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Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER II  
SESSION 2018/2019**

COURSE NAME : BUILDING TECHNOLOGY FOR  
HEALTH AND COMFORT

COURSE CODE : BPF 32303

PROGRAMME CODE : BPD

EXAMINATION DATE : JUNE / JULY 2019

DURATION : 3 HOURS

INSTRUCTION : ANSWER ALL QUESTIONS

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

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- Q1** The term ‘sick building syndrome’ (SBS) is used to describe situations in which occupants experience acute health and comfort effects that appear to be linked to time spent in a building. SBS is closely related to the level of indoor environmental quality of the building.
- (a) Discuss **FIVE (5)** symptoms of sick building syndrome (SBS). (10 marks)
- (b) Explain **FIVE (5)** solutions to the SBS. (10 marks)
- Q2** The human thermal environment can provide dissatisfaction and it is a potential health hazard to the employees. It also impacts the employees ability to function effectively or provide a significant experience if it deals with customers.
- (a) The heat have the tendency to flow from higher temperature region to the lower temperature region.  
Explain **TWO (2)** modes that affect the heat transfer. (8 marks)
- (b) Assuming you are a property manager for a private hospital in Putrajaya.  
Propose strategies to control indoor temperature in the building to increase occupants’ satisfaction. (12 marks)
- Q3** People spend 90 percent of their time indoors. Most of our exposure to environmental pollutants occurs by breathing the air indoors. The air in the home, schools and offices can be 2 to 5 times more polluted than outdoor airs.
- (a) Discuss sources of pollutant that contribute to poor indoor air quality. (10 marks)
- (b) Propose **TWO (2)** ways to improve air ventilation in an office building. (10 marks)

**Q4** Noise when exceeds the recommended level becomes pollution. It has effects to physiological and psychological effects that contribute to health and comfort of the occupants.

(a) Explain these noise effects.

(i) Physiological effects

(5 marks)

(ii) Psychological effects

(5 marks)

(b) Noise from vehicles can effects staff performance working in an office besides the highway.

Suggest methods to control the noise by assuming you are appointed as a property manager for the building.

(10 markah)

**Q5** A strong occupational safety culture boosts productivity, employee morale and employee retention. Workplace design and conditions, including the workstation, work posture and the physical environment affect the well-being and comfort of an employee. Suitable ergonomics integration prevents injuries and increases productivity.

(a) Explain **FOUR (4)** benefits of having proper ergonomics at the workplace.

(8 marks)

(b) Propose **FOUR (4)** strategies of good ergonomics practice in an office workplace.

(12 marks)

- END OF QUESTIONS -