E	5	C,D
F	6	D
G	2	F
H	4	E
I	3	G, H

- c. Find the last time required to complete the whole project and identify the critical activities. (2 marks)
- d. How is the project completion time affected if:
i) Activity D is delayed by 3 days (2 marks)
ii) Activity H is delayed by 2 days (2 marks)
- e. The 5 different phases of a software project tend to overlap. Pick any two phases and explain how they overlap. (3 marks)
- f. Pwani University has set up an e-library to avail a large number of e-books and scholarly papers to their students. The project lasted 3 years from start to finish. The total cost of the project was Kshs. 600,000, and they found that the number of students attracted by the e-library netted them an additional Ksh. 780,000 in the 1st year after installation.
- i) Explain the term ROI (2 marks)
ii) Calculate the ROI for Pwani University for this e-library project (2 marks)