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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2014/2015**

COURSE NAME : BUILDING SERVICES
COURSE CODE : BPD 32902
PROGRAMME : 3 BPC
EXAMINATION DATE : DECEMBER 2014/JANUARY 2015
DURATION : 2 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

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

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Q1 Ventilation system is a process of circulating air which removed contaminated air from occupied space. There are two types of ventilation system namely mechanical and natural ventilation.

(a) Explain why mechanical ventilation system is more preferable over natural ventilation system in a commercial building.

(4 marks)

(b) Discuss **THREE (3)** advantages for each of the following:

(i) Mechanical Ventilation System

(3 marks)

(ii) Natural Ventilation System

(3 marks)

(c) Compare using sketches with explanation, **THREE (3)** types of mechanical ventilation fans.

(15 marks)

Q2 Sprinkler is a complete means of active fire fighting system since it can detect, control and put off fire automatically.

(a) Describe the detection components of sprinkler and its method of operation.

(4 marks)

(b) Discuss with sketches **TWO (2)** types of passive fire protection system in high rise building.

(6 marks)

(c) Compare the following types of fire extinguishers:

(i) Foam

(5 marks)

(ii) Dry Powder

(5 marks)

(iii) Carbon Dioxide

(5 marks)

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

Discuss the statement.

(5 marks)

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

(5 marks)

- (c) Illustrate in details the main components in the cooling cycle of the air conditioning systems.

(15 marks)

- Q4** (a) Lift and escalator are important transportation systems in a building.

Discuss the circumstances in which lifts are chosen instead of escalator as transportation system in a building.

(10 marks)

- (b) Compare with illustration the following transportation system:

- (i) Paternoster

(5 marks)

- (ii) Travelator

(5 marks)

- (iii) Escalator

(5 marks)

- END OF QUESTION -