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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2021/2022**

COURSE NAME : PROJECT MANAGEMENT
COURSE CODE : BIT 30403
PROGRAMME CODE : BIT
EXAMINATION DATE : JANUARY / FEBRUARY 2022
DURATION : 3 HOURS
INSTRUCTION : 1. ANSWER ALL QUESTIONS
2. THIS FINAL EXAMINATION IS
CONDUCTED ONLINE AND
CLOSE BOOK

THIS QUESTION PAPER CONSISTS OF FIVE (5) PAGES.

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Q1 Figure Q1 represents the budget for COVIDNOW system development.

The cost effort for software development for Malaysia COVIDNOW system is RM100000. Three project teams will work for 1 year for a total of 20000 hours. Based on Gantt Chart schedule, your team should be done with 35% of tasks. However, today, only 30% of tasks have been completed with half budget used.

Figure Q1

- (a) Calculate values for **Q1(i)-Q1(vi)** based on scenario in **Figure Q1** the following questions.
- (i) Plan Value (PV) (2 marks)
 - (ii) Earned Value (EV) (2 marks)
 - (iii) Cost Variance (CV) (2 marks)
 - (iv) Calculate Schedule Variance (SV) (2 marks)
 - (v) Calculate Cost Performance Index (CPI) (2 marks)
 - (vi) Calculate Schedule Performance Index (SPI) (2 marks)
- (b) Give your conclusion based on results in **Q1(a)**. (2 marks)

- Q2** Draw a network diagram activity with Early Start (ES), Early Finish (EF), Late Start (LS), Late Finish (LF) based on information in **Table Q2**.

Table Q2: Student Information System Tasks

Activity	Duration (Weeks)	Predecessors	Resource (units/week)
i	0	-	0
ii	2	1	1
iii	5	1	2
iv	3	1	1
v	2	1	1
vi	6	2	2
vii	6	4	3
viii	6	4	1
ix	4	3	1
x	2	4, 5	0
xi	7	5, 7	3
xii	3	2, 8	4
xiii	2	2, 8, 9	4
xiv	2	10, 11, 12, 13	0

(35 marks)

- Q3** Determine which decision is profitable for the company using Make or Buy concept for the scenario in **Figure Q3**.

Cerberus Berhad is a company that has been involved in many projects. Currently, one project for Cerberus Berhad requires cost about RM1000 to buy each machinery. However, the company also has extra capacity that can be used to produce the same. The annual fixed cost of the unused capacity is RM2,000,000. If Cerberus Berhad decided to make the product it would incur material cost of RM400 per unit, labour cost of RM250 per unit and variable overhead cost of RM200 per unit. The future demand is estimated as 5000 units.

Figure Q3

(8 marks)

Q4 Figure Q4 shows the network diagram activity with resources required to complete the project. Based on Figure Q4, answer Q4(a)-Q4(d).

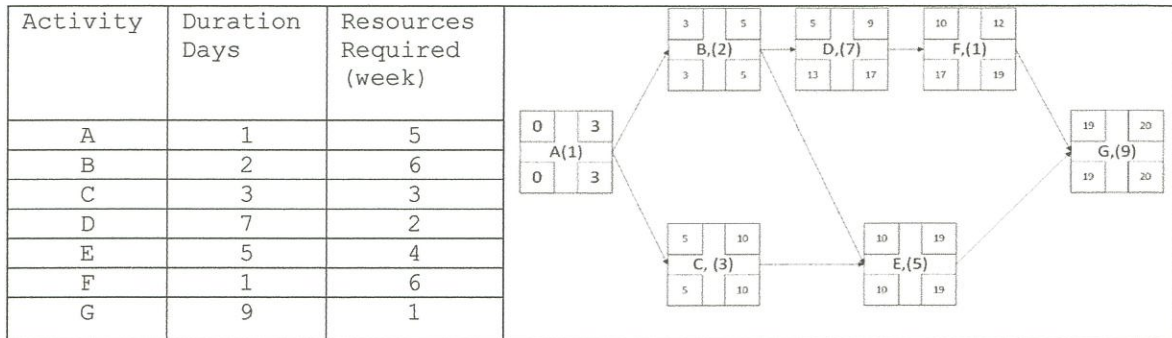


Figure Q4

- (a) Identify the critical path. (2 marks)

- (b) Draw a histogram with resource usage based on activities duration days. (15 marks)

- (c) Based on your answer in Q4(b), identify TWO (2) problems of resources usage. (3 marks)

- (d) Draw a resource usage levelling to remove resource conflict. Justify your answer. (12 marks)



Q5 Figure Q5 represent the situation for software house company. Based on Figure Q5, answer Q5(a)-Q5(c).

Suppose you are a project manager of a software house company. Due to the limited number of expertise in your company, you decided to hire an outsource vendor for the current project. There are two different vendors that offer different costs and schedules. Details for each vendor are listed as follows.

- MITCH SDN BHD: Cost of development RM3000. You estimate to have 30% possibility to complete the tasks within 60days. The agreement contract penalty would be RM5000 per day for late task delivery.
- Remax SDN BHD: Cost of development RM2800. You estimate to have 20% possibility to complete the tasks within 45days. The agreement contract penalty would be RM5000 per day for late task delivery.

Figure Q5

- (a) Define Expected Monetary Value (EMV) in Software Project Management. (2 marks)
- (b) Construct quantitative risks analysis based on EMV and decision tree. (6 marks)
- (c) Based on your answer in Q5(b), which vendor is suitable to be selected? (2 marks)

- END OF QUESTIONS -