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**UNIVERSITI TUN HUSSEIN ONN
MALAYSIA**

**FINAL EXAMINATION
SEMESTER II
SESSION 2022/2023**

COURSE NAME : TEMPORARY CONSTRUCTION WORKS
COURSE CODE : BNC 31603
PROGRAMME CODE : BNC
EXAMINATION DATE : JULY/AUGUST 2023
DURATION : 3 HOURS
INSTRUCTION : 1. ANSWER **ALL** QUESTIONS
2. THIS TEST 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

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Q1 Temporary structures in construction are those structures that are erected and used to aid in the construction of permanent projects.

(a) State **SIX (6)** types of temporary structures in construction projects.
(6 marks)

(b) Many aspects of temporary structures in construction are different from those of permanent structures requiring somewhat different design, erection, and maintenance philosophies. Hence, temporary structures are the concern of the parties involved. Point out **SEVEN (7)** professional practices which are practiced in temporary construction works.

(14 marks)

Q2 Formwork is one of the temporary constructions made in building construction. Without formwork, it is impossible to build the concrete structure of the building as planned.

(a) Explain formwork from your perspective.
(2 marks)

(b) Breaks down **EIGHT (8)** requirements of formwork.
(8 marks)

(c) Formwork plays a crucial role in the construction of concrete structures. Differentiate **FIVE (5)** advantages of timber formwork and steel formwork.
(10 marks)

Q3 It becomes vital to have some temporary structure or support to proceed with the work in the usual building construction operations.

(a) Explain the importance of scaffolding in construction.
(2 marks)

(b) There are a few types of scaffolding in construction projects. With the aid of a sketch, suggest **TWO (2)** a type of scaffolding that is suitable for brickwork.
(8 marks)

(c) It is essential for structures that have become unsafe due to unequal settlement of foundation or due to removal of adjacent buildings or due to any other reason. With the aid of sketch and explanation, differentiate **FIVE (5)** inclined shores and horizontal shores in construction industries.
(10 marks)

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Q4 Lifting gears play an important part in the lifting operation. If there is insufficient knowledge or a wrong choice is made, lifting may fail, and accidents may result.

- (a) State the definitions for the following term.
 - (i) Rigging (2 marks)
 - (ii) Sling (2 marks)
- (b) With the aid of a sketch, explain briefly about the wire ropes. (7 marks)
- (c) Propose safe working practices for Flat Webbing and Round Synthetic Slings inspection. (9 marks)

Q5 A cofferdam is a temporary structure designed to keep water and soil out of the excavation in which a bridge pier or other structure is built.

- (a) Describe the meaning of the word cofferdam. (2 marks)
- (b) State **FIVE (5)** types of cofferdams. (5 marks)
- (c) As a technologist engineer, your company has tasked you with producing a construction cofferdam to build a pier for a bridge project. Propose **FIVE (5)** design considerations for cofferdam construction work. (5 marks)
- (d) In cofferdam construction, safety is a paramount concern since workers will be exposed to the hazard of flooding and collapse. As a technologist, Prepare the safety requirements of cofferdam construction. (8 marks)

- END OF QUESTIONS -

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