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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2017/2018**

COURSE NAME : BUILDING SERVICES
COURSE CODE : BPD 32902
PROGRAMME CODE : BPC
EXAMINATION DATE : DECEMBER 2017/JANUARY 2018
DURATION : 2 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

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

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- Q1** (a) The water treatment process may vary slightly at different locations, depending on the technology of the plant and the water it needs to process. However, the basic principles are largely the same.

Explain each of water treatment process:

- (i) Screening
- (ii) Aeration
- (iii) Flocculation
- (iv) Sedimentation
- (v) Filtration

(15 marks)

- (b) It is frequently necessary to obtain information on the purity of water to assess its suitability for drinking purposes.

Define the chemical compositions that can be found in water.

(10 marks)

- Q2** (a) Lifts and escalators are one of the important transportation systems in a building.

Explain the circumstances in which lifts are chosen instead of escalator as mechanical handling system in a building.

(5 marks)

- (b) Explain **TWO (2)** types of escalator arrangement commonly used in commercial buildings.

(10 marks)

- (c) Compare the advantages and disadvantages of hydraulic lift and electric lift.

(10 marks)

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- Q3** (a) The quality of indoor including physical characteristics (temperature, pressure and relative humidity) is interrelated with outdoor air quality (weather).

Discuss the statement given.

(5 marks)

- (b) Describe **FIVE (5)** factors that considered in selecting an air-conditioning system.

(10 marks)

- (c) Demonstrate in detail the main components that involved in the cooling cycle of air-conditioning system.

(10 marks)

- Q4** (a) Ventilation system is the process by which air is introduced and contaminated air is removed from an occupied space. There are two types of ventilation system namely mechanical and natural ventilation.

Describe why mechanical ventilation is preferred over natural ventilation in a commercial building.

(10 marks)

- (b) Compare using sketches, **THREE (3)** types of mechanical ventilation fan.

(15 marks)

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- END OF QUESTIONS -