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Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2023/2024**

- COURSE NAME : TEMPORARY CONSTRUCTION WORKS
- COURSE CODE : BNC 31603
- PROGRAMME CODE : BNC
- EXAMINATION DATE : JULY 2024
- DURATION : 3 HOUR
- 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 **FOUR (4)** PAGES

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- Q1** Temporary construction works refer to the various activities, structures, and processes undertaken during the construction phase of a project to facilitate the construction process, ensure safety, and support the overall project schedule.
- (a) Define temporary structures within the context of building construction and describe their purpose.
(2 marks)
 - (b) State **SIX (6)** types of temporary structures in construction projects.
(6 marks)
 - (c) Appraise **SIX (6)** professional practices which are practiced in temporary construction works.
(12 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) Define formwork from your perspective.
(2 marks)
 - (b) Easy removal, economy and rigidity considerations in formwork design are part of the requirements of formwork, briefly explain each requirement.
(6 marks)
 - (c) Given the high cost associated with formwork, especially in special structures. Interpret **SIX (6)** strategies to manage and optimize this cost effectively in a construction project.
(12 marks)

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- Q3** It becomes vital to have some sort of temporary structure or support to proceed with the work in the usual operations of building construction.
- (a) Briefly explain the importance of scaffolding in construction.
(2 marks)
 - (b) With the aid of a sketch, suggest **ONE (1)** type of scaffolding that is suitable for brickwork.
(8 marks)
 - (c) With the aid of sketch and explanation, differentiate inclined shores and horizontal shores in construction industries.
(10 marks)
- 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) Define terms below:
 - (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 inspection of Flat Webbing and Round Synthetic Slings.
(9 marks)

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- 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.
(2 marks)
- (c) As a technologist engineer assigned by your company to design a cofferdam for constructing a bridge pier, identify **FIVE (5)** key design considerations you must address during the cofferdam construction.
(8 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 **FOUR (4)** the safety requirements of cofferdam construction.
(8 marks)

- END OF QUESTIONS -

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