



UTHM

Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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

COURSE NAME : CONSTRUCTION TECHNOLOGY II
COURSE CODE : BPD 22203
PROGRAMME : 2 BPC
EXAMINATION DATE : DECEMBER 2015/JANUARY 2016
DURATION : 3 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

Q1 Nearly all federal roads in Malaysia are paved with typical tarmac except Skudai-Pontian Highway which is paved with concrete from Universiti Teknologi Malaysia interchange to Taman Sri Pulai junction. Meanwhile, at Federal Highway linking Klang to Kuala Lumpur, the section of the highway from Subang Jaya to Kota Darul Ehsan near Petaling Jaya are paved with asphalt. In addition, tar maccadam roads wear more than concrete roads, but many countries are replacing concrete roads with asphalt.

(a) Explain **FOUR (4)** major disadvantages of concrete roads. (8 marks)

(b) Analyse with the aid of sketches, the complete construction process of a suitable road that more environmental friendly. (12 marks)

Q2 There is no absolute definition of what constitutes a tall building despite many have defined it using number of floors and height of the building. Generally, a tall building has more than 14 floors and over 50m in height. However, the definition of a tall building is more accurate if defined by the following criteria such as height relative to context, proportion, and building technologies.

(a) Explain **ALL** the criteria. (9 marks)

(b) Discuss with the aid of sketches, the complete construction process of a 30-storey a condominium with 3-storey of underground basement. (11 marks)

Q3 Figure **Q3** in Appendix I shows a schematic drawing of water plumbing system in a building. Tenants of the building have complained that the water pressure for the building is low.

(a) Discuss **FOUR (4)** reasons that contributed to low water pressure for the building. (8 marks)

(b) Outline solutions to address the problem of low water pressure for the building. (12 marks)

APLIKASI PERKALIAAN BERSEKUTUAN
REKABENANG TEKNIK BERSEKUTUAN
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- Q4** Industrialised Building System (IBS) is a construction technique in which components are manufactured in a factory, on or off site, positioned and assembled into a structure with minimal additional site works. Several advantages of IBS are speed of construction, good quality, and cost efficient. Furthermore, the IBS concept is sometime associated with an open building system.
- (a) List **FIVE (5)** types of IBS that available in Malaysian construction industry. (5 marks)
 - (b) Explain the concept of open building system in Malaysia. (5 marks)
 - (c) Discuss the reasons of lack application of IBS among Malaysian contractors. (10 marks)
- Q5**
- (a) Discuss **FIVE (5)** factors that affecting the choice of superstructure of a bridge. (10 marks)
 - (b) Explain with the aid of sketches, the complete construction process of a concrete bridge for 250m width of waterways. (10 marks)

-END OF QUESTIONS-

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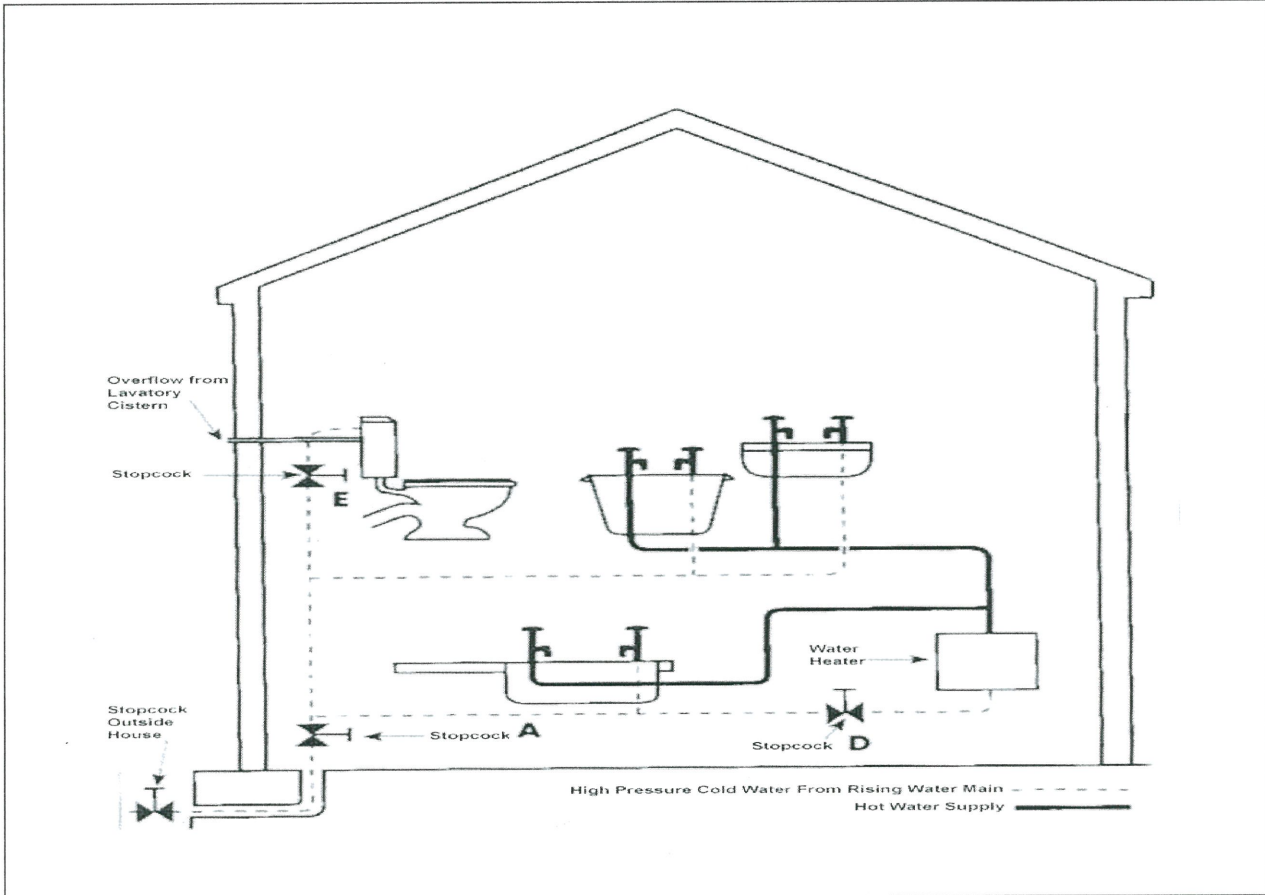


FIGURE Q3: Schematic Drawing of Water Plumbing System

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