

**FACULTY OF ENGINEERING**

**B.E. IV/IV Year (Civil) II Semester (Main) Examination, May/June 2011**

**CONSTRUCTION MANAGEMENT AND ADMINISTRATION**

Time : 3 Hours]

[Max. Marks : 75

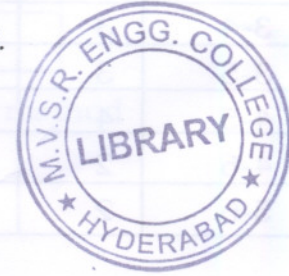
*Answer all questions in Part A .  
Answer five questions from Part B.*

**Part A – (Marks : 25)**

- |  |   |
|--|---|
| 1. What is significance of Construction Management?        | 2 |
| 2. What is the Principle of flexibility and stability?     | 2 |
| 3. Mention the limitations of bar chart.                   | 2 |
| 4. What is the difference between CPM and PERT?            | 2 |
| 5. What is the Optimum Cost?                               | 2 |
| 6. Mention the three time estimates.                       | 2 |
| 7. What is item rate contracts and mention its advantages? | 3 |
| 8. What are the conditions of Contract?                    | 3 |
| 9. State the canonical form of LP Model.                   | 3 |
| 10. What is the need for artificial variable in LP model?  | 3 |

**Part B – (Marks : 50)**

11. (a) What are the objectives of construction management?  
(b) Discuss the importance of Line and Staff organization with its advantages and disadvantages.
12. (a) What is functional organization and discuss its advantages?  
(b) Mention the advantages of large scale production.



13. The details of the network are given below and the duration is in days. Draw the project network and identify the critical path. Calculate float for each activity.

Activity	$t_e$	$t_m$	$t_p$
1-2	2	5	8
1-3	1	4	7
2-3	0	0	0
2-4	2	4	6
2-6	5	7	12
3-4	3	5	10
3-5	3	6	10
4-5	4	6	10
4-6	2	5	8
5-6	2	4	8

14. The following data are available regarding the activities, their duration and costs for a particular project. The indirect project cost of the project is Rs.3500/ month. Determine the optimum cost and duration for the project. Also draw the least cost network

Activity	Normal duration (Months)	Normal Cost (Rs.)	Crash Duration (Months)	Crash Cost (Rs.)
0-1	4	18,000	3	25,500
0-2	8	15,000	5	19,500
1-2	6	17,000	4	19,000
1-3	9	19,000	2	26,000
2-3	5	16,000	3	22,000

15. (a) Mention the advantages and disadvantages of cost plus contracts.

- (b) Enumerate the salient features of Workmen Compensation Act.

16. A site requires a minimum of 10,000 cu.m of gravel and boulder mixture. The mixture must contain no less than 500 cu.m of gravel and no more than 6000 cu.m. of boulder . Materials may be obtained from two pits.

Pit	Delivery cost (Rs./cu.m)	Percent gravel	Percent boulder
1	5	30	70
2	7	60	40

Formulate and solve the above problem by graphical method

17. Write short notes on any **two** of the following :

- (a) Scalar Principle
- (b) Negotiated Contracts
- (c) Unbounded solution