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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II SESSION
2021/2022**

- COURSE NAME : CONSTRUCTION INDUSTRY & BUILDING TECHNOLOGY
- COURSE CODE : BPE 13502
- PROGRAMME CODE : BPD
- EXAMINATION DATE : JULY 2022
- DURATION : 2 HOURS
- INSTRUCTION : 1. ANSWER ALL QUESTIONS.
2. THIS FINAL EXAMINATION IS AN **ONLINE** EXAM AND 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 **THREE (3)** PAGES

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TRIPUKA

- Q1** The construction industry uses a variety of building materials for different aspects of building construction.
- (a) Differentiate between natural and artificial building materials in construction. (10 marks)
 - (b) Discuss with examples **THREE (3)** characteristics of good timber used for construction. (15 marks)
- Q2** Concrete is a composite material composed of fine and coarse aggregates bonded together with a fluid cement (cement paste) that hardens over time, whereas mortar is a workable paste, which is a mixture of sand, cement or lime, and water used to bind building blocks such as stones, bricks, and concrete masonry units.
- (a) Explain **TWO (2)** mistakes normally done by a bricklayer when erecting brick walls. (5 marks)
 - (b) Explain with an appropriate diagram a method to prevent dampness and moisture to ground floor. (10 marks)
 - (c) Discuss **TWO (2)** problems associated with hardened concrete and their possible causes. (10 marks)
- Q3** Industrialised Building System (IBS) is a home-grown term to describe the use of automation, mechanisation and prefabrication of components for the building industry in Malaysia.
- (a) Explain **FIVE (5)** benefits of IBS in residential building projects. (10 marks)
 - (b) Discuss the **FIVE (5)** challenges faced by contractors in adopting IBS in Malaysia. (15 marks)

Q4 The Green Building Index (GBI) is Malaysia's industry recognised green rating tool for buildings to promote sustainability in the built environment and raise awareness of these issues among relevant stakeholders such as developers, architects, and contractors.

(a) Explain **TWO (2)** reasons with examples of how the implementation of green features makes a high-performance building.

(10 marks)

(b) Analyse **THREE (3)** challenges of adopting green building technologies to a 20-year-old building.

(15 marks)

- END OF QUESTIONS -

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TREBUKA