



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMINATIONS  
2018/2019 ACADEMIC YEAR  
THIRD YEAR SECOND SEMESTER**

**SCHOOL OF BUSINESS AND ECONOMICS  
BACHELOR OF SCIENCE PROJECT  
PLANNING AND MANAGEMENT**

**COURSE CODE: BPM 3205**

**COURSE TITLE: PROJECT TIME AND COST  
MANAGEMENT**

**DATE: 29<sup>TH</sup> APRIL 2019**

**TIME: 1430 -1630HRS**

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## **INSTRUCTIONS TO CANDIDATES**

- *Answer question ONE (compulsory) and any other THREE questions.*
- *Question one carries 25 marks*
- *All other questions carry 15 marks each*

*This paper consists of 4 pages. Please turn over.*

## QUESTION ONE

a) Explain four differences between the Project Evaluation and Review Technique (PERT) and the Critical Path Method (CPM). **(8 marks)**

b) The earned value technique integrates cost and time (or man-hours and time) to give the project manager the best of both worlds. For this case you are managing a software project with an initial budget estimate of sh. 2,000,000. During interim cost and schedule performance analysis, you figured out that:

You should have spent sh.500,000 till now based on your initial plans and 1,000 man/days of schedule activities.

You spent sh.600,000 till now and completed 1,100 man/days of schedule activities which should have cost sh.450,000 based on your initial plans.

You re-estimated the budget required for the remaining work to be done as sh.1,500,000.

### Required

i) Compute the CPI and SPI of the project respectively. **(2 Marks)**

ii) What is the CV and SV of the project respectively? **(2Marks)**

iii) What is the Variance at Completion? **(2 Marks)**

iv) What is the TCPI based on your new Estimate at Completion value? **(2 marks)**

v) What is the status of your project? **(1 mark)**

c) Project planning is a pointless exercise unless the execution of the plans are tracked and controlled through accurate reporting of performance. As a project planning and management student, discuss any four techniques that can be used by project managers to be able to carry out effective controlling of the costs. **(8 Marks)**

## QUESTION TWO

The East African Construction Ltd. is using a planning network for one of their building projects. The net-work consists of nine activities A-I with the following dependencies and durations.

Activity Code	Duration in days	Proceeding Activity
A	8	-
B	10	-
C	9	-
D	12	A,B
E	9	B,C
F	11	C
G	16	C
H	14	E,F,D
I	13	D

### Required

- Draw the net-work for this project and determine how long the project will take to complete. **(10 Marks)**
- State briefly the reasons why knowledge of a project's critical path can be useful to management in planning and progressing the project. **(2 Marks)**
- Discuss the main difficulties encountered when trying to formulate and implement a Network Analysis approach in a practical management situation. **(3 Marks)**

## QUESTION THREE

- Discuss any three limitations of economies of scale as a project estimation technique in project time and cost management. **(5 Marks)**
- Discuss any five project estimating problems. **(10 marks)**

## QUESTION FOUR

Projecting Estimating techniques enable a company to produce a reasonably accurate estimate quickly and efficiently. Although most companies are set to follow a tender schedule, when 'push comes to shove', many contracts are decided at the last minute in which case it is essential to be able to respond quickly with an accurate estimate. Outline the estimating techniques you will develop in your line of work which will enable you to respond accurately and quickly to a client's enquiry.

### Required.

You are required to prepare a written presentation on how to address the above issue considering the following:

1. The range of the estimates, noting the accuracy, the time to produce and the cost to produce. **(6Marks)**
2. Separating direct costs from indirect costs which you need to calculate over time and crashing. **(4 Marks)**
3. The material procurement costs presented as a percentage. **(2 Marks)**
4. The project office costs. **(3 marks)**

## QUESTION FIVE

The executive strategy '*make or buy*' decision will determine if a project is a procurement or resource issue. A make decision will therefore require resource planning. For this case study you have been appointed the project manager for a Water Utility's repair and maintenance project office.

### Required.

Discuss how you would address the following;

- i. Consider the '*make or buy*' decision?
- ii. Estimate the resource requirements, allowing for a learning curve.
- iii. Forecast the resource loading and draw the resource histogram.
- iv. Smooth the resources
- v. Increase or decrease the resources. **(15 Marks)**

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