

**UNIVERSITY COLLEGE TATI (UC TATI)****FINAL EXAMINATION QUESTION BOOKLET**

COURSE CODE	: DCT 2143
COURSE	: PROJECT MANAGEMENT
SEMESTER/SESSION	: SEM 2- 2024 / 2025
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 5 PRINTED PAGES INCLUDING COVER PAGE

QUESTION 1

XYZ Innovations, a tech start-up, has recently launched a project to develop a mobile application that helps users track their daily expenses and manage budgets efficiently. The project, called "Innovations," involves various stages from planning, development, testing, and deployment. The project team consists of a project manager, two developers, one designer, and one tester. However, during the planning phase, the team faced issues related to budget constraints, time management, and resource allocation.

- a) Define Project Management. (3 Marks)
- b) Explain **FOUR (4)** importance in the context of XYZ Innovations project. (8 Marks)
- c) Explain **TWO (2)** major challenges that might arise during the Innovations project. (4 Marks)
- d) Describe **THREE (3)** roles of a project manager in the Innovations project. (6 Marks)

QUESTION 2

Tech Solutions Inc. has embarked on a project to upgrade its customer relationship management (CRM) system. The goal involves integrating new features, enhancing user experience, and ensuring data security. The project team consists of a project manager, software developers, UI/UX designers, and IT security specialists. Regular meetings are held to track progress and address challenges related to system integration and user training.

- a) Explain **TWO (2)** significance of stakeholder engagement in the CRM system upgrade project. (4 Marks)
- b) List **FOUR (4)** impact of effective risk management on the CRM project's success. (4 Marks)
- c) Illustrate **THREE (3)** project milestones to facilitate team motivation and project tracking in the CRM project. (3 Marks)
- d) Describe **THREE (3)** the integration of new features in the CRM system could impact the user experience for employees. (6 Marks)
- e) Discuss **TWO (2)** importance of regular meetings in addressing system integration challenges. (4 Marks)

QUESTION 3

As a project manager overseeing the development of a new mobile application for a start-up, the project involves three main tasks: Task A, which focuses on designing the user interface (UI); Task B, which involves developing the backend; and Task C, which entails conducting user testing. For Task A, the estimated times are as follows: optimistic time (O) is 2 weeks, most likely time (M) is 4 weeks, and pessimistic time (P) is 6 weeks. For Task B, the optimistic time (O) is 3 weeks, the most likely time (M) is 5 weeks, and the pessimistic time (P) is 7 weeks. Lastly, for Task C, the optimistic time (O) is 1 week, the most likely time (M) is 2 weeks, and the pessimistic time (P) is 3 weeks.

- a) Using PERT, compute the expected time for each task and determine the overall project duration if Task C can only start after both Task A and Task B are completed (21 Marks)

QUESTION 4

ABC Construction is managing a project to build a new office complex. The project budget is set at RM500,000. The team has completed the following tasks with their associated costs:

- i. Land acquisition: RM150,000
- ii. Design and planning: RM80,000
- iii. Foundation work: RM120,000
- iv. Framing: RM90,000
- v. Roofing: RM40,000

The project manager needs to assess the remaining budget and determine the cost performance.

- a) Estimate the total costs incurred so far for the completed tasks. (4 Marks)
- b) Determine the remaining budget for the project after the completed tasks. (4 Marks)
- c) Compute the cost variance (CV) if the planned value (PV) for the completed tasks is RM500,000. (4 Marks)

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- d) If the project is behind schedule, estimate the Schedule Performance Index (SPI) given the earned value (EV) is RM480,000 and the planned value (PV) is RM500,000. (4 Marks)
- e) If the project manager wishes to reduce costs by 10% on the remaining tasks, what would be the new budget for those tasks if the estimated cost for the remaining tasks is RM20,000. (5 Marks)

QUESTION 5

- a) A project manager estimates the cost of labour for a project as follow:
- Task A: 100 hours at RM20/hour.
 - Task B: 50 hours at RM25/hour.
 - Task C: 30 hours at RM30/hour.
- i) Calculate the total cost estimated labour cost for the project. (3 Marks)
- b) A project manager is overseeing the development of a new software application. The initial project plan estimated that the project would have a planned value (PV) of RM 50,000 by the end of the second quarter. However, at the end of that period, the earned value (EV) of the work completed is RM 45,000, and the actual costs (AC) incurred to date amount to RM 55,000.
- i) Calculate the Cost Variance (CV) for the project. (5 Marks)
- c) A construction project for a new office building has a Budget at Completion (BAC) of RM 100,000. So far, the actual costs (AC) incurred are RM 70,000, and the earned value (EV) of the work completed is RM 50,000. The project manager needs to determine how much the project is likely to cost when completed.
- i) Assuming the Cost Performance Index (CPI) remains the same, calculate the Estimate at Completion (EAC). (8 Marks)

-----End of questions-----

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Formulation:

Question	PERT Formulation	
3	Task A,B,C	$TE = \frac{O + 4M + P}{6}$
4	Calculate cost variance	CV-PV
	Calculate Schedule Performance Index (SPI)	$SPI = EV / PV$
5	Cost Estimation	Hours X Money / hour
	Cost Variance	$CV = EV - AC$
	Estimate at Completion (EAC)	$CPI = \left(\frac{EV}{AC} \right)$ $EAC = \left(\frac{BAC}{CPI} \right)$

