



**CEX7109 - Management of the Design Phase & Quality Control**

*FINAL EXAMINATION – 2015/2016*

Time Allowed: Three Hours

Date: 2016 - 12 - 05 (Monday)

Time: 0930 - 1230 hrs.

Answer four (4) questions, selecting at least one (1) question from section B.

**Section A**

**Q1.**

- (a). There are six core phases of design activity. List and briefly describe. (15 marks)
- (b). Formulation of the brief constitutes the most critical period in the relationship between the client and his professional advisers. Discuss the importance of the brief and the key points client need to consider in preparing a good client's brief. (10 marks)

**Q2.**

- (a). "Decisions taken at earlier stages have the greatest influence on any project". Discuss this with respect to a design project giving examples. (12 marks)
- (b). Discuss what you understand by the word "cost planning" in the design phase of a project. What are the main objectives of cost planning? Explain the process of elemental or target cost planning. (13 marks)

**Q3.**

- (a). Explain what you understand by "life cycle costing". Discuss the importance of life cycle costing giving examples. (12 marks)
- (b). Why is it necessary to sign a "Consultancy Agreement" between the Client and the Consulting Engineer? What are the items included in a typical consultancy agreement signed in Sri Lanka? (13 marks)

**Q4.**

- (a). Government and semi government agencies, as a client, maintain a "Register of Contractors". Discuss the advantages gained by the client and the contractors separately through this process. (8 marks)
- (b). Describe the procedure to be followed in issuing amendments to tender documents. (8 marks)
- (c). A "Tender Evaluation Committee - TEC" is appointed when calling tenders to carry out government contracts. Explain the duties of the TEC. (9 marks)

**Section B**

Q5.

- (a). In construction industry, quality need not be defined as "excellence". Discuss a more appropriate definition giving examples. (08 marks)
- (b) Briefly explain the difference between "Corrective Action" and "Preventive Action". (08 marks)
- (c). Describe what actions a contractor can take to minimize the effects of following factors on the quality of construction work. Illustrate your answer with suitable examples.
- i Poor quality material
  - ii Incompetent workers
  - iii Lack of supervision
- (09 marks)

Q6.

- (a). Records of actions taken according to the quality plan ensures that specified procedures are followed. Describe four types of such records maintained by an ISO certified company. (08 marks)
- (b). Inspection checklists and various tests on materials and completed works form the site inspection and testing procedures. Prepare a sample check list to ensure the quality of ready mixed concrete during the receiving, in-process and final inspection and testing stages. (09 marks)
- (c). Product identification provides important protection when products differ but the differences are not visible. Discuss this aspect with respect to a building construction project. (08 marks)