

CONFIDENTIAL



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2022/2023**

COURSE NAME : CONSTRUCTION PLANNING AND SCHEDULING

COURSE CODE : BFP40103

PROGRAMME CODE : BFF

EXAMINATION DATE : JULY/ AUGUST 2023

DURATION : 3 HOURS

INSTRUCTION : 1. ANSWER ALL QUESTIONS
2. THIS FINAL EXAMINATION IS CONDUCTED VIA **CLOSED BOOK**
3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING EXAMINATION CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF SEVEN (7) PAGES

CONFIDENTIAL

TERBUKA

CONFIDENTIAL

- Q1**
- a) **Table Q1 (a)** shows a list of activities for the construction of one construction project. Perform a network diagram based on the activities to identify the project's Early Start (ES), Early Finish (EF), Late Start (LS), Late Finish (LF), and Total Float (TF).
(10 marks)
- b) The project starts on 2nd March 2023. By referring to the calendar in **Figure Q1** and the data in **Table Q1 (b)**;
- (i) Determine planned finish date of the project.
(2 marks)
- (ii) Using the aid of Gantt Chart, assess the project status on the 28th of March 2023 and evaluate the performance of the project based on the project status.
(15 marks)
- c) List **THREE (3)** challenges facing by the planner in developing planning and scheduling for construction projects.
(3 marks)
- Q2**
- a) Cost and schedule data for a small project are given in **Table Q2**. The indirect cost is RM 80/day.
- (i) Develop the time-cost graph for the project to a 36-day duration.
(13 marks)
- (ii) Summarize situation for the project by referring to answer in **Q2 (a) (i)**.
(2 marks)
- b) Discuss **THREE (3)** issues in planning for a resource for a construction project.
(3 marks)

CONFIDENTIAL

- Q3** a) **Figure Q3** shows a document contract for one building project at Universiti Tun Hussein Onn Malaysia. As a planner for the awarded contractor, prepare a process to develop the project schedule for the project.
- (10 marks)
- b) The information to construct a small project is given in **Table Q3**. Using the information given:
- (i) Estimate the project's Total Expected Time (t_e).

(10 marks)

 - (ii) Estimate the duration range for all critical activities using two standard deviations (2SD).

(6 marks)

 - (iii) Assess the duration required to give 90% of completing the project on time.

(4 marks)
- Q4** a) **Figure Q4** shows a large earth-moving project that will be taken to clean up several hazardous waste sites. The current schedule and machineries required to complete the project is shown in **Figure Q4**. Arrange the activities to ensure the project can be completed with maximum eighteen (18) machine using resource smoothing method. Show the updated schedule in **Graph Paper** given (the histogram is not required).
- (10 marks)

-END OF QUESTIONS-

CONFIDENTIAL**FINAL EXAMINATION**

SEMESTER/ SESSION : SEM II/ 20222023

PROGRAMME CODE : BFF

COURSE NAME : CONSTRUCTION PLANNING
AND SCHEDULING

COURSE CODE : BFP 40103

Table Q1 (a)

Activity	Duration (days)	Predecessor (s)	Relationship	Lag/ Lead
Start				
A	8	Start		
B	9	A	Start to Start	+1
C	6	B	Finish to Start	-
D	3	A	Finish to Start	+4
E	6	Start		
F	2	C	Start to Start	-
G	12	F	Finish to Start	-
H	7	C	Finish to Start	+2
		D	Start to Start	-
I	9	E	Finish to Start	-
		H	Finish to Start	-
J	4	G	Finish to Start	-
		H	Finish to Start	-
K	8	I	Finish to Start	-
L	3	J	Finish to Start	-
		K	Start to Start	+3
M	6	G	Finish to Start	-
		L	Start to Finish	-
N	4	K	Finish to Start	-
Finish		L	Finish to Start	-
		M	Finish to Start	-
		N	Finish to Start	-

CONFIDENTIAL

FINAL EXAMINATION

SEMESTER/ SESSION : SEM II/ 20222023 PROGRAMME CODE : BFF
 COURSE NAME : CONSTRUCTION PLANNING AND SCHEDULING COURSE CODE : BFP 40103

