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(*University of Choice*)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS & BUNGOMA CAMPUS

UNIVERSITY MAIN EXAMINATIONS

2023/2024 ACADEMIC YEAR

THIRD YEAR SECOND SEMESTER EXAMINATION

FOR THE DEGREE OF BACHELOR OF COMMERCE

COURSE CODE: BCB 343

COURSE TITLE: **PROJECT MANAGEMENT**

DATE: WEDNESDAY 17TH APRIL 2024 **TIME: 8.00-10.00 AM**

INSTRUCTIONS TO CANDIDATES

*Answer question **ONE** and any other **TWO** questions*

TIME: **2 HOURS**

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over.

Question One

Pendleton construction located in Nairobi, Kenya, is one of the largest construction firms in East Africa. The Company builds bridges, high rise towers, power plants, buildings and roads. The table below shows hypothetical Project Evaluation and Review Technique (PERT) values for various activities undertaken by Pendleton construction:

Activity	Immediate preceding activity	Optimistic time estimate	Most-likely time estimate	Pessimistic time estimate
A	-	1	3	5
B	-	2	3	4
C	A	2	4	6
D	B	1	5	8
E	B	2	4	6
F	C,D	2	4	6
G	E	1	3	5
H	G,F	2	3	4

The project requires the following people to be involved:

- The project manager.
- The production manager.
- External electrical and mechanical engineers as design consultants.
- External specialist contractors as installers and commissioners.
- External specialist domestic and nominated engineering subcontractors.
- External specialist suppliers (of all equipment).
- The health and safety executive (HSE).
- County government inspectors (CGI).

The company owners wish to keep downtime to a minimum.

i) As a project manager, discuss four roles / functions you could play in the above project. (4 mks)
ii) Develop a PERT schedule and the critical path for the project. (8 mks)
iii) The company board has indicated that the production line upgrade must be completed and be fully operational within 18 months. The probability of completion within that time must not be lower than 75% for the project to receive approval.(6 mks)
iv) Compute the total floats for non – critical activities (5 mks)
v) Funding a project is likely to be a challenge, assess two alternative sources of funds that may be appropriate for the above project.(3 mks)
vi) What would project charter entail in regard to the above project (4 mks)

QUESTION TWO

a) Compare and contrast the program management and project management (6 mks)

b) "Good project ideas are highly elusive necessitating a wide variety of sources to be tapped into" elucidate the statement bringing out clearly on how you would scout for project ideas.(8 mks)

c) Describe any two aspects you would consider during the preliminary screening before embarking on any government project (6 mks)

QUESTION THREE

a) There are many commonly methods used for an economic evaluation of individual projects. As a project management consultant, write a paper to the board of directors of Bidii Incorporation guiding them on three financial models likely to be used in selecting the three out five projects. (6 mks)

b) "Cleland and King suggest five general criteria to help decide when to use project management techniques and organization" Discuss four major reasons (10 mks)

c) What is network crashing and how is it relevant in project execution and implementation (4 mks)

QUESTION FOUR

a) Required investment in a project is $500,000; scrap value is $20,000 after five years. Profits after tax and depreciation for five years are: $40,000, $60,000, $70,000, $50,000 and $20,000. Calculate the average rate of return. (10 mks)

b) "Getting into right business and at the right time is not always simple; this is because good project opportunities tend to be highly elusive". Elucidate the above statement in the context of generation and screening of ideas and monitoring the environment. (10 mks)

QUESTION FIVE

a) Highlight five rules of drawing a project network (5 mks).

b) The following table shows, for each activity of a project, the normal and crash times and also the normal and crash costs. The contract includes a penalty clause of Ksh 200 per day in excess of 19 days. The overhead cost is Ksh 400 per day.

Activity	Time (Days)		Cost (Ksh)	
	Normal	Crash	Normal	Crash
1 – 2	6	4	600	1000
1 – 3	4	2	600	1400
2 – 4	5	3	500	1500
2 – 5	3	1	450	650
3 – 4	6	4	900	2000
4 – 6	8	4	800	3000

5 – 6	4	2	400	1000
6 - 7	3	2	450	800

i) Draw the project network and determine the critical path. (5 marks)
ii) Find the cost of completing the project in normal time. (2 marks)
iii) Crash the project activities and determine the cost of completing the project in the minimum time. (5 marks)
iv) What is the optimal duration of the project and what is the cost involved. (3 marks)