



UNIVERSITI
TEKNOLOGI
PETRONAS

**FINAL EXAMINATION
MAY 2023 SEMESTER**

COURSE : TEB3053 - IT PROJECT MANAGEMENT
DATE : 11 DECEMBER 2023 (MONDAY)
TIME : 9:00 AM - 1:00 PM (4 HOURS)

INSTRUCTIONS TO CANDIDATE

1. This is an open-book final examination. Students can refer to learning materials, textbooks, and other reading materials to answer the questions.
2. Answer **ALL** questions in the Answer Booklet.
3. Begin **EACH** answer on a new page.
4. Indicate clearly answers that are cancelled, if any.
5. Where applicable, show clearly steps taken in arriving at the solutions and indicate **ALL** assumptions, if any.
6. **DO NOT** open this Question Booklet until instructed.

Note:

1. There are **FIVE (5)** pages in this Question Booklet including the cover page.
2. This Question Booklet is colour printed.

1. Ahmad is working as Director at the Project Management Office (PMO) for ITBig Inc., an international firm with over 500,000 employees located in several countries. PMO has developed very robust financial projection monitoring, measuring, and tracking capabilities for accurately estimating the cost and benefits of all IT and IS projects. As the project progresses, all costs and benefits are carefully tracked and updated so that executives can reward the promising projects and revamp those that are underperforming. Project sponsor – Mr Bernard from headquarters has announced a 3.5 million budget allocated for the Kuala Lumpur, Malaysia office for the new physical year 2024. The invitation to submit a proposal is sent to all potential project manager (PM) and only three good IT proposals will be considered for evaluation at the final stage. PMO is responsible for determining which project is the most suitable for company investment based on a weighted scoring model.

After undergoing a careful selection, the three proposals are; Project Team 1 (Upgrade Big Data Infrastructure; PM: Mr Ali Zain); Project Team 2 (High-Performance Computing project; PM: Mr Chin Hin); and Project Team 3 (IOT and cloud-based project; PM: Mr Anuar Zamri). PMO will identify the project leader based on the track record, knowledge, and experience. Each project will be assessed based on seven main criteria; C1- Business Strategy; C2- Financial/Cost; C3- Successful rate; C4- Realistic Technology; C5-In-house Expertise; C6- Technical Specification. The 3-proposal final score weight percentage, C1= 10%; C2=25%; C3= 25%; C4=15%; C5= 10%; and C6= 15%. The Project 1 rating as C1=90; C2=70; C3=90 C4=90; C5=90; C6=50. Followed by Project 2 rating as C1=90; C2=80; C3=70; C4=70; C5=80; C6=90. For Project 3 rating as C1=90; C2=20; C3=50; C4=60; C5=60; C6=90.

The success team is responsible to proceed for execution based on the project management triple constraint. The PM needs to report to program manager that appointed by PMO twice a month basis. PM is required to identify the team members which are only a small group of people, nine to be exact, dedicated to working on this six-month project full-time and to call on people in other areas on an as-needed basis. The team members must be people already working inside the company, but PMO is also open to reviewing applications for potential new employees to work specifically on this project as long as they can start quickly. PM need to consider allowing teams to work virtually on the project

as part of company policy. PMO also wanted the PM to do more than just manage the project and the project team needs to work hard to ensure the project they develop meets stakeholders' expectations.

As required by PMO, all project charter and finance approvals should be presented to the steering committee and get approval from the top management level. As part of the project management policy, the PM is required to submit the project charter, kick-off meeting, and monthly progress update to the PMO office for project tracking purposes. Not limited to that, the financial analysis should be submitted and approved by Hakimi - Chief Financial Officer (CFO). The financial analysis should provide a Return on Investment (ROI), and the year in which payback occurs with the assumption seven percent discount rate. The project costs to implement some of the technologies would be RM200,000 for year one and RM50,000 for year 2, 3 and 4 with 9 percent discount rate. Estimated benefits are RM0 in year 1, RM600,000 for each year.

PMO assume PM will conduct syndication with the team to know detail on the project execution plan (PEP). There are 11 main activities listed based on syndication conducted, which are; Activity A : Initial node is 1 and final node is 2 with estimated duration is 2 days; Activity B : Initial node is 2 and final node is 3 with estimated duration is 2 days; Activity C : Initial node is 2 and final node is 4 with estimated duration is 3 days; Activity D : Initial node is 2 and final node is 5 with estimated duration is 4 days; Activity E : Initial node is 3 and final node is 6 with estimated duration is 2 days; Activity F : Initial node is 4 and final node is 6 with estimated duration is 3 days; Activity G : Initial node is 5 and final node is 7 with estimated duration is 6 days; Activity H : Initial node is 6 and final node is 8 with estimated duration is 2 days; Activity I : Initial node is 6 and final node is 7 with estimated duration is 5 days; Activity J : Initial node is 7 and final node is 8 with estimated duration is 1 day; and Activity K : Initial node is 8 and final node is 9 with estimated duration is 2 days. The project critical path should be identified to formulate the risk management, and Work Breakdown Structure (WBS). At PMO, one dedicated senior executive- Johnny, will review how PM at ITBig Inc. organizes the work WBS. This is purposely to ensure the WBS tasks provide guidance and a basis for deciding how to do the work.

PM is compulsory to be involved in the process of identifying project risk and plan for the control and treatment. The project team needs to continually

assess what may negatively or positively impact the project, determine the probability of such events occurring, and determine the impact should such events occur. It also involves analysing and determining alternate strategies to deal with risks. Not limited to that, PMs also need to consider the contingency plans which are predefined actions that a project team will take if an identified risk event occurs. As part of the control and treatment plan, the team should develop a fallback plan for risks that have a high impact on meeting project objectives and implemented if attempts to reduce the risk are not effective. PM should be competent in monitoring and controlling risks involves executing the risk management processes and the risk management plan to respond to risks. Outputs of this process include risk register updates, organizational process assets updates, change requests, and updates to the project management plan and other project documents. PMO allows PM to use any quality control techniques available for project quality management.

- a. Analyse the weighted scoring model for each proposal and identify which project team proposal PMO would most consider. Justify your answer.
[10 marks]
- b. You have appointed by PMO as program manager based on your qualification and experience and ask you to work closely with identified PM. Prepare the suitable project charter and kick off meeting report summary for top management approval.
[15 marks]
- c. The synthesis of financial analysis should be submitted before the kickoff meeting. As PM, you are required to synthesis the financial analysis section of a business case for this project for CFO approval.
[15 marks]
- d. Analyse the project critical path based on AOM. Justify your answer.
[20 marks]

- e. Conduct project risk assessment for high level risk and develop a contingency strategy for each risk.

[10 marks]

- f. Develop the WBS for project and explain which WBS approach suitable.

[15 marks]

- g. Develop the suitable technique for quality control based on 80-20 rule.

[15 marks]

- END OF PAPER -

