



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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

**COURSE NAME : CONSTRUCTION ENGINEERING
TECHNOLOGY AND MANAGEMENT**

COURSE CODE : BNP 21103

PROGRAMME : BNA / BNB / BNC

EXAMINATION DATE : JULY / AUGUST 2023

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

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- Q1** (a) State **THREE (3)** common tests for soil investigation. (3 marks)
- (b) Construction is a process that consists of the building or assembling of infrastructure. Usually, the construction of buildings or infrastructure is executed by a specialized construction team. Categorize the phase involved in the construction life cycle (CLC) in construction and illustrate the construction team involved in CLC to ensure construction is completed as planned schedule. (12 marks)
- (c) Prepare the importance and need of Preliminaries work before starting a construction project. (10 marks)
- Q2** (a) Explain **FIVE (5)** criteria, on how the foundation are designed. (5 marks)
- (b) The success of the design and building depends on the foundation design, total load and soil load bearing capacity. Differentiate between the shallow foundation and deep foundation. (12 marks)
- (c) Your company has been appointed as a geotechnical consultant for commercial development at Tanjung Karang, Selangor. Based on site investigation that has been done, most of the soil in construction area is unsuitable material such as peat soil because they have a very low bearing capacity and are very prone to shrinkage. Soils that are dominantly clayey need to be assessed carefully, and decide to use pile foundation. Investigate **FOUR (4)** consideration factors in the selection of pile. (8 marks)
- Q3** (a) Construction of formwork a involves considerable expenditure of time & material. The usual materials which are employed in the preparation of formwork are timber and steel. Explain **FIVE (5)** advantages and disadvantages of timber formwork. (10 marks)

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- (b) Window cleaning in tall buildings is a very high-risk job. Produce the methods and **FIVE (5)** elements that need to be considered to ensure that cleaning work can be carried out safely by cleaning workers.
(12 marks)
- (c) Explain the importance of scaffolding in construction.
(3 marks)
- Q4** (a) Project controls are processes for gathering and analyzing project data to keep costs and schedules on track. The functions of project controls include initiating, planning, monitoring and controlling, communicating, and closing out project costs and schedules. Explain **FIVE (5)** objectives of project controlling.
(5 marks)
- (b) Recommend how to control time and cost during construction.
(12 marks)
- (c) State **FOUR (4)** major responsibilities site manager in the construction project.
(8 marks)

-END OF QUESTIONS-

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