Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2023/2024

COURSE NAME	:	SUSTAINABLE CONSTRUCTION MANAGEMENT
COURSE CODE	:	BNC 31202
PROGRAMME CODE	:	BNC
EXAMINATION DATE	:	JULY 2024
DURATION	:	2 HOURS
INSTRUCTIONS	:	1. ANSWER ALL QUESTIONS 2. THIS FINAL EXAMINATION IS CONDUCTED VIA ☐ Open book ☒ 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 **THREE (3)** PAGES

Q1 Sustainable construction project management means not only creating environmentally friendly buildings, but it is the combination of using sustainable construction practices and materials to reduce waste and impact on the environment.

(a) Identify **SIX (6)** benefits of sustainable construction.

(6 marks)

(b) Discuss **FIVE (5)** sustainable construction management practices, emphasizing their significance in reducing environmental impact and promoting long-term sustainability.

(10 marks)

(c) Identify the green strategies for each phases.

(9 marks)

Q2 In response to growing concerns about environmental sustainability, there is a pressing need for innovative solutions in sustainable laboratory. Laboratories, in particular, present unique challenges due to their specialized requirements for controlled environments and rigorous safety standards.

(a) List and define **FIVE (5)** elements of green building in designing sustainable laboratory.

(10 marks)

(b) Propose **FIVE (5)** key principles and strategies that you would incorporate into your design to ensure the laboratory is environmentally sustainable.

(15 marks)

Q3 The green building index (GBI) is a key tool for promoting sustainability in the built environment. It guides developers, architects, engineers, planners, designers, contractors, and the public towards adopting green building practices and raising awareness about environmental issues.

(a) Discuss the role and significance of GBI Malaysia in promoting sustainability in the built environment.

(4 marks)

(b) List and differentiate the **THREE (3)** stages in My CREST tools.

(6 marks)

(c) In comparison to newly constructed buildings, existing buildings require higher capital costs to achieve performance and a better rating of green building certification. To what extend do you agree with this statement?
Provide and discuss your arguments.

(15 marks)

Q4 As a project manager for a sustainable building project aiming to achieve leadership in energy and environmental design (LEED) certification. One of the key focus areas for sustainability is water efficiency.

(a) Describe a scenario implementing water efficiency measures in the building design significantly contributes to reducing water consumption and promoting sustainability.

(10 marks)

(b) As a project manager, you are being hired to design an effective rainwater harvesting. Explain **FIVE (5)** benefits gained when using rainwater harvesting.

(5 marks)

(c) Sketch and suggest a rainwater harvesting system that could be used in a sustainable building project.

(10 marks)

- END OF QUESTIONS -