



**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER I  
SESSION 1 2016/2017**

COURSE NAME : SUSTAINABLE CONSTRUCTION  
MANAGEMENT

COURSE CODE : BNP 20703

PROGRAMME : 2BNB

DATE OF EXAMINATION : DECEMBER 2016 / JANUARY 2017

DURATION : 3 HOURS

INSTRUCTION : ANSWER **FOUR (4)** QUESTIONS  
ONLY

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THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

**Q1** (a) Sustainable construction may be defined as constructing a healthy built environment based on resource efficiency and ecological design. There are seven principles of sustainable construction. List out all **SEVEN (7)** principles of sustainable construction.

(7 marks)

(b) Recently, everyone involves in built construction is aware of the term ‘green building’ as green buildings have many benefits. Green Building Index (GBI) is the green rating tool used in Malaysia for buildings to promote sustainability in the built environment and raise awareness among developers, architects, engineers, planners, designers, contractors and the public about environmental issues and our responsibility to the future generations. Buildings will be awarded the GBI Malaysia rating based on **SIX (6)** key criteria

(i) State all **SIX (6)** GBI assessment criteria for buildings to be certified as being environmental friendly.

(6 marks)

(ii) Explain briefly **TWO (2)** examples for each of the **six (6)** GBI assessment criteria that can be carried out or done to achieve points.

(12 marks)

**Q2** Engineering organization is a collection of people working together in a coordinated and structured manner in order to achieve engineering goals.

(a) List **FIVE (5)** factors in considering suitable type of organizational structure.

(5 marks)

(b) Explain **THREE (3)** activities involve in engineering management function as stated below:

(i) Motivating

(ii) Staffing

(iii) Planning

(iv) Organizing

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(12 marks)

(c) Describe **FOUR (4)** differences between functional and project organization.

(8 marks)

- Q3** (a) Type of organizational structure in a company also determines the successful of engineering project.
- (i) List **three (3)** advantages of functional organization, matrix organization and project organization. (9 marks)
- (ii) Explain briefly **three (3)** impact of effective organization. (6 marks)
- (b) Project manager is one of important person in construction project. Explain **four (4)** important skills required by project manager in order to manage construction project and discuss **one (1)** of them. (10 marks)

- Q4** You are an engineering technologist at Bina Sdn Bhd, Batu Pahat. You are required by your director to prepare a schedule of a new project which is 'To build 1 block, 4 storeys building of Sek. Keb. Pintas Puding at Parit Raja, Batu Pahat Johor'.

Bil	Activity	Duration (Week)	Successor
1	A, Preliminaries Work	2	<b>B</b>
2	B, Piling	3	<b>C</b>
3	C, Foundation	4	<b>D,E</b>
4	D, Ground Beam	2	-
5	E, Column	3	<b>F</b>
6	F, Slab	2	<b>G,H</b>
7	G, Roof Beam	4	-
8	H, Trusses	5	<b>I</b>
9	I, Building Envelope	3	<b>J</b>
10	J, Architect Finishing	2	-

**TABLE 4****TERBUKA**

Based on the **TABLE 4**, you are required to:

- (a) Prepare a logical network diagram using Arrow Diagram Method (ADM) (10 marks)
- (b) Calculate ES,EF,LS,LF from the project activities. (5 marks)
- (c) Determine the total float for each activity. (5 marks)
- (d) State the critical path's activities of the network diagram. (3 marks)
- (e) Determine the project duration. (2 marks)

**Q5** Currently, the construction industry is facing so many challenges and getting even more complicated. The significant element such as cost, time and quality components must be well planned and organized. The project cost system will need to go through certain stages in order for it to be evaluated. From this statement, describe with examples of the elements on project cost system listed below:

- (a) Direct Cost (6 marks)
- (b) Indirect Cost (6 marks)
- (c) Project Cost Components. (13 marks)

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- END OF QUESTIONS -