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**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER I  
SESSION 2017/2018**

COURSE NAME : CONSTRUCTION TECHNOLOGY II  
COURSE CODE : BPD 22203  
PROGRAMME CODE : BPC  
EXAMINATION DATE : DECEMBER 2017 / JANUARY 2018  
DURATION : 2 HOURS 30 MINUTES  
INSTRUCTION : ANSWER ALL QUESTIONS

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

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**Q1** Although Industrialised Building System (IBS) system improves the quality of projects, easier to control, reducing rectification work and lowering the total cost of construction, the trend of IBS usage in Malaysian construction projects are still below the national target. There are still limited numbers of contractors in Malaysia specialising in IBS that can undertake IBS job.

*(Source: Abdul Khalil, 2016)*

(a) Outline **FIVE (5)** reasons why the implementation of IBS in Malaysian construction projects are still below the national target.

(10 marks)

(b) Recommend **FIVE (5)** methods to encourage Malaysian contractors embrace the concept of IBS in their projects.

(15 marks)

**Q2** (a) State **FOUR (4)** types of road finishes.

(4 marks)

(b) Sketch layers of concrete road.

(8 marks)

(c) Explain with the aid of sketches, the complete construction process of tar macadam road.

(13 marks)

**Q3** Bridge is a structure that spans horizontally between supports, whose function is to carry vertical loads. The spans between supports must be strong enough to carry the loads and are generally made as short as possible.

(a) Discuss **FIVE (5)** factors that influence the choice of bridge span.

(10 marks)

(b) Outline with the aid of sketches, the complete construction process of a concrete beam and slab bridge for 216m width of waterways.

(15 marks)

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- Q4** (a) There is no absolute definition of what constitutes a tall building. Some authors defined a tall building based on number of building floors or height. However, other authors argued that height relative to context, proportion, and building technologies are more accurate criteria to define a tall building.

Explain **ALL** the criteria.

(9 marks)

- (b) The Stormwater Management And Road Tunnel (SMART Tunnel) is a storm drainage and road structure in Kuala Lumpur, Malaysia. The main objectives of this tunnel are to solve the problem of flash floods in Kuala Lumpur and also to reduce traffic jams along Jalan Sungai Besi and Loke Yew flyover at Pudu during rush hour.

Discuss **ALL** operation modes of SMART Tunnel to solve the problem of flash floods in Kuala Lumpur.

(16 marks)

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**-END OF QUESTIONS-**