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KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2020/2021 ACADEMIC YEAR

FOURTH YEAR SECOND SEMESTER MAIN EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF SCIENCE IN RENEWBLE ENERGY AND BIOFUELS TECHNOLOGY

COURSE CODE: IET 481

COURSE TITLE: PROJECT MANAGEMENT FOR TECHNOLOGISTS

DURATION: 2 HOURS

DATE: 12/10/2021 TIME: 2:00-4:00PM

INSTRUCTIONS TO CANDIDATES

Answer QUESTION ONE (Compulsory) and any other two (2) Questions.

- Indicate answered questions on the front cover.

Start every question on a new page and make sure question's number is written on each page.

This paper consists of 3 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

QUESTION 1 (30 marks)

a. Define the following terms:

	i.	Project	(1 mark)						
	ii.	Project Management	(1 mark)						
	iii.	Stakeholder	(1 mark)						
	iv.	Project income	(1 mark)						
	V.	Working capital	(1 mark)						
b.	State	(5 marks)							
c.	Explain the stages of project management. (5 marks)								
d.		any five (5) desired features of project management software.	(5 marks)						
e.		ribe any five (5) project finance sources.	(5 marks)						
f.		any five (5) comparison of CPM and PERT as used in project ma	nagement. (5						
.,	mark								

QUESTION 2 (20 marks)

a.	State any five (5) sources from which a new project ideas may emerge.	(5 marks)
b.	State any five (5) aspects included in a detailed project proposal.	(5 marks)
	State any five (5) characteristics of a good project manager.	(5 marks)
d.	Give examples of any five (5) stakeholders in a project.	(5 marks)

QUESTION 3 (20 marks)

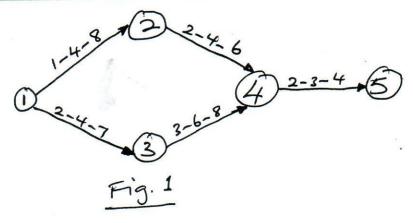
- a. State any five (5) advantages of using computerized project management system. (5 marks)
- b. State the steps involved in Monte Carlo Simulation. (5 marks).
- c. State any five (5) project financial appraisal methods. (5 marks).
- d. Using linear congruential method, generate 5 random numbers if $X_0 = 17$, a = 27, c = 43 and m = 100 (5 marks).

QUESTION 4 (20 marks)

A project consists of five activities as shown in the PERT network Fig. 1. The three estimates of activity duration along with the associated probability and random numbers for the ten trials are given in the Table below. Simulate the duration of the project ten times and estimate the chances of various paths being critical. Also determine the average duration of the project.

Activity	Days	Prob.	Random numbers for the 10 trials										
•			1	2	3	4	5	6	7	8	9	10	
1-2	1	0.2	8	5	5	7	0	8	4	5	2	6	
	4	0.5											
	8	0.3											
1-3	2	0.3	1	5	6	5	6	3	7	8	5	1	
	4	0.5		-									
	7	0.2											
2-4	2	0.3	8	8	7	1	8	0	4	2	9	3	
	4	0.3											

	6	0.4										
3-4	3	0.3	3	1	4	9	1	4	0	6	0	7
	6	0.4										
	8	0.3										
4-5	2	0.2	6	7	7	5	8	3	3	6	3	0
	3	0.2										
	4	0.2 0.2 0.6										



QUESTION 5 (20 marks)

A project has eleven activities whose duration is given in the following table.

Activity	1-2	2-3	2-4	3-5	3-6	4-5	4-7	5-8	6-8	7-8	8-9
Duration (days)	2	8	10	6	3	3	7	5	2	8	3

- a. Draw the network
- b. Determine total, free and independent floats.
- c. Identify the critical activities, the critical path and project duration.