



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
(ONLINE)
SEMESTER II
SESSION 2020/2021**

COURSE NAME : ADVANCED CONSTRUCTION
TECHNOLOGY

COURSE CODE : MPC 11503

PROGRAMME CODE : MPC

EXAMINATION DATE : JULY 2021

DURATION : 3 HOURS

INSTRUCTION : ANSWER ALL QUESTIONS
OPEN BOOK EXAMINATION

THIS QUESTION PAPER CONSISTS OF **TWO (2)** PAGES

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- Q1** Planning for bridge construction is required as it has a huge impact on the life of people and the environment. There are various decision factors during the planning stage for the selection of types of the bridge. As a Civil and Structural (C&S) consultant, you are responsible to design suitable types of the bridge if the total span is between 500m to 1500m and can support large tensile forces.

Propose the suitable type of bridge based on various decision factors.

(25 marks)

- Q2** A pile is a long cylinder of a strong material such as concrete that is pushed into the ground to act as a steady support for structures built on top of it.

Compare **FIVE (5)** types of pile based on each advantage and disadvantage of usage.

(25 marks)

- Q3** A state government are planning to connect Town A and Town B for the economic purposes. This connection is surpassing Mountain AB which situated in the middle of this two town. Your company had been awarded to design the possible connection which take into account several limitations. The state government request you to come up with a construction technique with a very minimum cost. Expecting the connection is a non-circular cross section which able to be used for human, sewerage and military defense, this connection will surpass Mountain AB which have a very high strength of quartz rock where digging is not possible to be done.

Propose the suitable option of connection for the above project by considering the best construction method and the advantages and disadvantages of the chosen option.

(25 marks)

- Q4** A project of dam will be constructed in District A to overcome the water supply problem. However, the site for the dam has no proper access road for the construction material delivery. By considering the construction will be use the resources available on site only, you as the project manager of the construction need to prepare a solution.

Propose the suitable types of dam and the factors to be considered in constructing a dam followed by its construction methods.

(25 marks)

