

Cork Institute of Technology  
Bachelor of Science in Construction Management - Award  
Bachelor of Science in Construction Economics - Award  
(CCECO\_7\_Y3)(CCMNG\_7\_Y3)  
Autumn 2008  
**Construction Technology 3**  
(Time: 3 Hours)

Instructions  
Answer any **FIVE** questions.  
All questions carry equal marks.

Examiners: Mr. S. Cullinan  
Mr. S. Brady  
Mr. J. Hanahoe  
Mr. P. Quinn  
Mr. J. O'Rourke

- Q1 Discuss the factors that should be considered in carrying out a site investigation for a proposed commercial development. (20 marks)
- Q2 a) Sites can be classified into three types, the classification being made on the basis of the space available to the builder for his operations, accommodation and storage. Discuss this statement. (10 marks)
- b) The layout and organisation of a construction site will vary according to site factors, construction methods, and the programme to be followed. Discuss what should be considered in the layout and organisation of a six- storey office development. (10 marks)
- Q3 a) Examine the factors that can affect the choice of suitable ground water control systems on a construction site with a high water table. (10 marks)
- b) Describe two methods of ground water control that could be used on a construction site with a high water table, giving reasons for the selection of each method. (10 marks)

- Q4 a) Piling can be used in many different circumstances in construction works. Discuss and identify where piling could be used stating reasons for its use. (10 marks)
- b) Describe and illustrate one of the following types of piling:  
i. Replacement piling  
ii. Displacement piling (10 marks)
- Q5 Describe and illustrate with diagrams a retaining wall and raft basement to a multi-storey building and a suitable asphalt tanking method for waterproofing the basement. (20 marks)
- Q6 a) Show with sketches a curtain walling cladding system suitable for a four storey office building. (10 marks)
- b) List and discuss the factors to be considered in the design and construction of a curtain walling cladding system. (10 marks)
- Q7 a) Discuss the stages involved in the preparation of a performance specification for flooring to an office block. (12 marks)
- b) Describe with sketches a timber floor suitable for a gymnasium (8 marks)
- Q8 a) Buildings need to be designed and constructed to provide the best possible resistance to actions of fire. Identify and describe passive fire protection measures for a four-storey commercial building. (10 marks)
- b) The architect and the services engineer need to co-ordinate their functions when developing designs to accommodate services in buildings. Discuss this statement. (10 marks)