



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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

- COURSE NAME : SUSTAINABLE CONSTRUCTION
MANAGEMENT
- COURSE CODE : BFC 32703
- PROGRAMME CODE : BFF
- 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 **FOUR (4)** PAGES

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- Q1** (a) A proposal of a residential development project consisting of 16 blocks of 88 storey condominiums complete with 10 units of four-storey shop lots and 2 recreational centers including 2 swimming pools, a tennis court and a public hall has been submitted to Municipal Council to be evaluated. The location of the proposed project is a hilly area 25 km from a city center and 15km from a village area. As one of the Municipal Council evaluators, you have to ensure the project incorporate sustainability before the proposal can be approved. Explain **THREE (3)** possible impacts of construction activities at every stage of the construction phase (before, during, and after) of the proposed project on the environment of the city center and the village area.
- (10 marks)
- (b) Site management involves a combination of site activities which mainly the organization of turning necessary resources into a finished product. Explain what are the Roles and Tasks of Site Manager.
- (10 marks)
- (c) Explain the definition of value management and give **TWO (2)** examples of how it can be applied in the project **Q1(a)**.
- (5 marks)
- Q2** (a) Building construction can be divided to multi stage from beginning of the process (cradle) till the building needs to be dispose (grave). With the aid of a sketch, explain **TWO (2)** system boundary of the building.
- (15 marks)
- (b) Explain how Construction activity may effect on the Environment by giving **FIVE (5)** examples.
- (10 marks)
- Q3** (a) Construction planning and scheduling is an important process that needs to take place during the construction of the project. Differentiate **FOUR (4)** difference between planning and scheduling.
- (4 marks)
- (b) As an engineer in ABC construction firm, you have been assigned by the project manager to perform planning and scheduling for a construction project with all its related activities.
- (i) By referring to **TABLE 1**, construct a network diagram using the precedence diagram method to determine the total duration of the project. Provide a table showing the early start (ES), early finish (EF), late start (LS) and late finish (LF) for each activity.
- (14 marks)

(ii) Highlight the critical path in the network diagram. (2 marks)

(iii) Prepare a Gantt chart for this project according to the findings in Q3(b)(i) and Q3(b)(ii). (5 marks)

Q4 (a) It covers all functions, activities and people who are responsible for competitiveness of an organisation. The employees are expected to participate not only in maintaining quality but also in improving their total performance. Briefly explain what are the advantages of total quality management (TQM) with **EIGHT (8)** example. (8marks)

(b) Explain **SIX (6)** supporting elements of TQM principles. (6 marks)

(c) Cost-control managements is one of the Components of Quality Management. Planning the project budget distribute into two main categories namely single and multiple rate method to estimate the bouget of construction project. By giving example, explain **THREE (3)** methods of single rate methos. (6 marks)

(d) There is a project running in Johor Bahru. You have been nominated as a construction site. Give **FIVE (5)** suggestions on how you can assist to eliminate the waste from the site. (5 marks)

– END OF QUESTIONS –

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TABLE 1

Activity	Duration	Predecessor
A	5	
B	7	A
C	2	A
D	12	B
E	20	B
F	4	C
G	11	C
H	8	D
I	6	E
J	3	E
K	9	F
L	1	H
M	14	J
N	19	G,I,K,L,M

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