



UNIVERSITY COLLEGE TATI (UC TATI)

FINAL EXAMINATION QUESTION BOOKLET

COURSE CODE	: BME 4093
COURSE	: PROJECT MANAGEMENT
SEMESTER/SESSION	: 1-2023/2024
DURATION	: 3 HOURS

Instructions:

1. This booklet contains 5 questions. Answer **ALL** questions.
2. All answers should be written in answer booklet.
3. Write legibly and draw sketches wherever required.
4. If in doubt, raise your hands and ask the invigilator.

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO

THIS BOOKLET CONTAINS 7 PRINTED PAGES INCLUDING COVER PAGE

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Answer ALL questions.

QUESTION 1

You work for LINGTEC Instruments Sdn. Bhd (LINGTEC), which provide a competitive variety of testing instruments to the aerospace, oil & gas, automotive etc. In collaboration with PETRONAS, LINGTEC has decided to diversify by applying its technology to develop top-quality NDT instruments, Eddy Current Flaw Detector (ECFD), Ultrasonic Testing Flaw Detector (UTFD) and FlawExplorer Sensor (FES).

- a) Identify what kind of project management structure would you recommend LINGTEC use for this project. Evaluate your answer. (5 marks)
- b) Your team is considering two different projects, ECFD and UTFD. Based on past history, LINGTEC expects at least rate of return of 25%. Financial advisors predict inflation to remain at 3% into the foreseeable future. By referring Table 1 and Table 2, determine which project should be LINGTEC's first priority.

Table 1: ECFD Project

Year	PETRONAS Investment	Revenue Stream
0	RM 10,000	RM 0
1		RM 9,000
2		RM 8,000
3		RM 9,000
4		RM 8,000
5		RM 7,000

Table 2: UTFD Project

Year	PETRONAS Investment	Revenue Stream
0	RM 10,000	RM 0
1		RM 10,000
2		RM 11,000
3		RM 13,000
4		RM 7,000
5		RM 9,000

(15 marks)

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QUESTION 2

The work breakdown structure (WBS) focuses on breaking down the work, while the project network focuses on the sequencing and interrelationships of activities.

- a) Illustrate a:
- i. WBS for producing an air-fryer. (4 marks)
 - ii. Cost estimation of air-fryer. (4 marks)
- b) Table 3 present incomplete network information for producing custom air-fryer. Determine its suitable predecessor and time. Complete forward and backward pass, calculate the activity slack and identify its critical path. How many days will the project take? Analyse your answer.

Table 3: Custom Order of Air-Fryer's Project

ID	Description	Predecessor	Time
A	Order review	?	?
B	Order standard parts	?	?
C	Produce standard parts	?	?
D	Design custom parts	?	?
E	Software development	?	?
F	Manufacture custom hardware	?	?
G	Assemble	?	?
H	Test	?	?

(12 marks)

QUESTION 3

Risk management is proactive, not reactive. It reduces the number of surprises and lead to better understanding of the most likely outcomes of negative events.

- a) Classify four (4) types of risk response development. (8 marks)

- b) MeTSO Club and NEMITEC Club will hold a “hiking” project for bachelor’s degree students next month. Any possible risks, impact of risks and its contingency plans must be considered. Identify four (4) potential risks of “hiking” project, evaluate its impact of risks and then designate contingency plan to manage those potential risks. (12 marks)

QUESTION 4

Figure 1 depicts the current resource schedule network for the activity. Activities are scheduled using rules-of-thumb called heuristics. Resources involve in this activity are workers.

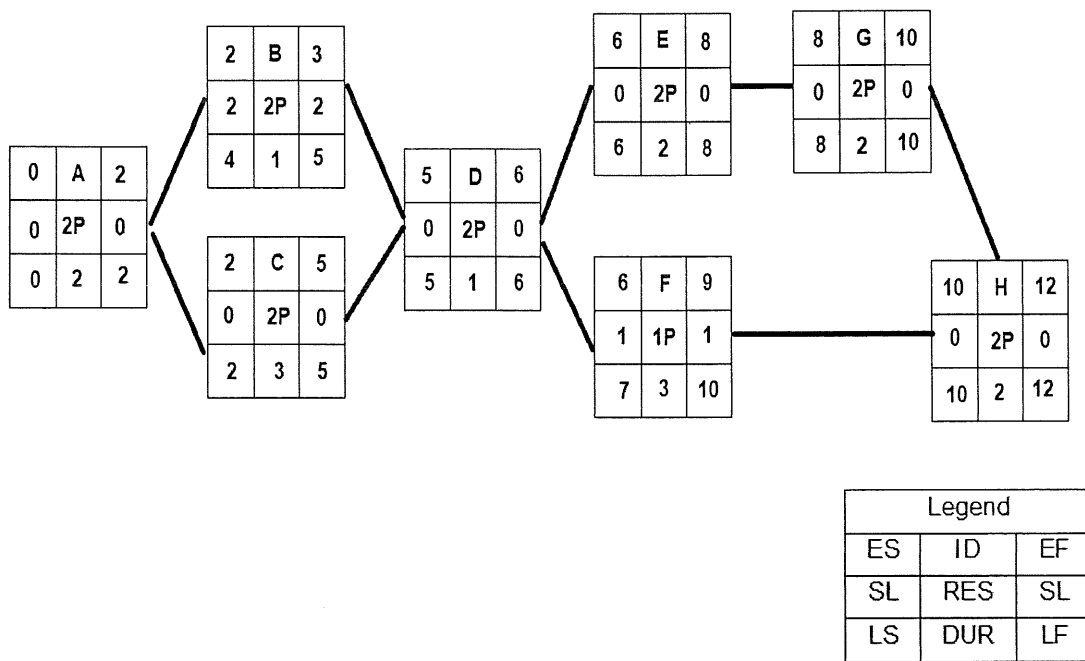


Figure 1: Current Resource Schedule Network

- a) Predict what are “rules-of-thumb” focus on. (3 marks)

- b) Referring to Figure 1 and Appendix 1,
 - i. Illustrate a resource-constraint schedule. (12 marks)
 - ii. Determine a new resource schedule network. (5 marks)

QUESTION 5

Successfully adapting to changes, navigating risks, completing tasks effortlessly, and fostering strong relationships within the team and across the organization exemplify positive leadership and teamwork among team members.

- a) Identify how teamwork integrate with leadership for project success. (4 marks)
- b) You are part of a major consulting firm working on the StarTech IT project. The project is almost done, and StarTech seems satisfied. Changes in the original plan were made to meet specific needs, and the accounting department sends you a bill for the changes that's 10 percent more than what you submitted. When you question it, accounting officer says it was intentionally adjusted. A colleague hints that overcharging clients is common in your firm. Would you sign the document? How would you respond to this situation and what factors would influence your decision? Conclude your answer by giving relevant justification. (16 Marks)

----- End of Questions -----

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Appendix 1: Resource Constraint Schedule

ID	RES	DUR	ES	LF	SL	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
A																							
B																							
C																							
D																							
E																							
F																							
G																							
H																							
Resource scheduled																							
Resources available																							

