

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII EXAMINATION – SUMMER 2025****Subject Code:3170614****Date:19-05-2025****Subject Name:Construction Engineering and Management****Time:02:30 PM TO 05:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

**MARKS**

- Q.1** (a) Differentiate planning vs. scheduling of project **03**  
 (b) Classify the phases of construction project. **04**  
 (c) Organize a work break down structure of construction of highway. **07**

- Q.2** (a) Explain the different types of float and explain its uses for decision making. **03**  
 (b) Differentiate CPM vs. PERT **04**  
 (c) Critique “ Bar chart is not use for big and complex project **07**

**OR**

- (c) Define: Crashing, Indirect cost, Normal time, S curve, Normal cost, Optimization, and Cost slope **07**
- Q.3** (a) Explain the method used for resource allocation **03**  
 (b) Draw a Network of following activity and find out critical path **04**

Activity	Duration
1-2	5
1-3	2
1-4	6
2-5	8
3-6	5
4-6	7
5-6	6

- (c) Draw a job layout for construction of Bridge **07**

**OR**

- Q.3** (a) Explain the procedure use for material management **03**  
 (b) Calculate the project duration from following activity **04**

Activity	Duration	Predecessor	successor
A	5	--	B,C,D
B	7	A	F
C	3	A	E
D	4	A	G
E	2	C	--
F	8	B	G
G	4	D,E	--

- (c) How to judge the activity for crashing? Explain the procedure of crashing **07**

- Q.4** (a) Define the term 1) Fatal accident 2) Quality control 3) Quality Assurance **03**  
 (b) Enlist various BIM software with application in civil engineering **04**

- (c) Differentiate CONQUAS Vs. Quality assessment system used in construction site in India. **07**

**OR**

- Q.4** (a) Describe the ISO 450001. **03**  
(b) Enlist the advantages of lean construction as a project management **04**  
(c) Write a short note on Occupational Safety and Health Administration (OSHA). **07**

- Q.5** (a) Enlist the different earthmoving equipment and Explain any one with sketch. **03**  
(b) Compare TBM vs. other tunnel construction equipment **04**  
(c) Differentiate between standard equipment and special equipment. **07**

**OR**

- Q.5** (a) Draw a line diagram of dragline excavator and states name of its parts. **03**  
(b) Differentiate pile boring vs. Pile driving equipment **04**  
(c) Explain the different dewatering equipment. **07**

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