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Code No. : 15143 S N

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD**  
*Accredited by NAAC with A++ Grade*

**B.E. (Civil Engg.) V-Semester Supplementary Examinations, June-2023**

**Construction Management and Administration**

Time: 3 hours

Max. Marks: 60

Note: Answer all questions from Part-A and any FIVE from Part-B

*Part-A (10 × 2 = 20 Marks)*

Q. No.	Stem of the question	M	L	CO	PO
1.	List the functions of Construction Management.	2	1	1	11
2.	Explain the roles of Construction management team.	2	1	1	11
3.	Explain an Activity and an Event.	2	1	2	1,11
4.	What is the purpose of introducing the Dummy activity in any Network	2	1	2	1,11
5.	Explain Direct and indirect costs for a construction project.	2	2	3	11
6.	Explain the Earned value Management indicators.	2	2	3	11
7.	Explain Tender Notice and Tender Document.	2	1	4	8,9
8.	List different types of Construction Contracts.	2	1	4	8,9
9.	Explain Slack and Surplus variables.	2	2	5	1
10.	Differentiate between Graphical simplex method in Linear Programming	2	1	5	1
<i>Part-B (5 × 8 = 40 Marks)</i>					
11. a)	Differentiate between Line and Staff Organization and Functional Organizations along with their suitability of adoption.	4	1	1	11
b)	Explain the functions of Construction Management.	4	2	1	11
12. a)	Explain the rules for Constructing the Network Diagram for a Project.	2	2	2	1,11
b)	Draw the network diagram for the following Activities shown in tables with durations. Determine the critical path	6	3	2	1,9,11

Activity	Predecessor	Duration (Days)
A	-	3
B	A	3
C	A	7
D	A	9
E	D	5
F	B,C,E	6
G	F	4
H	F	13
I	G	10

13. a) Explain the necessity for Updating in Construction management. 2 2 3 11  
 b) Conduct crashing for minimum cost and optimum time for the data given. 6 4 3 1,9,11  
 The Indirect cost is Rs. 250/- per day.

Activity	Time (Day)		Cost (Rs)	
	Normal	Crash	Normal	Crash
10-20	4	3	400	600
20-30	5	2	300	750
20-40	7	5	360	540
30-40	4	2	500	1000

14. a) Explain different types of contracts in Construction Management. 5 2 4 8,9  
 b) Explain the provisions of Workmen's Compensation act. 3 2 4 8,9
15. a) **Solve the given linear programming problem graphically: Maximize**  
 $Z = 80X_1 + 55X_2$  subjected to  $4X_1 + 2X_2 \leq 40$ ,  $2X_1 + 4X_2 \leq 32$ ,  $X_1 \& X_2 \geq 0$ . 5 3 5 1,2  
 b) Differentiate between Graphical simplex method in Linear Programming. 3 2 5 1,2
16. a) List and explain the Principles of an Organization. 3 2 1 11  
 b) Construct the network from the given table and find the critical path. 5 4 2 1, 11

Activity	Predecessor	to	tm	tp
A	-	10	16	20
B	A	7	10	20
C	A	5	7	8
D	B	15	18	21
E	C,B	25	30	32
F	D	6	9	12
G	E,D	21	25	28
H	F,G	6	8	9

17. Answer any *two* of the following:
- a) Explain the difference between Deterministic and probabilistic approach for network analysis of an project. 4 3 3 1
- b) Write short notes on safety measures for hot bituminous works. 4 2 4 1,9
- c) Solve the given linear programming problem by Simplex method: Maximize  
 $Z = 50X_1 + 15X_2$  subjected to  $5X_1 + X_2 \leq 100$ ,  $X_1 + X_2 \leq 50$ ,  $X_1 \& X_2 \geq 0$ . 4 4 5 1,2

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

i)	Blooms Taxonomy Level - 1	22.5%
ii)	Blooms Taxonomy Level - 2	40%
iii)	Blooms Taxonomy Level - 3 & 4	37.5%

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