

CONFIDENTIAL



UTHM

Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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

COURSE NAME	:	BUILDING SERVICES TECHNOLOGY
COURSE CODE	:	BFR 32103
PROGRAMME CODE	:	BFR
EXAMINATION DATE	:	JULY 2021
DURATION	:	3 HOURS
INSTRUCTION	:	ANSWER FOUR (4) QUESTIONS ONLY

THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

CONFIDENTIAL

TERBUKA

Q1 Building services are the systems installed in buildings to make the building functional, efficient and safe.

- (a) There are several type of building services. List **FIVE (5)** types of building services that normally used in Malaysia.
(5 marks)
- (b) Explain the connection between an architect and building services.
(8 marks)
- (c) Explain the effects of improper building services installation to building efficiency, functionality and safety.
(12 marks)

Q2 Electrical installation in a building is very important to supply and distribute electric power. In Malaysia, National Grid Malaysia is a high-voltage electric power transmission operated by Tenaga Nasional Berhad, which distributes the electrical power to the buildings through single phase and three phase system.

- (a) Make **FIVE (5)** comparison between single phase and three phase electrical supply system .
(5 marks)
- (b) Show a diagram of electrical distribution system in residential, functional and industrial loads building.
(10 marks)
- (c) Built a diagram on how the electrical flow from the utility to a small building.
(10marks)

Q3 A water supply system is a system that provide water to all types of building for the consumer daily usage. There are two types of water supply system, which are direct and indirect water supply system.

- (a) List **THREE (3)** comparison between direct and indirect water supply system.
(6 marks)
- (b) Construct a diagram of direct water supply system and indirect water supply system.
(7 marks)
- (c) Assume there is a 15-storey high-rise building is in the stage of water supply installation. As an architect, you need to explain on how to install the water supply system briefly to the worker through a diagram.
(12 marks)

Q4 A staircase is a traditional vertical transportation in a building. In these modern days, there are several modern mechanical conveyers used to transport people and equipment between floors such as lift, traveller and escalator.

(a) Define the function of platform lift (4 marks)

(b) There are numbers that affect escalator design. These including physical requirements, location, traffic patterns, safety consideration and aesthetic preferences. Identify the following factors :

(i) Location

(ii) Traffic Patterns

(iii) Safety Consideration

(6 marks)

(c) Name **THREE (3)** types of lift and classify it's function

(6 marks)

– END OF QUESTIONS –