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Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER I  
SESSION 2015/2016**

COURSE NAME : BUILDING SERVICES  
COURSE CODE : BPD 32902  
PROGRAMME : 3 BPC  
EXAMINATION DATE : DECEMBER 2015/JANUARY 2016  
DURATION : 2 HOURS  
INSTRUCTION : ANSWER ALL QUESTIONS

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

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**Q1** Fire safety is often related to rescue team and Fire Brigade. Therefore, the buildings have to comply with the specifications or standards recommended by the Fire Department. The buildings should have special protections, active and passive protections to prevent fires from occurring and to facilitate the fire rescue session.

(a) Illustrate with the aid of sketches, **FIVE (5)** means of active fire protection in high rise buildings.

(10 marks)

(b) Discuss **THREE (3)** main components of an automatic fire alarm system.

(15 marks)

**Q2** 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.

(a) Explain the following water treatment process:

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

(15 marks)

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

Discuss the chemical compositions that can be used in the water treatment process.

(10 marks)

- Q3** Building transport system is needed to expedite the movement of travel within the building. There are several types of transport system used in the buildings.
- (a) Discuss the suitable transport system in shopping complex. (10 marks)
  - (b) Relate the circumstances in which lifts are chosen instead of escalator as transportation system in a building. (15 marks)
- Q4** Ventilation system is the process of removing of fresh air and contaminated air from an occupied space. It cause of air movement to create air changes.
- (a) Explain the effectiveness of natural ventilation used in building. (10 marks)
  - (b) Discuss with examples, natural and mechanical ventilation systems in office building. (15 marks)

**- END OF QUESTIONS -**