

Cork Institute of Technology

**CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

Semester 2 Examinations 2012/13

Module Title: Construction Technology 3B

Module Code: BULD7005

School: School of Building & Civil

Programme Title: Bachelor of Science in Construction Management
Bachelor of Science in Quantity Surveying
Bachelor of Science (Honours) in Construction Management
Bachelor of Science (Honours) in Quantity Surveying

Programme Code: CMNGT_7_Y3
CCECO_7_Y3
CCNMG_8_Y3
CQTSU_8_Y3

External Examiner(s): Mr. David Higgins, Dr. Mike Murray, Ms. Rita Scully,
Mr. Declan O'Brien

Internal Examiner(s): Mr. T.K. Buckley, Mr. J. Kilduff

Instructions: Answer two questions from Section (A) and one question from Section (B)
Please use separate answer books for Sections (A) and (B).
All questions carry equal marks
Freehand sketches are required

Duration: 2 hours

Sitting: Summer 2013

Requirements for this examination:

Note to Candidates: Please check the Programme Title and the Module Title to ensure that you have received the correct examination.
If in doubt please contact an Invigilator.

Section (A)

- Q1. (a) What are the advantages of prefabricated buildings? (7 marks)
- (b) Explain how Modular houses are constructed. (10 marks)
- (c) What are the advantages of Modular houses? (5 marks)
- (d) Explain the process of Lift Up Slab Construction? (11 $\frac{1}{3}$ marks)
-
- Q2. (a) What are the three main types of shoring systems? (3 marks)
- (b) Illustrate using a suitable sketch the main components of a raking shoring system. (10 marks)
- (c) What are the structural considerations when carrying out Façade Retention? (10 marks)
- (d) What are the advantages of Facade Retention? (6 marks)
- (e) What is meant by Building Deconstruction? (4 $\frac{1}{3}$ marks)
-
- Q3. (a) What are the considerations when constructing a fire resistant wall? (6 marks)
- (b) What are the aims of Passive Fire Protection? (5 marks)
- (c) What are the main considerations when designing an Active Fire Protection System? (10 $\frac{1}{3}$ marks)
- (d) What is meant by a Place of Relative Safety? (7 marks)
- (e) What is meant by a Means of Escape in case of fire? (5 marks)

Section (B)

Q4. Floor and wall finishes

- (a) Outline why an intermediate sub-floor, e.g. a cement/sand screed would be installed between the structural slab and the floor finish.
- (b) Describe, using an appropriate sketch, the construction of a *pedestal* raised access floor.
- (c) In relation to rendering or plastering walls, outline the role the background (wall), mix constituents and workmanship play in ensuring satisfactory performance and avoidance of crazing or cracking.

Q5. Service installations

- (a) Outline the items to be considered in order to appropriately and safely accommodate the potentially large range of services and equipment required in modern buildings and indicate typical space requirements
- (b) Describe, using appropriate sketches, the construction of a *subway*, a *crawlway* and a *trench* used to provide primary horizontal services distribution.