



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2019/2020**

COURSE NAME : **ADVANCED BUILDING SERVICES
TECHNOLOGY**

COURSE CODE : **BNB 41103**

PROGRAMME CODE : **BNB**

EXAMINATION DATE : **DECEMBER 2019 / JANUARY 2020**

DURATION : **3 HOURS**

INSTRUCTION : **ANSWER ALL QUESTIONS**

TERBUKA

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

- Q1**
- (a) Define excavation hazards. (4 marks)
- (b) You are appointed as a Safety Officer at Sime Darby construction site in Pagoh:
- (i) Point out **SIX (6)** excavation hazards that always occur. (3 marks)
- (ii) Differentiate utility line and communication utilities. (4 marks)
- (iii) Proposed **FOUR (4)** important steps to avoid excavation hazards and safety precaution. (4 marks)
- (c) With the aid of a diagram, sketch a good practice for above and underground electrical services installations. (10 marks)
- Q2**
- (a) Define facilities for Person with Disabilities (PWD) in buildings. (2 marks)
- (b) Currently, you are working with Malaysian Public Works Department (JKR) under the Development Department and have been assigned to determinate the PWD-related issues as follows:
- (i) Point out **FIVE (5)** basic requirements established by Accessibility Law. (5 marks)
- (ii) From answer **Q2 (b)(i)**, choose any **TWO (2)** of the basic requirements stated and proposed a design for a new commercial building in Muar District. (14 marks)
- (iii) Produce a proper maintenance plan, so that the PWD facilities work well all the time. (4 marks)

TERBUKA

- Q3** (a) Classify **FOUR (4)** types of road for each category of rural and urban area. (4 marks)
- (b) Lighting is one of the important aspect in safe city concept. Explain **THREE (3)** aspect of lighting requirements for car park space. (6 marks)
- (c) With an aid of a schematic drawing, design and develop a new car park for 20 lots of parking comprises of **TEN (10)** important facilities needed to support the infrastructure. (15 marks)
- Q4** A building regulated by a Building Management System (BMS) is frequently termed as an Intelligent Building or Smart Building.
- (a) Define the term “BMS”. (3 marks)
- (b) Briefly explain **FOUR (4)** objectives BMS required in the building. (8 marks)
- (c) List out **EIGHT (8)** system integrated with BMS. (4 marks)
- (d) *“Alarm warning pop out in BMS in one room which exceed high limit temperature set point. The air-conditioning system used centralize air distribution for five rooms with one air handling unit (AHU). The air distribution is controlled by variable air volume (VAV) system.”*
As a maintenance manager, suggest appropriate procedure and solution to overcome this problem. (10 marks)

TERBUKA

-END OF QUESTIONS-