

(4)

PART-II

Answer all Questions.

5. (a) Mention the purpose of quality management in construction industry. 5
- (b) Cite 12 points of check list for TQM in construction industry . 15
- (c) How will you identify good TMT bars at site. 5
- (d) Mention in brief the importance of ISO-9001-2000 in reference to construction quality management. 5
6. (a) Draw a frame work for implementing total quality management. 7
- (b) Mention steps for preparation of quality concrete. 3
7. (a) Draw a flow chart for concrete using. 5
- (b) Mention the hindrances that are normally faced while implementing TQM in an organisation. 5

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BACHELOR OF CONSTRUCTION ENGG. EXAMINATION, 2009

(4th Year, 2nd Semester)

QUALITY MANAGEMENT IN CONSTRUCTION

Time : Three hours

Full Marks : 100

(50 marks for each part)

Use a separate Answer-Script for each part.

PART-I

Answer parts of a question serially.

Answer of question No 1 & any two of the rest. Please start answer a question or part in a new page.

1. (A) Annotate : (any four) 2·5x4=10
- (a) Total Quality Management
- (b) Quality management in the light of industrial finance
- (c) Inflation
- (d) Devaluation of currency
- (e) Wholesale Price Index
- (B) How is 'PLR' related to the rate of inflation in a developed economy 4
2. The table below gives the estimated monthly costs for a Construction project profit margin is 8% to be added to costs, with retention at 10% repaid in two instalments,

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(2)

half on practical completion & half six months after practical completion. Normal payment terms of both a delay of 1 month is applicable on the contractor while paying & receiving money. Based on experience the contractor assumes that the margin achieved will be reduced by increased costs. He assumes the costs to be 4% higher than estimated & expects to recover another 4% of the actual incurred total costs as claim to be recovered three months after practical completion. Prepare plots of Cash in & cash out Calculate the interest charges on lockup capital for an annual interest rate of 12%

Monthly estimated costs for a contract

Month	1	2	3	4	5	6	7	8	9
Estimated	2	2	3	3	4	4	4	3	2
costs (Rs. Crores)									18

3. From total quality management view there is restriction in storage space at a project as such 50 barrels of admixtures are supplied per week. Price per barrel of admixture is Rs 10,000/-. The cost of holding a barrel is 10% of cost price. The cost to the supplier each time a new order is processed is Rs 1,000/-. Some times the delivery cannot be met & to make up the back log there are special deliveries to the customer as soon as the supplier is able to continue with the order. The extra cost incurred by the supplier in this situation is Rs 3,000/ per barrel of admixture.

(3)

- (a) Calculate the economic order quantity for the supplier as per total quality management principles.
- (b) Calculate the total cost per week to the supplier of stock holding & processing orders.
- (c) Calculate the level to which stock on site is tapped up. 18
4. From Quality management principles the use of quality siliceous aggregates are mandatory at a construction project. The requirement is 2000 tonnes per month. Cost of ordering is Rs 1,000 & cost of storing material is 50% of purchase cost. The cost per item depends on the total quality ordered as follows:
- (i) Less than 500 tonnes@ Rs 12,500 per tonne
- (ii) 500-999 tonnes@ Rs 11,500 per tonne
- (iii) 1000 tonnes or more@ Rs 11,000 per tonne
- Calculate the optimum order quantity & optimum total cost per month of purchasing, storing & ordering the material. 18

[Turn Over]

