



**UTHM**  
Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

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

- COURSE NAME : CONSTRUCTION TECHNOLOGY II
- COURSE CODE : BPD 25703 / BPD 15603
- PROGRAMME CODE : 2 BPC
- EXAMINATION DATE : JULY 2022
- DURATION : 3 HOURS
- INSTRUCTION : 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 **THREE (3)** PAGES

TERBUKA

CONFIDENTIAL

**Q1** Scaffolding is a temporary construction that is very necessary during the construction process of a large-sized building.

(a) Explain **SIX (6)** safety rules for installing steel tube frame type scaffolding. (12 marks)

(b) Outline the single putlog scaffolding with a related diagram. (13 marks)

**Q2** (a) Mega construction projects such as the construction of the Petronas Twin Towers Kuala Lumpur, Kuala Lumpur International Airport (KLIA), Burj Khalifa in Dubai United Arab Emirates (UAE), and others require the selection of methods and the use of heavy machinery to ensure that a construction project can be carried out as planned.

Explain **FIVE (5)** important factors with examples for planning the use of heavy machinery. (10 marks)

(b) As a Project Manager, you are required to select the appropriate type of crane as lifting machinery to be used for large and multi-storey construction.

Propose a suitable type of crane to assist in the construction work. (15 marks)

**Q3** Industrialized Building System (IBS) is a construction process that utilizes techniques, products, components, or building systems, which involve prefabricated components and on-site installation. Construction techniques in which components are manufactured in a factory, on or off-site, positioned, and assembled into a structure with minimal additional site works.

(a) Explain **FIVE (5)** IBS groups popularly used in Malaysia. (10 marks)

(b) Analyse **THREE (3)** benefits of using precast concrete for IBS products in heavy construction project. (15 marks)

**TERBUKA**

- Q4** Road construction is to provide traffic space to overcome various geographical obstacles and the road construction process involves the construction of bridges and tunnels, as well as the diversion of vegetations.
- (a) Differentiate **TWO (2)** dissimilarities between macadam tar type and concrete type road. (10 marks)
- (b) Outline the construction processes of a flexible pavement type road with a related diagram. (15 marks)

- END OF QUESTIONS -