QP Code: RD22MTECH181 | Reg. No | | | | | | | | | | | AY 22 & AY 21

GIET UNIVERSITY, GUNUPUR – 765022

M. Tech. (Third Semester) Examinations, December – 2023

MPESE3012 - Project Planning and Construction Management

(Structural Engineering)

Time: 3 hrs | Maximum: 70 Marks

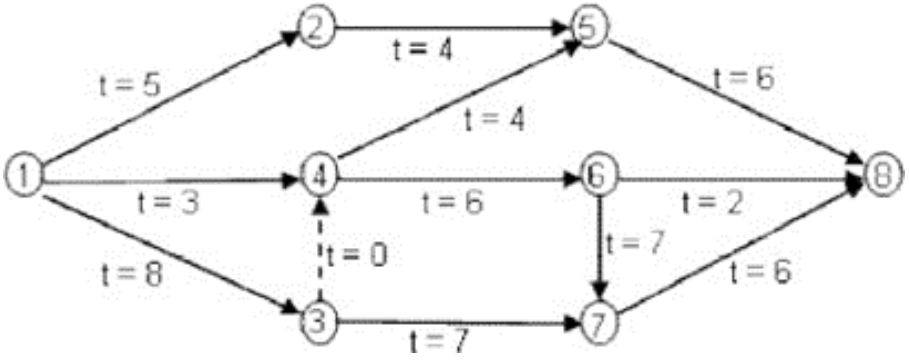
(The figures in the right hand margin indicate marks.)

PART – A **(2 x 10 = 20 Marks)**

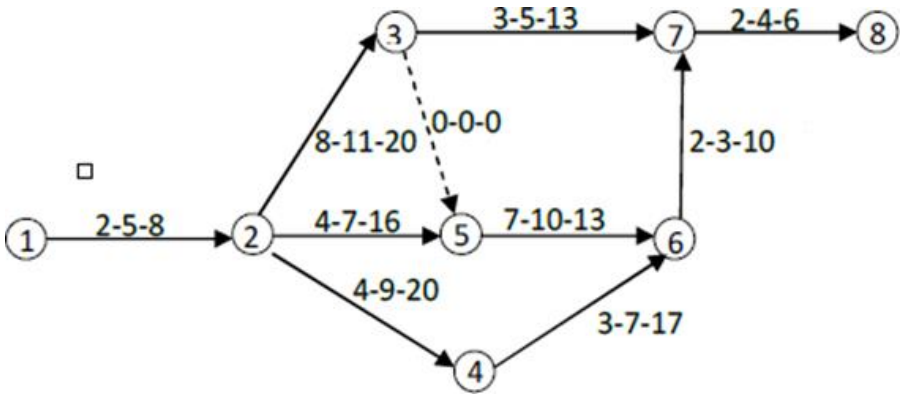
Q1. Answer ALL questions	CO#	Blooms Level
a. Define project planning?	CO1	K1
b. What is slack of an event? Find the slack of an event if the latest allowable time and earliest expected time of an event is 5 and 7 days respectively. What conclusion you draw from this slack value?	CO2	K1
c. What do you mean by liquidated damage?	CO3	K1
d. What is Trade union Act-1926?	CO4	K1
e. How useful is resource leveling process?	CO1	K2
f. What do you mean by normal cost?	CO2	K1
g. What are the types of construction accidents?	CO3	K1
h. Define depreciation cost.	CO3	K2
i. What are the objectives of material management?	CO1	K1
j. What do you mean by detailed specification of an item?	CO1	K1

PART – B **(10 x 5 = 50 Marks)**

Answer ***ANY FIVE*** questions	Marks	CO#	Blooms Level
2. a. For the network shown in the figure below determine the total float for each activity and show the critical path.	5	CO1	K3
b. Also determine the free float and independent float for each activity.	5	CO2	K3



3.a.	A construction company has to submit a bid for the construction of a new apartment building. The PERT network along with the three time estimate (in week) for each activity of the project is shown in the figure below. Determine critical path and its standard deviation. Probability of completing the work in 34 weeks	5	CO2	K3



b.	Write objective of construction management.	5	CO1	K2
4. a.	Write importance of project scheduling in brief.	5	CO3	K3
b.	Briefly discuss the procedure for inviting a bid. Describe briefly the safety measures during Formwork and Scaffold operations in construction industry.	5	CO1	K2
5.a.	Determine the optimum time and minimum cost for project with the following data:	5	CO2	K3

The direct cost per day is Rs. 400/-

Activity	Normal		crash	
	Time (Days)	Cost (Rs.)	Time (Days)	Cost (Rs.)
1-2	9	1300	4	2400
1-3	15	1000	13	1380
2-3	7	7000	4	1540
2-4	7	1200	3	1920
2-5	12	1700	6	2240
3-6	12	600	11	700
4-5	6	1000	2	1600
5-6	9	900	6	1200

b.	List out the documents required for CPWD contract?	5	CO3	K3
6. a.	Briefly describe the causes of accidents in construction.	5	CO1	K2
b.	Explain general safety programmes for construction project.	5	CO1	K3
7.a.	How does CPM network facilitate the work of construction management of project?	5	CO1	K2
b.	Define arbitration and what is its objective. Describe the qualifications of arbitrator.	5	CO3	K2
8. a.	Write Short notes on Tender Document	5	CO4	K2
b.	Write Short notes on Graphical guidelines of network	5	CO1	K2

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