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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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

COURSE NAME : BUILDING INFRASTRUCTURE

COURSE CODE : BFR 31903

PROGRAMME CODE : BFR

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 **FOUR (4)** PAGES

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- Q1** Infrastructure is the term used to describe the interconnected organisational structures that support society effectively.
- (a) Identify **FIVE (5)** types of infrastructure in a new building development. (5 marks)
 - (b) Explain **FOUR (4)** stages of infrastructure development process. (8 marks)
 - (c) You have been appointed to design one row of 8 terrace houses. The nearest road at the front of the site is 20 m (66') wide. With the aid of sketches and labels, propose the access road design to the terrace houses. (12 marks)
- Q2** Water supply and sewerage management are important infrastructures in every development to allow residents carry out their daily life.
- (a) In a large development, retention pond is required for a specific reason. Explain the purpose of the retention pond. (5 marks)
 - (b) With the aid of illustration, differentiate these sewerage systems:
 - (i) Stormwater sewer.
 - (ii) Sanitary sewer. (8 marks)
 - (c) Sewage treatment plant is a place where grey water will be treated according to the Ministry of Health Malaysia (KKM) standard. Illustrate and explain **FOUR (4)** most common steps in sewage treatment used by community sewage systems. (12 marks)
- Q3** Electrical power is an important facility for a new development.
- (a) There are **TWO (2)** categories of power generation plants based on method of work. Explain those categories:
 - (i) Non-renewable energy plants.
 - (ii) Renewable energy plants. (4 marks)

(iii) In your own words, explain the importance of renewable energy plants to Malaysia.

(6 marks)

(b) With the aid of illustration, explain **FIVE (5)** main components of Electric Grid that are linked to each other in delivering the electrical power to the development.

(15 marks)

Q4 The combined effects of population explosion and changes in modern living standards have had a cumulative effect in the generation of a large number of various types of wastes.

(a) List down **FIVE (5)** types of Solid Waste.

(5 marks)

(b) In an era of rapid technological advancement, more and more highly sophisticated electronic goods are being invented and manufactured. Discarded electrical and electronic devices then contribute to pile of e-waste items.

(i) Identify common e-waste items.

(3 marks)

(ii) In your own words, explain how e-waste can be managed to reduce the hazard.

(7 marks)

(c) **Figure Q4 (c)** shows solid waste management method diagram. Identify and explain all **FIVE (5)** methods involved.

(10 marks)

-END OF QUESTIONS -

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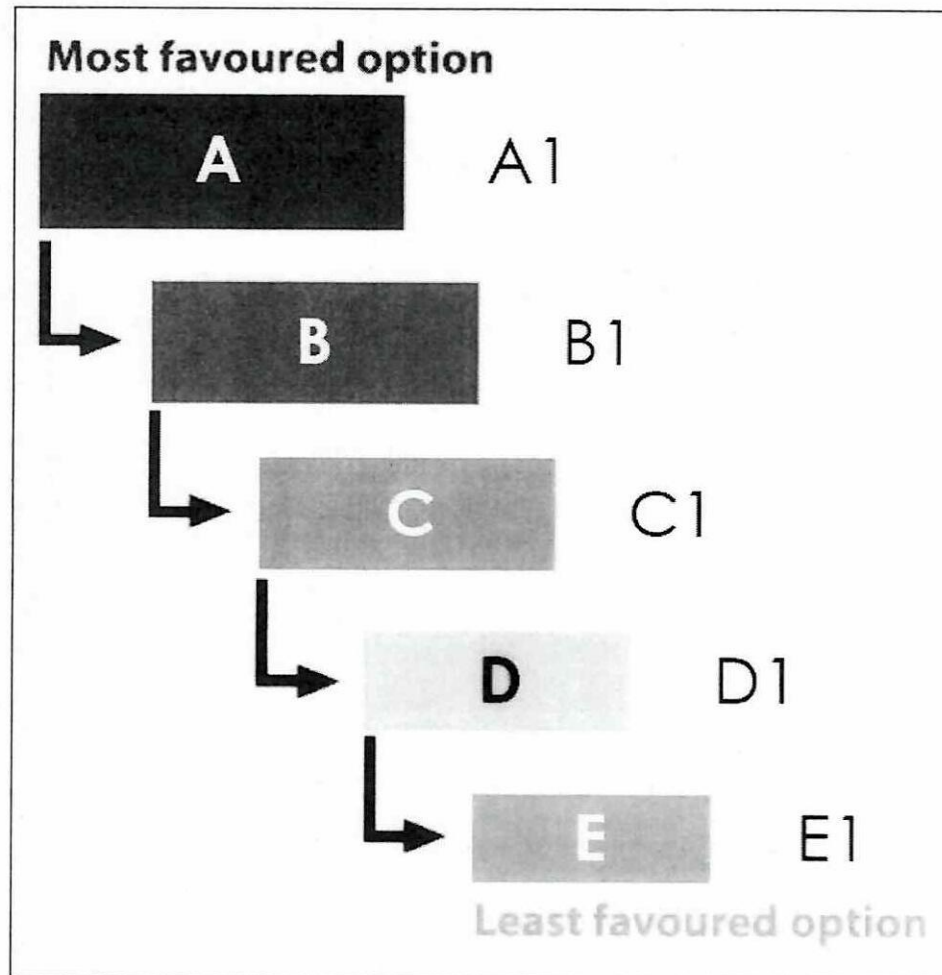


Figure Q4 (c)