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Sem-II

Baratiya Vidya Bhavan's

SARDAR PATEL COLLEGE OF ENGINEERING

(An Autonomous Institution Affiliated to University of Mumbai)

Total Marks: 100 Duration: 4 Hours

CLASS/SEM: ME (CIVIL WITH CONSTRUCTION MANAGEMENT) MASTER

SUBJECT: LEGAL ASPECTS IN CONSTRUCTION

N.B.: 1) Question No 1 is Compulsory.
2) Attempt any four questions out of remaining six.
3) Assume suitable data if necessary stating them clearly.

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1. A. Explain principles of formation of contract? (08)
   B. Discuss types of tender. What is meant by the term prequalification of tender (06)
   C. What are the rules of interpretation in a contract? Explain (06)

2. Distinguish the following. (20)
   A. Tender validity period and defect liability period
   B. Mobilisation advance and security advance
   C. Pre tender planning and preconstruction planning
   D. Litigation and Arbitration

3. A. State the areas and sources of dispute which could give rise to claims. (08)
   B. Explain various methods of Alternate Dispute Resolution in construction. (06)
   C. Write a brief note on FIDIC contracts (06)

4. Distinguish between the following (20)
   A. Void & Voidable contract.
   B. Extra items & price variation clause
   C. Breach of promise and breach of contract
   D. Termination and rescinding clause in a contract.

5 A. Explain section 73 & 74 of Indian Contract Act and discuss its relevance in construction contract administration. (06)
   B. Discuss the types of delay in projects and its consequence. (06)
   C. Discuss various regulatory provisions that govern employment of labors in construction work. (08)

6. Discuss the following aspects of Arbitration and Conciliation act 1996 (20)
   A. Selection of arbitrator.
   B. Arbitration proceedings.
   C. Award of arbitrator
   D. Provision for Conciliation

7. A. Discuss with suitable illustration the statement that "conditional acceptance of the tender is not legally binding on the tenderer" (06)
   B. You are a project manager of a construction site. Enlist few documents that you would maintain to mitigate the risk of disputes. (07)
   C. You are a project manager of a construction site. You anticipate delay of 6 months in completing the project. Enlist few actions that you would execute to mitigate the risk of disputes. (07)

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SARDAR PATEL COLLEGE OF ENGINEERING

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MASTER

M.E CONSTRUCTION MANAGEMENT SEMESTER 2

Management of Construction resources

Time Marks 100

Note Attempt any 5 questions

Each question carries 20 Marks

Q1 (a) Explain the meaning of Materials Management and (10)

Highlight its scope.

(b) Explain the importance of materials management. (10)

Q 2 Explain ABC analysis. ,its advantages ,limitations and assumptions (20)

Q3 (a) Define Contract. Explain the conditions for a valid contract. (10)

(b)Explain the relationship between Principal and Agent (10)

Q4 Briefly Explain Important Trade Union Acts (20)

Q5(a) Determine Owning and Operating Cost of a Batching Plant (14)

from the following details.

Power required 61 HP . Working 3 shifts per day.

Life of the Equipment 18 years

Total cost of Batching Plant including transportation and erection

Rs. 20, 00 ,000. Hours used per year. 1600 hrs.

Cost of Petrol Rs. 10 per litre.

Scrap value 10 %of the cost of plant

Depreciation 10 % per annum

Maintenance & Repair Cost 80 % of depreciation cost per year.

Cost of Lubrication 25 % of Power cost

(b) Explain the importance of Equipment Management (6)

Q 6 (a) Define and Explain the importance of EOQ. (6)

(b) An item has an annual demand of 20000 units .The estimated cost of ordering is Rs. 100 and the estimated inventory carrying cost is 20 percent. The unit price of the item is Rs20. Find out Economic Ordering Quantity. (!4)

Q 7 Explain the importance of inventory Control .Highlight important aspects in Inventory Control. (20)

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Bharatiya Vidya Bhavan's
Sardar Patel College of Engineering
MUNSHI NAGAR, ANDHERI (WEST), MUMBAI-400 058.

MASTER

END SEM. EXAMINATION (May-2014)
M. E. Civil (With Construction Management Subject) Sem - II
SUBJECT – Project Appraisal Planning and Scheduling

MARKS: 100

Note: (i) solve any five Questions out of seven
(ii) Assume suitable data if required.

