



UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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

COURSE NAME : FIRE PROTECTION &
SECURITY SYSTEM

COURSE CODE : BNB 31603

PROGRAMME CODE : BNB

EXAMINATION DATE : JUNE/JULY 2019

DURATION : 2 HOUR 30 MINUTES

INSTRUCTION : ANSWER ALL QUESTIONS

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

TERBUKA
CONFIDENTIAL

Q1 (a) Effective fire protection in building constructions must be able to support their structural loads during a fire, contain the spread of smoke and fire gases, and prevent excessive heat flow for a reasonable time period. Illustrate **TWO (2)** example of fire protection techniques for each:

(i) steel columns

(ii) steel beams

(12 marks)

(b) The effect of fire from inside building on exterior structure members can be reduce by distance or by flame-shields. Analyse how steel cladding can deflect heat and flames from the burning buildings.

(13marks)

Q2 (a) Explain the building fire audit concept.

(4 marks)

(b) Discuss **THREE (3)** importances of a Fire Risk Assessment.

(6 marks)

(c) As a consultant, you are appointed to carry out Fire Risk Assessment at UTHM.

(i) Classify **FIVE (5)** steps in Fire Risk Assessment.

(10 marks)

(ii) Give **TWO (2)** example of checklist for each step.

(5 marks)

Q3 (a) Distinguish between monitoring, detecting, controlling and alarming in fire alarm and security system.

(8 marks)

(b) XYZ Sdn. Bhd. plans to add another five-storey shopping mall at Pagoh. Based on this situation, recommend **TWO (2)** suitable active fire protection system for the building.

(5 marks)

(c) Physical protection is the first line of defence which intended to control access to restricted individuals with authorization only and to limit the intruder movement for a short period of time. With the suitable examples, classify **SIX (6)** physical threats that may occur to a building and its occupants.

(12 marks)

Q4 (a) Give definition of telecommunication network.

(4 marks)

(b) Explain **THREE (3)** parts of telecommunications network concept.

(6 marks)

(c) According to Occupational Safety and Health Administration (OSHA) – Fire Services Features of Building and Fire Protection System. Demonstrate the process of fire department communication system (two-way telephone system) in high-rise buildings.

(15 marks)

- END OF QUESTIONS -

TERBUKA

CONFIDENTIAL