



**UTHM**  
Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

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

COURSE NAME : SUSTAINABLE CONSTRUCTION  
MANAGEMENT

COURSE CODE : BNC 31202

PROGRAMME CODE : BNC

EXAMINATION DATE : DECEMBER 2016 / JANUARY 2017

DURATION : 2 HOURS

INSTRUCTION : 1. ANSWER **ALL** QUESTIONS  
IN SECTION A  
2. ANSWER **TWO (2)** QUESTIONS  
IN SECTION B

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

**SECTION A**

- Q1** (a) Discuss the sustainable issues as below:
- (i) Climate change
  - (ii) Green house effects
- (4 marks)
- (b) Forecast is one of necessary role as an engineer. Describe **FIVE (5)** elements that require engineer to do a forecasting in civil engineering project.
- (15 marks)
- (c) List **THREE (3)** duties of engineers in Pre-Contract and Post-Contract stage.
- (6 marks)
- Q2** (a) The world is facing with an environmental pollution resulting from human activities. Discuss **FIVE (5)** issues on how construction activities are effecting the environment.
- (15 marks)
- (b) Caleb Developer Sdn. Bhd. hires Jurutera Perunding Azham as civil engineering consultant for the construction of 20 units bungalow at Bukit Perdana, Batu Pahat. Ir. Haikal is one of the engineer at Jurutera Perunding Azham and he is responsible to manage that project. During the construction, Ir. Haikal cousin is selected as one of concrete supplier for the project. As an civil engineering consultant, Ir. Haikal is responsible to approve concrete mix design and test cube result for that project.
- Based on Code of Ethics for Engineer, comment this situation and suggest a solution for Ir. Haikal.
- (10 marks)

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**SECTION B (ANSWER TWO (2) QUESTIONS ONLY)**

- Q3** (a) Construction company needs to have a good organization in managing the project. Management procedure must be focused to fulfill the company's mission and vision
- (i) Give a management definition. (2 marks)
  - (ii) Basic management activities comprise of planning, implementation and controlling. Describe **TWO (2)** of them. (4 marks)
  - (iii) In sequential order, describe the phases and parties involved in a project. (6 marks)
- (b) Company effectiveness is dependent on organization structure for project implementation in order for planning and decision-making. Organizational effectiveness will bring a positive impact and give a great reputation to the company.
- (i) Give **TWO (2)** advantages and disadvantages in Project Organization. (4 marks)
  - (ii) Briefly describe **FOUR (4)** skills required by a Project Manager. (4 marks)
  - (iii) There are several types of Project Organization. Draft a figure that explained the relationship and organization structure for Owner-Builder Organization. (5 marks)
- Q4** Imagine that you are working for the main contractor as a Construction Manager. Since the newly secured construction project of a two-storey bungalow needs to be implemented with several sustainable strategies in order to fulfil client's requirements, you are responsible to present a brief proposal to the client on the followings:
- (a) Construct a site phase diagram complete with their general activities (from site possession to handover); (6 marks)
  - (b) Select **TWO (2)** sustainable construction strategies which coincide with all important resources (4M's) in construction. Each selection must be followed by a brief justification. For example: Money – a sustainable strategy – justification; Manpower – a sustainable strategy – justification; etc. You may use table to separate each selection. (9 marks)

- (c) Organize and embed your selected sustainable construction strategies as described in **Q4(b)** and on your site phase diagram drawn in **Q4(a)** where appropriate. (4 marks)
- (d) Summarize a brief conclusion based on **Q1(c)** to your client. (6 marks)
- Q5**
- (a) Explain **TWO (2)** principles of implementing a sustainable concept in construction. (6 marks)
- (b) Describe the application of lean construction in construction project. (3 marks)
- (c) Organizing is one of management function in organizational approach. Give **FOUR (4)** managers' role in organizing function. (4 marks)
- (d) Green Building Index (GBI) is one of the green rating tools used in Malaysia to promote sustainability in construction and project development. Building will be awarded by GBI rating based on 6 key criteria. Briefly **TWO (2)** examples for each of **SIX (6)** GBI assessment criteria that can be carried out or done to achieve points. (12 marks)

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- END OF QUESTIONS -