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Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

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

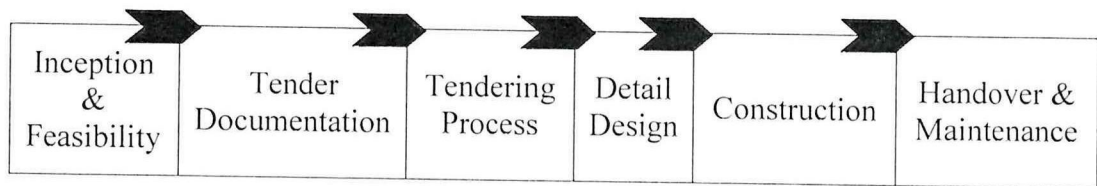
COURSE NAME : CONTRACT AND ESTIMATION  
COURSE CODE : BFC31602  
PROGRAMME CODE : BFF  
EXAMINATION DATE : DECEMBER 2019 / JANUARY 2020  
DURATION : 2 HOURS 30 MINUTES  
INSTRUCTION : 1) ANSWER ALL QUESTIONS  
2) ANSWER Q4 USING TAKING  
OFF SHEET PROVIDED

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THIS QUESTION PAPER CONSISTS OF FIVE (5) PAGES

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- Q1** (a) Briefly describe **TWO (2)** key activities that need to be performed in each stage of a package deal type of project as shown in **Figure Q1**. (12 marks)



**Figure Q1** – Stages of a package deal type of project

- (b) A tender notice for a construction project expressly stated that the tender will be given to whoever offers the lowest price to provide the construction service and meets the conditions prescribed. Applying the principle lies in the case of *Carlill v. The Carbolic Smoke Ball Company*, discuss whether this invitation to submit tender is or is not an offer. (8 marks)
- (c) Damages represent remedies claimed by and awarded to an innocent party to cover for the damage, loss or injury he has suffered for a breach of contract. List **FIVE (5)** types of the damages that can be claimed by the innocent party. (5 marks)

- Q2** (a) List **THREE (3)** common types of tendering in Malaysia, and sequence (arrange) suitable tender processes in selecting a competent contractor for a construction project that will be delivered using Traditional (Design, Bid and Build, DBB) procurement method. (12 marks)

- (b) Describe main purpose of the following main items in a tender/ contract document:
- (i) Conditions of Contract
  - (ii) Standard Form of Contracts
  - (iii) Specifications
- (6 marks)

- (c) Differentiate the provision of Provisional Sum and Prime Cost Sum according to Clause 34 of Public Work Department Standard Form of Contract (PWD 203A). (7 marks)

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**Q3** (a) Your client intends to set up a team of key parties in his new project. The design and construction services will be provided separately by different parties. Architect, engineer, quantity surveyor and other specialists are contractually liable for all acts, defaults and omissions in designing and administering the works. A main contractor takes orders and instruction from the professional team. This project requires various sub-contracts for different aspects of the contract i.e. domestic sub-contracts (for works directly under the main contractor) and nominated sub-contracts (for works undertaken as Prime Cost (PC) Sums). Based on the given information, illustrate the organisation structure that shows the relationship arrangement between the key parties (from employer (client) up to sub-sub contracts levels) in the project.

(7 marks)

(b) There are two most frequently used project procurement methods namely Traditional (Design, Bid and Build, DBB) and Design and Build (DB). Compare these two project procurement methods in the following aspects:

- (i) Speed of procurement
- (ii) Buildability
- (iii) Flexibility to change

(9 marks)

(c) Explain the similarities and/or dissimilarities between ‘Management Contracting’ and ‘Construction Management’ procurement methods on the following issues:

- (i) Lack of price certainty
- (ii) Utilisation of contractor’s expertise (as Management Contractor/ Construction Manager)
- (iii) Coordination problem

(9 marks)

**Q4** Based on **Figure Q4 (a)** and **(b)**, and **Table 1**, perform taking off to determine the quantity of the following items:

(a) Concrete for pad footing, column stump and ground beam (in m<sup>3</sup>).

(7 marks)

(b) Reinforcement bars in pad footing, column stump and ground beam (in kg).

(10 marks)

(c) Links in column stump and stirrups in ground beam (in kg).

(8 marks)

