UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER I
SESSION 2018/2019

COURSE NAME : PROJECT MANAGEMENT

COURSE CODE : BWA30102

PROGRAMME : BWA

EXAMINATION DATE : DECEMBER 2018/JANUARY 2019

DURATION : 2 HOURS

INSTRUCTION : ANSWER **ALL** QUESTIONS

THIS QUESTION PAPERS CONSIST OF **FIVE (5)** PAGES

BWA30102

Q1 (a) Compare the difference between monitoring and evaluation.

(9 marks)

(b) Describe the importance of indicators to the project management team.

(6 marks)

(c) Analyze the necessary steps taken by a manager in conducting, monitoring and evaluation in project management.

(10 marks)

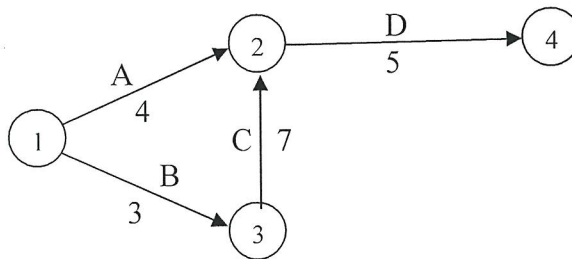**Q2** Consider the network of a project in **Figure Q2**.

Figure Q2: Network of a project

(2 marks)

(a) Determine the first activity to be crashed by the following priority rules:

(i) Shortest task first.

(2 marks)

(ii) Minimum slack first.

(2 marks)

(iii) Most critical followers.

(2 marks)

(iii) Most successors.

(2 marks)

(b)   Using the network in **Figure Q2** and information from **Table Q2(b)**,

  (i)   Find the crash cost (RM) per day.

(10 marks)

  (ii)   Decide which activities should be crashed to meet a project deadline of 13 days at minimum cost. Assume partial crashing is allowed.

(5 marks)

Table Q2(b): Normal and Crashed Times

Activity	Crash time (days)	Crashed cost (total)	Normal time (days)	Normal cost
A	4	400	5	200
B	2	375	4	450
C	4	840	8	400
D	1	720	5	610

Q3   (a)   The cost (RM) information about a showroom renovation is given in **Table Q3(a)**. Determine which activities are on time, which activities are early, and which activities are behind schedule.

(10 marks)

Table Q3(a): Cost Information

Activity	Budgeted cost	Actual cost	Critical ratio
A: Plan changes	80	50	0.7
B: Solicit bids	30	50	1.2
C: Select contractor	70	50	1.3
D: Schedule date	50	60	1.5
E: Start renovation	70	50	1.3

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(b) A company is constructing a 4-storey commercial building for the customer. The project has a planned daily cost of 400 and a planned daily earned value of 400. The earned values and costs for the first six days are given below:

Earned value	:	290, 288, 295, 201, 305, 206
Cost	:	292, 288, 293, 298, 285, 300

Calculate the critical ratio for each day.

(15 marks)

Q4 (a) Find the schedule and cost variances for a project that has an actual cost at month 22 of RM540 000, a scheduled cost of RM523 000, and an earned value of RM535 000.

(3 marks)

(b) A software development project at day 80 exhibits an actual cost of RM 78 000 and a scheduled cost of RM84 000. The software manager estimates a value completed of RM81 000. Calculate cost variance, schedule variance and cost-schedule-index (CSI).

(10 marks)

(c) Given an activity in an advertising project whose planned cost was RM12 000 but actual cost to date is RM10 000 so far. The project completed is only 80 percent.

(i) Calculate the cost and schedule variances.

(6 marks)

(ii) Give the response, either the client will be pleased or angry.

(6 marks)

- **END OF QUESTIONS** –

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SEMESTER / SESSION : SEM I / 2018/2019   PROGRAMME : BWA
COURSE   : PROJECT MANAGEMENT   COURSE CODE : BWA30102

Earliest finish time = earliest start time + duration

Latest start time = latest finish time – duration

Slack = latest start time – earliest start time

Expected time, $\quad TE = \dfrac{(a + 4m + b)}{6}$ Variance, $\quad \sigma^2 = \left(\dfrac{b - a}{6}\right)^2$

Uncertain completion time, $\quad Z = \dfrac{(D - \mu)}{\sqrt{\sigma_\mu^2}}$

Cost per day of crashing a project, Slope $= \dfrac{\text{crash cost } - \text{normal cost}}{\text{crash time } - \text{normal time}}$

Cost variance (CV) = earned value (EV) – actual cost (AC)

Schedule variance (SV) = earned value (EV) – planned value (PV)

Time variance (TV) = time scheduled (ST) – actual time (AT)

Cost performance index CPI = EV / AC

Schedule performance index SPI = EV / PV

Time performance index TPI = ST / AT

Cost-schedule index CSI = (CPI)(SPI)

Critical ratio = (actual progress / scheduled progress) × (budgeted cost / actual cost)

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