

Roll No.

--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (CE) (2012 to 2017) (Sem.-4)

CONSTRUCTION MACHINERY AND WORKS MANAGEMENT

Subject Code : BTCE-402

M.Code : 56084

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A**Answer briefly :**

1. How does Milestone Chart differ from a Bar Chart?
2. Differentiate between Activity and Event.
3. Explain the process of compaction of concrete.
4. What is meant by Direct and Indirect costs of a project?
5. List two advantages of two wheel Type Tractors.
6. Discuss Fulkerson's rules for numbering the events of a network.
7. How will you draw the cost duration curve?
8. Draw typical cost duration curve.
9. Define the term Line of Balance.
10. What does ITS and FS stand for?

SECTION-B

11. Explain the factors affecting the Economic Life of a construction equipment.
12. Explain the functioning of Dragline in detail alongwith line diagram.
13. How batching of concrete is done for concrete. Explain.
14. What is the effect of grade on cost of hauling earth with trucks?
15. How placing of concrete in cold weather is done?

SECTION-C

16. From the data given in the table for a CPM project, draw the network and determine the critical path based on total float.

Activity	Immediate Successor	Duration (days)
A	C	3
B	D,E	5
C	F,G,H	4
D	F,G,H	8
E	I	9
F	J,K,L,M	5
G	K,L,M	8
H	I	6
I	P	5
J	N	4
K	O	7
L	Q	6
M	P	7
N	R	4
O	R	8
P	R	4
Q	R	5
R	None	3

17. A maintenance project consists of number of jobs. Their normal duration and costs alongwith crash costs and duration are given below. Find out the optimum project cost and time

Job	Normal duration	Normal cost (Rs)	Crash duration	Crash cost (Rs.)
1-2	9	9000	6	15000
1-2	8	2000	3	9500
1-4	15	5000	10	2000
2-4	5	2000	3	4000
3-4	10	7000	6	13000
4-5	2	3000	1	7000

Indirect costs are Rs. 6000/- per day.

18. Write a short note on the following :
- Time grid diagram
 - Tractors
 - Bitumen Plants

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.