



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2013/2014**

COURSE NAME : CONSTRUCTION TECHNOLOGY I

COURSE CODE : BPD 13103

PROGRAMME : 1 BPC

EXAMINATION DATE : JUNE 2014

DURATION : 3 HOURS

INSTRUCTION : ANSWER ALL QUESTIONS

Please answer **SECTION A** and **SECTION B** in a separate answer booklet.

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

SECTION A

- Q1** A new hostel for UTHM students will be constructed in 6 months and the building details as in Table **Q1**.

Table **Q1**: Hostel Construction Information

Description	Details	Unit	Additional Information
Storey	10	Nos	Repetitive design
Total floor area	40,000	Metre square	Equal area size
Soil type	Sand	Lump sum	Soft and weak
Bedroom type A	30	Nos	10 students/room
Bedroom type B	20	Nos	5 students/room
Laundry room	10	Nos	1/floor
Dining room	1	Nos	Ground floor level
Library	1	Nos	Fifth floor level
Study area	2	Nos	Second & eight floor level
Building Frame	Reinforced concrete	Lump sum	Gred 30
Floor	Reinforced concrete	Lump sum	Gred 30
Roof	Steel trusses	Lump sum	Concrete tile roof finishes
Total cost	RM 40 million	Lump sum	Design & build

Based on Table **Q1**:

- (a) Describe **TWO (2)** appropriate foundation types for the hostel construction. (4 marks)
- (b) Outline with the aid of sketches, the complete construction process of the building structure:
- (i) Floor (10 marks)
- (ii) Frame (16 marks)

- Q2** A concrete floor is a common structural element of modern building. The thickness of the floor is between 100 mm and 500 mm. Floor is a surface in a building which receives loads from users and furniture. Therefore, it is common to found several floor defects in modern building.

- (a) Illustrate **TWO (2)** types of floor defects. (4 marks)
- (b) Discuss **THREE (3)** causes of floor defects.

(6 marks)

SECTION B

Q3 Brickwork is an activity found in the majority of construction projects.

- (a) Explain the main principal in brickwork bonding. (4 marks)
- (b) List **SIX (6)** types of brickwork bonding. (6 marks)
- (c) Identify **FIVE (5)** types of mortar and its function. (10 marks)

Q4 Doors and windows are important component in any building works.

- (a) Identify the types of doors and explain the factors that need to be consider in choosing these types of doors. (10 marks)
- (b) What are the function of a window and list out the type of glass frame window. (10 marks)

Q5 Roofing and finishing are an essential for any building projects and should be constructed properly.

- (a) Illustrate the types of roof that uses wood framing. (10 marks)
- (b) Identify the finishes for a concrete wall and discuss on the steps to do a finishing on a concrete wall. (10 marks)

-END OF QUESTION-

