

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



Final Examination - 2008/09

031

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

Time Allowed : Three Hours

Date: 01st April 2009

Time : 0930-1230 hrs.

Select Section A and any three (3) questions from Section B and answer a total of four (4) questions. 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)

- (a) Discuss the major factors to be considered when performing Financial Planning for a proposed construction project. (10 marks)
- (b) The cumulative Expenditure and the Value of Work for a project are given below.

Month	Cumulative Cost (Rs.million)	Cumulative Value of Work (Rs.million)
1	12	8
2	24	20
3	41	38
4	60	58
5	85	84
6	120	120
7	175	180
8	230	240
9	240	250
10	245	260
11	246	268
12	247	275

- Progress payments are calculated at the end of each month and payments made one month later.
 - Retention is 10% until project completion
 - Retention is released one month after project completion
 - Final project payment is received one month after project completion
 - State all assumptions
- (i) Plot the 'cumulative project expenditures', 'cumulative value of work', and 'progress payments received' against 'time' on the same graph. (10 marks)
- (ii) What is the contractor's maximum negative cash flow and when does it occur? (04 marks)

- (iii) What is Capital lock-up and why is it important to calculate the interest payable on the Capital Lock-up? (06 marks)
- (iii) Discuss and illustrate positive methods of improving the contractor's cash flow (10 marks)

SECTION B – Answer any three questions

Q2.

- (a) Explain the functions of all parties involved in Cost Control at the Construction Stage of a medium scale project. (10 marks)
- (b) Explain 'Capital Lock-up' with the aid of diagrams. Name three factors which can affect capital lock-up and explain their effect. (10 marks)

Q3.

- (a) List and explain the data required to prepare a cash flow forecast of a construction project at pre tender stage. (10 marks)
- (b) When calculating variances at the end of six months on a construction site of a road construction project, it is found that there is an adverse variance for the item 'construction materials'. List & explain possible reasons. (10 marks)

Q4.

- (a) Discuss possible steps to be taken to make the contractors in Sri Lanka understand the importance of cash flow forecasting. (10 marks)
- (b) What are the types of 'monitoring' and 'information' systems you would implement on a small construction site to monitor the weekly progress? (10 marks)

Q5.

- (a) A Client requires a 20 bed roomed, three-star hotel to be designed in close proximity to the sea coast. As the Consultant for this project, list the steps you would take to minimize the overall cost of this project by making use of the Value Engineering concept at the design stage. (10 marks)
- (b) Discuss the cost cutting measures that can be taken on construction sites and possible effects on quality. (10 marks)

Q6.

- (a) Explain how 'Claims' affect a Contractor's cash flow. Why is it important to separate out 'Claims' when assessing the achieved margin in a construction contract? (10 marks)
- (b) Draw and explain the cash curves giving information most useful to a Contractor. What is the cash curve used by the Client/Consultant and how does he make use of the curve? (10 marks)