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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
(ONLINE)
SEMESTER I
SESSION 2020/2021**

COURSE NAME : SOFTWARE PROJECT MANAGEMENT
COURSE CODE : BIE30503
PROGRAMME CODE : 3 BIP
EXAMINATION DATE : JANUARY/ FEBRUARY 2021
DURATION : 3 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

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THIS QUESTION PAPER CONSISTS OF **SIX (6)** PAGES

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Q1 Answer Q1(a)-Q1(d) based on the Work Breakdown Structure (WBS) in **FIGURE Q1**.

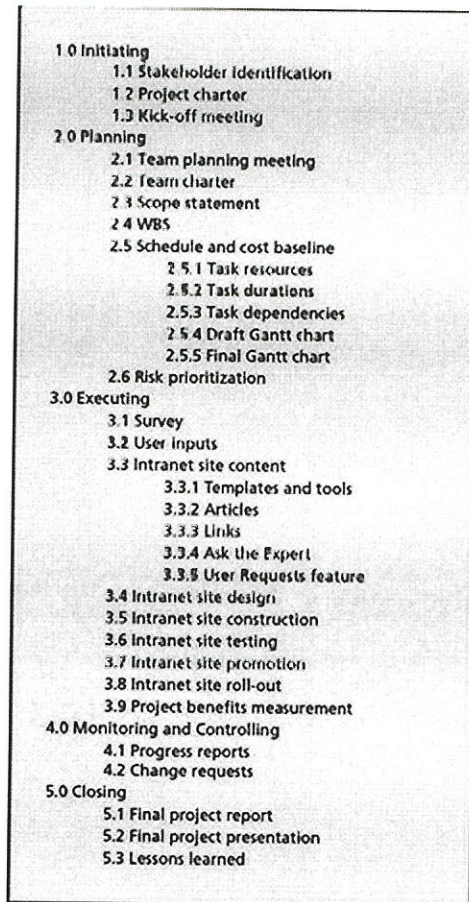


FIGURE Q1

- (a) How the WBS in the **FIGURE Q1** is organized? (2 marks)
- (b) Describe other ways to organize the WBS. (2 marks)
- (c) List the deliverables. (3 marks)
- (d) List the possible milestones. (3 marks)

Q2 Answer Q2(a)-Q2(d) based on **FIGURE Q2**.

Activity Number	Description	Predecessors	Duration (week)	Staff number
2.1	Receive approval to proceed	-	-	-
3.1	Analyze requirements	2.1	1	2
3.2	Design			
3.2.1	Redesign existing components	3.1	6	4
3.2.2	Design new components	3.1	3	1
3.2.3	Design interfaces	3.2.2	1	2
3.3	Implement code			
3.3.1	Implement new code	3.2.2	6	2
3.3.2	Modify existing code	3.2.1, 3.2.3	5	1
3.4	Finish implementation			
3.4.1	Develop integration plan	3.2.2	2	2
3.4.2	Finish unit testing	3.3.1, 3.3.2	2	2
3.4.3	Update documentation	3.3.1, 3.3.2	2	3
3.5	Integrate and test			
3.5.1	Develop integration tests	3.4.1	1	3
3.5.2	Perform integration tests	3.4.2, 3.4.3, 3.5.1	1	2
3.6	Perform acceptance tests	3.5.2	1	1

FIGURE Q2

- (a) Draw an Activity On Arrow (AOA) network diagrams. (10 marks)

- (b) List all paths. (8 marks)

- (c) Determine the shortest time possible to complete the project. (2 marks)

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Q3 Consider the scenario in **FIGURE Q3**.

A project has just completed the third month of a 12 - month schedule. The planned budget for the project is RM 500,000. According to the project plan, RM 40,000 of the budget should have been completed in the first three months, where RM 50,000 has been completed. It has cost RM 60,000 to complete the work to date.

FIGURE Q3

- (a) Determine the financial effectiveness and efficiency of the project at the end of month 3. (5 marks)
- (b) Describe the status of the project in terms of its schedule. (5 marks)
- (c) Estimate the final project cost based on the past performance of the project. (5 marks)
- (d) Estimate the new duration of the project based on the ongoing current status of the project. (5 marks)

Q4 Consider the strategy in **FIGURE Q4**.

Suppose that you are considering an investment of RM 25,000 to reduce the probability from 0.4 to 0.1 of a risk factor with potential impact of RM 500,000.

Risk exposure before mitigation is RM 200,000 ($0.4 \times \text{RM } 500,000$), risk exposure after mitigation would be RM 50,000 ($0.1 \times \text{RM } 500,000$), and the cost of mitigation is estimated to be RM 25,000.

FIGURE Q4

- (a) Calculate and compare risk leverage factors (2 marks)
- (b) Based on your answer in **Q4(a)**, analyze the risk strategy mentioned in **FIGURE Q4**.

Q5 Questions **Q5(a)** and **Q5(b)** are based on the scenario given in **FIGURE Q5**.

Develop Consultation Sdn. Bhd. will start a new software development project on January 1st, 2021 which will last one year. The company estimate that it needs one full-time team leader, two full-time software engineer for the first six months, two full-time software developers for the months of July, August and September and one full time knowledge author for the last three months.

FIGURE Q5

- (a) Create a resource histogram. Be sure to include a legend to label the types of resources needed. Use appropriate titles and axis labels. (12 marks)

- (b) Based on the answer in **Q5(a)**, write the total number of people needed for the following months:
 - (i) June (1 mark)

 - (ii) September (1 mark)

 - (iii) December (1 mark)

Q6 Questions **Q6(a)** – **Q6(c)** are based on the scenario given in **FIGURE Q6**.

RST Sdn. Bhd. plan to buy 10 photocopiers to allocate at each client side. The Chief Executive Officer of the company ask the project manager to propose to the company whether to buy or lease the photocopiers from other company. Suppose leasing the photocopiers costs RM145 per month for each photocopier. If you decide to purchase the photocopiers, the initial investment is RM2000.00 and operations will cost RM50 per month and per photocopier.

FIGURE Q6

- (a) Describe project procurement management. (2 marks)
- (b) Calculate the number of months the lease cost will be the same as the purchase cost for the equipment. (5 marks)
- (c) Assume your company would only use the equipment for 10 months. Propose a plan to your company whether the company should buy or lease it. (8 marks)

- END OF QUESTIONS -

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