

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VI (NEW) EXAMINATION – WINTER 2024

Subject Code:3161303

Date:28-11-2024

Subject Name: Estimation , Specifications and Project 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.

- Q.1** (a) Budget was initially set at RS 10,000 for constructing the cylindrical water tank with a diameter of 4 m and height of 5 m. Cost of construction is RS 150 per cubic meter for actual construction. Analyze whether the project remains within budget or not? **03**
- (b) A contractor estimates the cost of building a two-room structure at RS 90,000 using conventional materials with 12% maintenance costs annually. B contractor proposes a modern alternative with a cost of RS 1,00,000 but a 8% maintenance costs annually. Evaluate the total costs after 5 years for both contractors. Which contractor is more cost-effective? **04**
- (c) Which methods can be used for subsurface investigation? State its importance. **07**
- Q.2** (a) Explain the methods of Estimate. **03**
- (b) Explain the types of Estimate. **04**
- (c) From the data of table 1, prepare the network diagram and create critical path. **07**
- OR**
- (c) From the data of table 1, create critical path Gantt chart (bar chart). **07**
- Q.3** (a) Explain various type of foundation. **03**
- (b) Explain various types of specification **04**
- (c) Describe specifications of RCC work proportion (1:2:4). **07**
- OR**
- Q.3** (a) Explain various type of masonry. **03**
- (b) Describe application of specification in environment engineering. **04**
- (c) Describe specifications of 20 mm sand faced cement plaster. **07**
- Q.4** (a) What is unbalanced Tender? **03**
- (b) Explain various types of contract. **04**
- (c) Evaluate the Rate analysis for the BBCC (1:6:12). **07**
- OR**
- Q.4** (a) What are three forms of Tender? **03**
- (b) Classify the Tender. **04**
- (c) Evaluate the Rate analysis for the P.C.C. proportion (1:4:8). **07**
- Q.5** (a) What is Project Scheduling? **03**
- (b) How would you apply the key components of project planning? **04**
- (c) Design and draw a milestone chart for a project of developing school. **07**

OR

- Q.5** (a) What is Project planning? **03**
(b) Explain about Elements of Network Diagram. **04**
(c) Compare and contrast PERT and CPM in terms of their applications and limitations. **07**

Table 1: Activity details

Activity	Duration (Days)	Preceding activity	Following activity
A: Site Preparation	5	None	B
B: Foundation	10	A	C
C: Framing	15	B	D
D: Roofing	7	C	G
E: Electrical Work	10	C	G
F: Plumbing	8	C	G
G: Interior Finishing	12	D, E, F	H
H: Final Inspection	3	G	None
