

The Open University of Sri Lanka
Faculty of Engineering Technology
Department of Civil Engineering



Study Programme	: Bachelor of Technology Honours in Engineering
Name of the Examination	: Final Examination
Course Code and Title	: CEX7109 Management of the Design Phase & Quality Control
Academic Year	: 2017/18
Date	: 6 th February 2019
Time	: 0930-1230hrs
Duration	: 3 hours

General Instructions

1. Read all instructions carefully before answering the questions.
 2. This question paper consists of **Six (6)** questions in **Two (2)** pages.
 3. Answer **Four (4)** questions only, selecting **at least one (1) question from section B**. All questions carry equal marks.
 4. Answer for each question should commence from a new page.
 5. This is a Closed Book Test (CBT).
 6. Answers should be in clear hand writing.
 7. Do not use Red colour pen.
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Section A

Q1.

- (a) A project is a process of creating a result by carrying out a series of activities. Time, cost and quality are triple constraints in any project. Briefly describe why these triple constraints are interdependent. (08 marks)
- (b) Design is the fundamental activity which commences with a market need. Design Management is an increasingly important function in the construction industry. Briefly describe six core phases of design activity. (09 marks)
- (c) 'Why project management is important?' is an interesting question that clients sometimes pose. If you are responsible to answer above question as the professional advisor to the client, how do you explain in your words the importance of project management in modern construction world. (08 marks)

Q2.

- (a) Formulation of the 'Brief' constitutes the most critical period in the relationship between the client and his professional advisers and it is the key document upon which the design will be based. Describe key elements to be considered in a 'Project Brief'. (08 marks)
- (b) What are the main objectives of cost planning? Explain the process of elemental cost planning. (09 marks)
- (c) Explain what you understand by "life cycle costing". Discuss the importance of life cycle costing for construction projects, giving examples. (08 marks)

Q3.

- (a) International model agreements are available when dealing with consultants on international basis. The International Federation of Consulting Engineers (commonly known as FIDIC) is an international standards organization for the consulting engineering & construction. Describe the contents of a FIDIC model consultancy agreement. (09 marks)
- (b) Explain what you understand by the "design freeze" and "change management". (08 marks)
- (c) Registration and grading will be determined by evaluating a contractor mainly on his financial capability, the technical ability with staff and plant & machinery, and the

experience gained in relevant fields. Discuss the purpose and benefits of CIDA (previously ICTAD) registration for the client and the contractors. (08 marks)

Q4.

- (a) Tendering is the process by which bids are invited from interested contractors. Discuss the three ways in which tenders (Bids) for construction projects are carried out in Sri Lanka giving examples. (09 marks)
- (b) A "Technical Evaluation Committee - TEC" is appointed when calling tenders to carry out government contracts. Explain the duties of the TEC. (08 marks)
- (c) Management of the design phase of any project is crucial. If you are assigned as the Design Team Leader of a mixed envelopment project like Colombo Port City, what would be your role and responsibilities? (08 marks)

Section B

Q5.

- (a) Quality management ensures that an organization, product or service is consistent. Quality management is focused not only on product and service quality, but also on the means to achieve it. Briefly discuss why we need quality management systems for the success of any organization. (07 marks)
- (b) Describe the difference between 'quality control' and 'quality assurance' in construction work. If you are recruited as a Quality Assurance Manager in a five-star hotel project, what would be your Roles and Responsibilities? (10 marks)
- (c) Describe the importance of Top management (Eg. CEO, Chairman, President) commitment to the development and implementation of a quality management system and continually improve its effectiveness in any organization. (08 marks)

Q6.

- (a) Quality management includes all the activities that organizations use to direct, control, and coordinate quality. Explain three ways of managing quality in a construction project giving examples. (08 marks)
- (b) ISO 9000 is a set of international standards on quality management and quality assurance developed to help companies effectively document the quality system elements to be implemented to maintain an efficient quality system. Describe this giving the main points of ISO 9000 standard. (10 marks)
- (c) The Quality Manual is the first level of documentation in a Quality Management System. Describe key elements to be included in a quality manual. (07 marks)

