THE OPEN UNIVERSITY OF SRI LANKA
DEPARTMENT OF CIVIL ENGINEERING
CONSTRUCTION MANAGEMENT PROGRAMME - LEVEL 7
POST GRADUATE DIPLOMA / STAND ALONE COURSES

Final Examination - 2013/14

CEX 7108- Cost Control and Cash Flow in the Construction Industry

Time Allowed : Three Hours

Date: 21st August 2014 Time: 0930-1230 hrs.

This paper consists of six questions.
Answer a **total of four (4)** questions including **Q1** and any three (3) questions from **Section B**

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

SECTION A - Compulsory (40 marks)

Q1. A construction project has a Contract Value of Rs. 400 Million and the time for completion is six (06) months. The details of the project are given below.

Mark up- 10%
Retention- 10%
Release of retention- 50% on completion and balance after 6 months
Mobilisation Advance- 15%
Advance Recovery- 20% of Cum Value starting from second payment onwards
Bill Payments- monthly with one month payment delay
Costs incurred may be paid with a one month payment delay

Table 1- Cumulative Value Vs Time data to be calculated from the following production data.

Time (month)	Cumulative Value (% of Contract Value)
1	30%
2	45%
3	60%
4	75%
5	90%
6	100%

(a) Prepare a Cash-Flow forecast (20 marks)
(b) Draw 'CASH-IN' and 'CASH-OUT' graphs (06 marks)
(c) Obtain from the graphs, the maximum finance required from other sources and the time when it will be required. (04 marks)
(d) Discuss the methods of obtaining the required finance (10 marks)

You may make relevant assumptions where necessary.

SECTION B – Answer any three (03) questions

Q2.

(a) Explain why construction contractors should not disregard cash flow forecasting. (08 marks)

(b) There is a method of arriving at the Value vs Time graph using 'Standard Cumulative Value vs Time' curves. Explain 'Standard Cumulative Value curves' for a pipe laying project. (12 marks)

Q3.

(a)With the aid of diagrams explain the concept of cash flow on a construction project (10 marks)
(b) Explain how claims affect a contractor's cash flow. (10 marks)

Q4.

(a) Cash flow forecast for a particular project is based on estimates and certain parameters, which are assumed. Briefly explain the technique used to evaluate the effects of such errors in cash flows. (10 marks)

(b)Explain 'cost cutting' vs 'cost control. Discuss the cost cutting measures that can be taken on construction sites and possible affects on quality (10 marks)

Q5.

(a)Discuss how the 'Inflation' can be accounted for in converting a final cost estimate for a project into a 'project budget' compatible with an organisation's cost accounts. (08 marks)

(b) Discuss how you will design a monitoring system for carrying out 'cost control' on a construction project. (12 marks)

Q6.

(a) When calculating variances of a road construction project at the end of six months, it is found that there is an adverse variance for the item 'construction materials'.
Identify possible reasons and discuss remedial measures for the future. (10 marks)

(b) Explain the importance of the Design Brief, with reference to Cost Control of a Multi-storey housing complex to be constructed in the city of Colombo. (10 marks)