

[ REVISED COURSE ]

(3 Hours)

[Total marks : 100]

NOTE:

- i) Question No. 1 is compulsory.
- ii) Attempt any four out of the remaining six questions.
- iii) Figure to the right indicates full marks.
- iv) Assume any suitable data and clearly state the same.

- Q.1 A) What is 'Work Break down Structure'? Why is it compulsory to prepare a WBS? Prepare a WBS for a compound wall of 100 m length and 2 m height with rural specification? 10
- B) What is construction management? Explain all functions of construction management in brief. 10
- Q.2 A) A project consists of following activities. Their sequences and duration are also given in following table. Draw network and determine project duration, critical path. Also calculate total float and free float for all the activities. 12

Activity	A	B	C	D	E	F	G	H	I	J
	1-2	1-3	2-3	2-4	4-6	3-6	3-5	5-6	5-7	6-7
Duration (days)	2	3	7	2	2	5	3	1	4	6

- B) Explain Gantt Bar Chart. Also describe its advantages and limitations. 08
- Q.3 A) What are AOL and AON types of networks? What are the advantages of AON over AOL networks? 10
- B) What is project? What are the phases involved in a project? What is project life cycle? 10
- Q.4 Why PERT is known as probabilistic in nature? Explain the different PERT time estimates? 10
- The three time estimate for different activities of a project are given as below: 10

Activity	to (days)	tm (days)	tp (days)
1-2	2	5	8
2-3	4	9	20
2-4	4	7	16
2-5	8	11	20
3-6	3	7	17
4-6	7	10	13
4-5	0	0	0
5-7	3	5	13
6-7	2	3	10
7-8	2	4	6

Z	P (%)
2	2.28
-1	15.87
0	50
1	84.13
2	97.72

What is the probability of completing the project in 35 days?

- Q.5 A) What do you understand by Resource Allocation? Explain the method of resource allocation. 10  
 B) Prepare a resource histogram based on EST and LST. 10

Activity	A (1-2)	B(2-3)	C(2-4)	D(3-5)	E(4-5)	F(5-6)
Duration in days	3	4	5	6	4	3
Masons	4	3	2	4	3	2

- Q.6 A) Explain the contribution of Henry Fayol in the development of management thought. 10  
 B) Differentiate between CPM and PERT types of network. Explain the situation in which these networks are preferred. 10
- Q.7 Write short notes on any four 20
- Q.5 i) Line of balance technique  
 ii) Occupational health hazards  
 iii) Dummy activity and its uses  
 iv) Fulkerson's rule for numbering of network  
 v) Minimum wages act