Table Q1 (b)

Activity	Planned Cost (RM)	Actual Cost (RM)	Percent Complete on 28 th March 2023 (%)	Earned Value (RM)
A	RM 2,400	RM 3,200	100	RM 2,400
B	RM 1,800	RM 3,600	100	RM 1,800
C	RM 2,400	RM 4,000	100	RM 2,400
D	RM 2,100	RM 2,500	100	RM 2,100
E	RM 5,000	RM 5,000	100	RM 5,000
F	RM 2,000	RM 3,000	90	RM 1,800
G	RM 2,400	RM 3,000	50	RM 1,200
H	RM 700	RM 120	5	RM 35
I	RM 2,700	-	-	-
J	RM 1,600	-	-	-
K	RM 2,400	-	-	-
L	RM 3,000	-	-	-
M	RM 1,500	-	-	-
N	RM 1,200	-	-	-

March 2023						
Sun	Mon	Tue	Wed	Thur	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				
April 2023						
Sun	Mon	Tue	Wed	Thur	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Working Day
Monday to Saturday
(8 am – 12 pm;
1pm – 5 pm)

Public Holiday
23 March 2023
24-25 April 2023

Figure Q1

CONFIDENTIAL

FINAL EXAMINATION

SEMESTER/ SESSION : SEM II/ 20222023 PROGRAMME CODE : BFF
 COURSE NAME : CONSTRUCTION PLANNING AND SCHEDULING COURSE CODE : BFP 40103

DOCUMENT CONTRACT

FOR

**PROPOSAL TO BUILD AND COMPLETE AN OFFICE BUILDING FOR
 THE CENTER OF ACADEMIC DEVELOPMENT AND EXCELLENCE
 AT
 UNIVERSITI TUN HUSSEIN ONN MALAYSIA**




Figure Q3

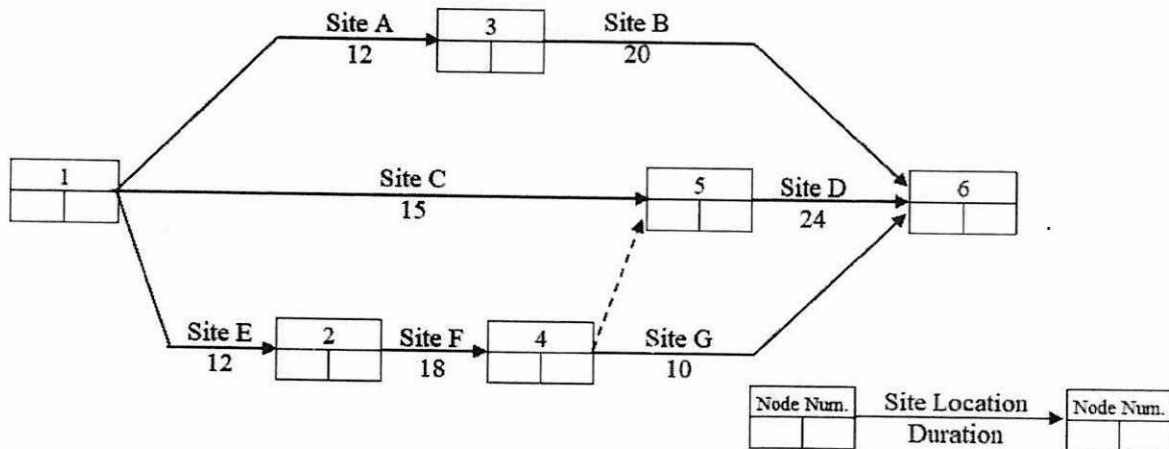


Figure Q4

TERBUKA

CONFIDENTIAL

HAK Cipta © 2022
 Semua hak cipta terpeliharakan oleh
 Universiti Tun Hussein Onn Malaysia
 Tidak dibenarkan untuk menyalin atau
 mengedarkan semula sebarang bentuk
 atau dengan cara apa pun.