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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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

COURSE NAME : PROJECT PLANNING AND SCHEDULING

COURSE CODE : BPD 33903

PROGRAMME CODE : BPC

EXAMINATION DATE : JULY / AUGUST 2023

DURATION : 3 HOURS

INSTRUCTIONS : 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 THE EXAMINATION CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **FIVE (5)** PAGES

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Q1 A network consists of the activities in the **Table Q1**. Times are given in weeks.

Table Q1: Project Activities

Activity	Preceding	Duration
A	-	9
B	A	2
C	A	12
D	A	5
E	B	6
F	B	8
G	C, F	3
H	D	2
I	H	8
J	G, I	6
K	F, J	2
L	E, I, J, K	1

- (a) Prepare an AOA diagram. (8.5 marks)

- (b) Prepare an AON diagram. (8.5 marks)

- (c) Differentiate **FOUR (4)** practices between AOA with AON diagram in construction project. (8 marks)



Q2 A list of activities that are required to complete a shopping complex project is shown in **Table Q2**.

Table Q2: Precedence Diagram for Shopping Complex Project Activities

Activity	Duration (month)	Predecessors
A	2	-
B	3	A
C	4	A
D	5	A
E	7	B
F	7	C
G	8	D
H	4	E
I	2	F
J	12	G
K	5	G
L	6	F, H
M	2	J
N	2	I, M
O	6	J
P	4	K
Q	4	L
R	4	O
S	2	N, R
T	9	O, P
U	2	Q
V	3	S, T, U

- (a) Calculate total of duration to complete the shopping complex project. (17 marks)
- (b) Based on answer in **Q2(a)**.
 - (i) Show the critical path. (2 marks)
 - (ii) State the critical path. (1 mark)
- (c) State **FIVE (5)** the strategy to solve critical path in this project. (5 marks)



Q3 Manpower planning is a very important part of the overall planning of a business organization. According to James J. Lynch “Manpower planning is the integration of manpower policies, practices and procedures so as to achieve the right people in the right time”.

(a) Define **FIVE (5)** problem related to manpower.

(5 marks)

(b) **Table Q3** shows the network activity for road construction works.

Table Q3: Network Activity Project

	Activity	Duration (months)	IPA	Laborers
A	Mobilization and setup	5	-	3
B	Submit shop drawings for road works / subcontractors/ materials/ procurements for approving	3	-	3
C	Earthmoving / drainage storm water managements ponds	8	A	3
D	Fine grading	6	A, B	6
E	Guard rails installation	2	B	4
F	Barrier walls & Paving base	4	D, E	2
G	Signage (foundation)	6	C, D	2
H	Signage installation	2	F, G	2

(i) Calculate the required resources for road construction works.

(10 marks)

(ii) Calculate and level the number of labours does not use more than eight laborers at any time.

(10 marks)

Q4 Wasted money and resources can be prevented with effective project management, as more than half of unsuccessful projects fail due to communication breakdown. In the phases of the project management life cycle, it may come up with the idea for a project, define its goals, plan for its execution, and guide it to completion.

(a) Define **FIVE (5)** elements of construction estimation in project control. (5 marks)

(b) **Figure Q4** shows the physical S-Curve for progress work of high-rise construction building.

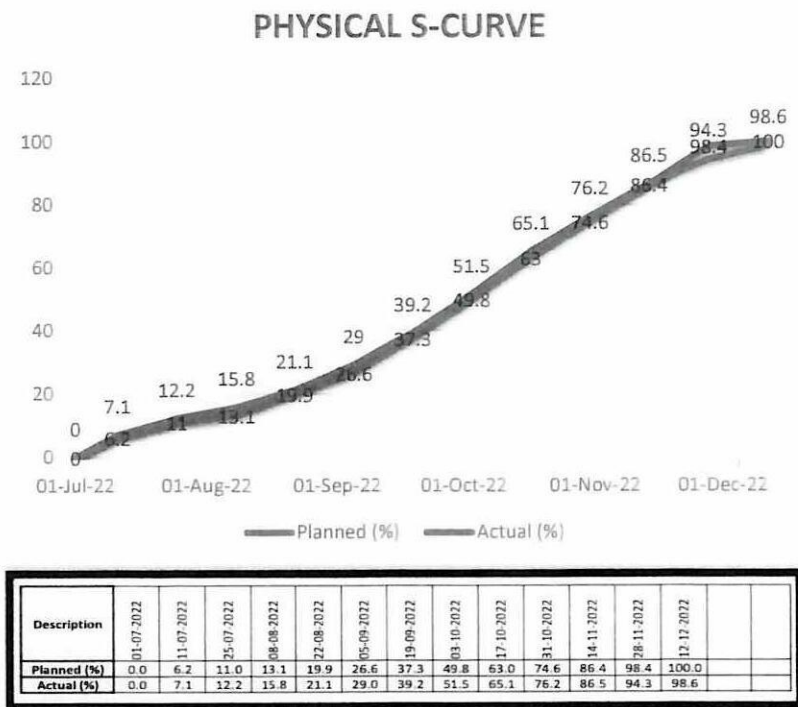


Figure Q4: Physical S-Curve

- (i) Debate the physical progress of S-Curve from July 2022 until December 2022. (10 marks)
- (ii) Propose the ideas that can increase the productivity based on answer in **Q4(b)(i)** (10 marks)

-END OF QUESTIONS -

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