Q.1.
(a) Discuss the sources of risk faced by BOT projects. How to manage such risk. (10)
(b) Use of Computers in Managing Construction projects. (10)

Q.2.
(a) What is life cycle costing. Highlight the important features of life cycle costing. (10)
(b) What is Line Balance Technique. Give the suitable example which bring cut the various features of this technique. (10)

Q.3.
(a) Discuss various phases of project management. (10)
(b) Table shows the normal and crash duration and corresponding normal and crash cost. If the overhead cost is 2000 Rs. Per week. Determine optimum duration and minimum cost of the project. Also, draw a neat sketch showing direct cost, indirect cost and total cost of the project. (10)

activity	Normal time (week)	Normal cost	Crash time (week)	Crash cost
1 - 2	6	6800	3	14,000
1 – 3	8	4200	5	9,000
2 - 3	4	5900	1	9,000
2 - 4	5	8100	3	16,000
3 - 4	5	4900	3	12,000

Q.4.
(a) Explain in detail funds and cash flow for the project. (10)
(b) Write detail note on S-curve. (10)

Q.5.
(a) Discuss in brief the resource allocation problem. What are the methods of solving the problems? (10)

M. E. (Civil) with Construction management Subject Sem-II
Project Appraisal Planning and Scheduling 07/05/2014

(b) Activity data for small construction project are as given below: (10)

Activity	Duration(Days)	Resource Rate
P(1-2)	5	5
Q(1-3)	7	4
R(2-4)	4	2
Dummy(4-5)	-	-
S(2-5)	7	3
T(3-6)	7	6
U(5-7)	9	4
V(6-8)	4	4
W(7-8)	6	8

(i) Prepare resource histogram for early start schedule.
(ii) Determine most preferred schedule.

Q.6.

(a) Explain in detail funds and cash flow for the project. (10)

(b) The following table shows data related to a small construction project. Draw a network and give node numbering using Fulkerson's rule. Identify the critical path and critical activities. Also find the total float, free float and Independent float. (10)

activity	Following activity	t_0	t_l	t_p
H	J,M	5	8	11
J	K	3	4	5
K	L	20	25	30
L	B	11	14	17
M	N,P,T	4	7	10
N	Z	3	5	7
P	R,S	4	6	8
R	Y	3	4	5
S	W	5	7	9
T	W	3	4	5
W	X	2	3	4
X	A	20	23	26
Y	A	15	18	21
Z	A	16	19	21
A	B	9	11	13
B	-	5	6	7

Q.7.

(a) What is updating? When updating is to be done? Explain by quoting an example in brief the procedure of updating. (10)

(b)Explain why updating is essential? How will you prepare the progress review report for Road Project. (10)

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SARDAR PATEL COLLEGE OF ENGINEERING

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MASTER

ME Construction Management Sem 2 end Examination

Project Monitoring and Control

Time Marks 100 .

Note: Attempt any 5 questions

Each Question carries 20 marks

Q1 (a) Define Control. High light estimate as a Scope for Project Control (20)

Q2 Explain project cost control and highlight its importance. (20)

Q 3 What are the objectives of Management Control? Explain project Overview statement as a control tool (20)

Q 4 Explain the important aspects in Cost Monitoring (20)

Q 5 (a) Define quality. Explain its importance in project Management . (10)

(b)You are the Quality control Manager .Explain how you will go about with an appropriate Quality control system. (10)

Q 6 Explain the importance of safety management in construction Projects and highlight the salient features of OSHA. (20)

.Q 7 (a)Explain Project Control and organisational aspects (10).

(b)Explain detailed Project report. (10)

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Bharatiya Vidya Bhavan's

Sardar Patel College of Engineering

MASTER

(An Autonomous Institution Affiliated to University of Mumbai)

End Semester Examination-April-May 2014

Academic Year: 2013-2014

Class/Sem: M.E. Civil Engineering with Construction Management, Sem. II (Full Time)

Subject: Elective-II: Value Engineering

Max. Marks: 100
Duration: 4 hours

- Solve **any five questions** out of seven.
- Answer to all sub questions should be grouped together.
- **Figure** to right indicates full marks.
- Assume suitable data wherever necessary and state it **clearly**.

Q. No.1. (a) What is Value engineering? Explain its importance in construction industry. (10)

(b) What are the various value engineering job plan phases? Explain any two in detail. (10)

Q. No.2. (a) Explain the importance of quality and serviceability of any construction project. (10)

(b) Write short notes on:

(i) Indian Value Engineering Society (INVEST). (05)

(ii) Reasons for poor value in a product. (05)

Q. No.3. (a) Explain the factors governing success or failure of the value analysis. (10)

(b) Explain: Value engineering model. (10)

Q. No.4. (a) What do you understand by: Use value, Esteem value, Exchange value and Cost value? Explain their importance from economic point of view. (10)

(b) Differentiate between: conventional management and total quality management. (10)

Q. No.5. (a) Explain benefits of Value analysis with some case study. (10)

(b) Highlight: Essential prerequisite for team members in Value management in any construction project. (10)

Q. No.6. (a) Define and explain: (i) Discount factor, (ii) Sinking fund factor, (iii) Capital recovery factor. (10)

(b) Explain the relation between benefits and cost for any hypothetical construction project. Why project evaluation is important? Explain. (10)

Q. No.7. (a) Write short notes on:

(i) Time value of money. (05)

(ii) Life cycle cost. (05)

(b) Why any construction project may have "unnecessary" costs? Explain how it can be reduced. (10)

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