

THE OPEN UNIVERSITY OF SRI LANKA
 Department of Civil Engineering
 Construction Management Programme -Level 7
CEX7108 - Cost Control and Cash Flow in the Construction Industry
FINAL EXAMINATION - 2015/2016



Time Allowed: Three Hours

Date: 02-12-2016

Time: 0930-1230 hrs.

Answer question Q1 in Section A and any three (3) questions from Section B.

Q1 (section A) is compulsory and carries 40 marks. You are advised to spend about one hour on this question. Graph sheets will be provided.

SECTION A

Q1. Compulsory (40 marks)

You are given the following data regarding the proposed Matara-Kataragama Railway Line Project.

Contract Value- Rs 400 Million

Time for completion- 10 months

Mark up- 10%

Retention- 10%

Release of retention- 50% on completion and balance after 6 months

Mobilisation Advance- 15%

Advance Recovery- 20% of Bill Value starting from second payment onwards

Bill Payments- monthly with one month payment delay

Average Credit Facility- one month

Cumulative Value Vs Time data to be calculated from the following production data.

Time (month)	Cumulative Value (% of Contract Value)
1	5%
2	10%
3	15%
4	20%
5	30%
6	45%
7	60%
8	75%
9	90%
10	100%

(a) Prepare a Cash-Flow forecast and draw 'CASH-IN' and 'CASH-OUT' graphs.

(20 marks)

You may make relevant assumptions where necessary.

Use the above graphs to obtain the following;

- (b) The maximum amount of external finance required to complete this project & the time when this finance is required. (10 marks)
- (c) Discuss two possible methods to improve any Capital Lock-Up for the above project. (10 marks)

SECTION B – Answer any three questions

Q2.

As the assistant to the Project Manager you are to improve the effectiveness of 'Cost Control' on a road construction project.
If the initial cash flow forecast is available explain how you will design a good cost control system for the project and overcome the practical problems in cost monitoring. (20 marks)

Q3.

- (a) Contractors do cash flow forecasting at 'Company Level' and at the pre-contract 'Estimating and Tendering' stage of a project.
Describe the significance of each type of forecast for a construction company. (10 marks)
- (b) Explain how 'Cost Control' can be exercised at the pre-contract stage of a project. (10 marks)

Q4.

- (a) Explain the functions of all parties involved in Cost Control at the Construction Stage of a medium scale project. (10 marks)
- (b) Discuss the cost cutting measures that can be taken on construction sites and their possible effects on quality. (10 marks)

Q5.

- (a) Discuss the significance of 'Performance Ratios' in measuring a project's performance with regard to **time, cost and production**. (10 marks)
- (b) Many Civil Engineering Contractors have been declared bankrupt although they have reported profit on their business operations. Explain how this can be possible. (10 marks)

Q6.

Schedule Control needs continuous monitoring of a project. Discuss possible problems that can be encountered in the construction of an underground waterline, their effect on the planned project schedule and what changes need to be made in each instance in order to ensure meeting the completion deadline. (20 marks)