**-END OF QUESTIONS-**

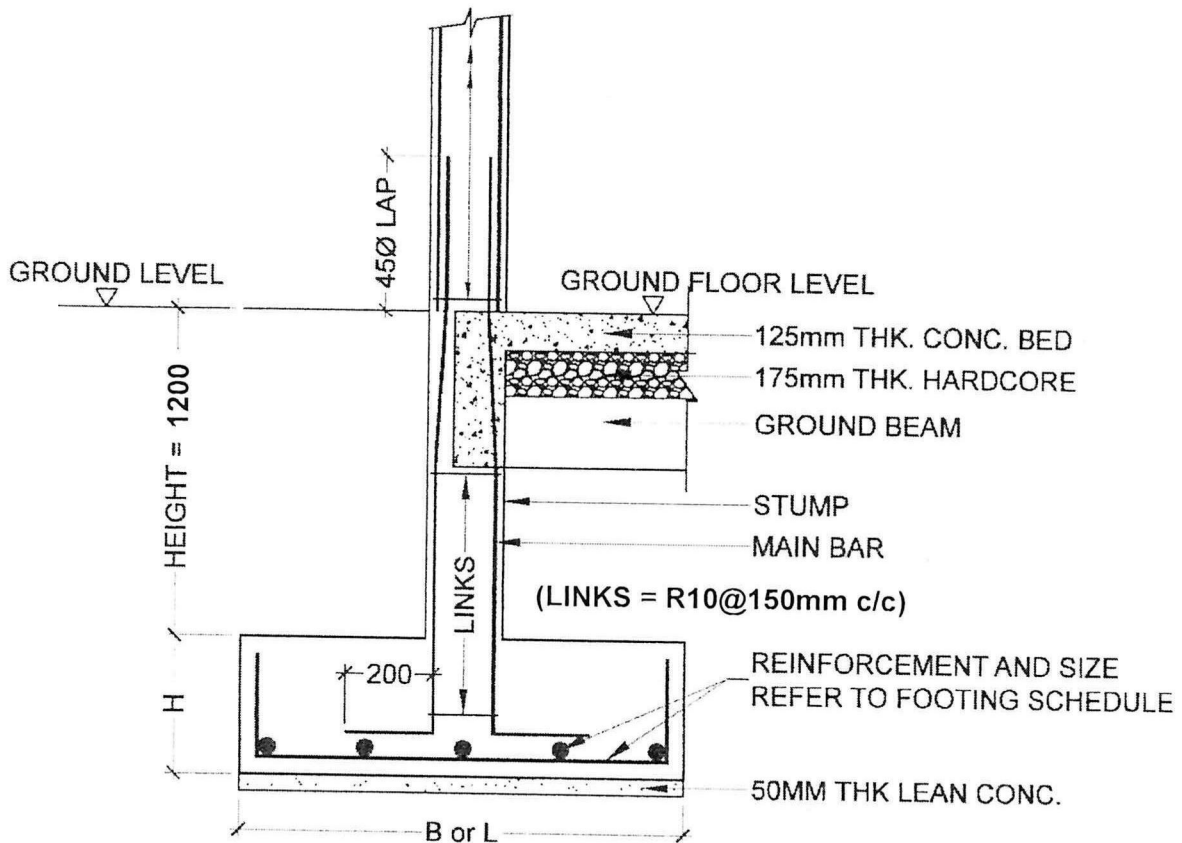
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PAD FOUNDATION REINFORCEMENT SCHEDULE



FOOTING SCHEDULE		
Type	B x L x H	Main Reinforcement
F1	1350 x 1350 x 600	T20@125 (B/W)

- NOTES :
1. ALL DRAWINGS ARE NOT TO SCALE
  2. ALL DIMENSIONS ARE IN MILIMETRE (MM) UNLESS OTHERWISE NOTED.
  3. ALL CONCRETE COVERS SHALL BE 40 MM THICK.
  4. LEAN CONCRETE SHALL BE OF GRADE 7 CONCRETE
  5. PAD FOOTING, COLUMN STUMP AND GROUND BEAM SHALL BE OF GRADE 25 CONCRETE

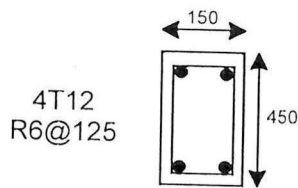
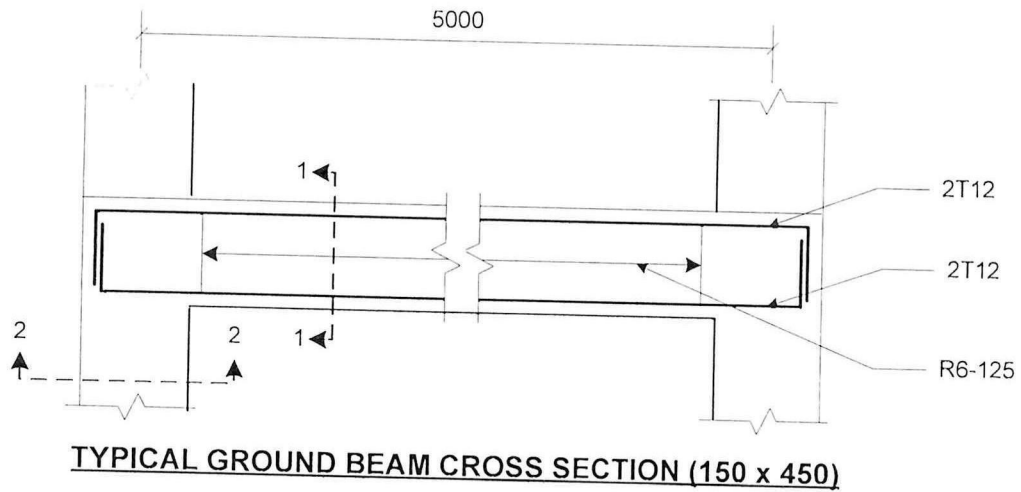
Figure Q4 (a)

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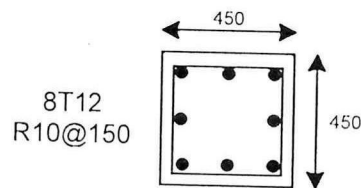
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SECTION 1-1:  
GROUND BEAM



SECTION 2-2: COLUMN/  
COLUMN STUMP

**Figure Q4 (b)**

**Table 1 - Conversion Table for Round Bar**

SIZE (MM)	MASS PER UNIT LENGTH (KG/M)
06	0.222
08	0.395
10	0.616
12	0.888
16	1.579
20	2.466
25	3.854
32	6.313

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