

**SRM VALLIAMMAI ENGINEERING COLLEGE**

(An Autonomous Institution)

SRM Nagar, Kattankulathur – 603 203

**DEPARTMENT OF CIVIL ENGINEERING**

**QUESTION BANK**



**VI SEMESTER**

**1903609 CONSTRUCTION PLANNING AND SCHEDULING**

**Regulation – 2019**

**Academic Year 2024-2025**

*Prepared by*

**Dr. A. Leema Rose, PROFESSOR- Civil**



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SRM Nagar, Kattankulathur – 603 203



**DEPARTMENT OF CIVIL ENGINEERING**

**QUESTION BANK**  
**(As per Anna University 2019 Regulation)**

**SUBJECT CODE/NAME: 1903609 - CONSTRUCTION PLANNING AND SCHEDULING**

**SEM/YEAR: VI / III**

<b>UNIT I - CONSTRUCTION PLANNING</b>			
Basic concepts in the development of construction plans-choice of Technology and Construction method-Defining Work Tasks- Work breakdown structure – Definition- Precedence relationships among activities-Estimating Activity Durations-Estimating Resource Requirements for work activities-coding systems.			
<b>PART A</b>			
<b>Q.N O</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	Name any two coding systems used in the construction industry.	BT-1	Remembering
2.	Prepare a flow chart representing the role of planning in different stages.	BT-1	Remembering
3.	Write any two objectives of planning.	BT-1	Remembering
4.	Explain briefly the precedence relationship among activities.	BT-1	Remembering
5.	What are the necessities of planning?	BT-1	Remembering
6.	List out the significance of coding system.	BT-1	Remembering
7.	Discuss about the construction planning.	BT-2	Understanding
8.	State activity precedence with an example.	BT-2	Understanding
9.	Differentiate activity and event.	BT-2	Understanding
10.	List out the uses of coding system.	BT-2	Understanding
11.	Define work task.	BT-1	Remembering
12.	Classify the different project planning techniques.	BT-1	Remembering

13.	Describe the significance of choice of technology.	BT-1	Remembering
14.	List out project planning techniques?	BT-1	Remembering
15.	Identify the various resources used for construction project.	BT-2	Understanding
16.	Explain the process involved in planning.	BT-2	Understanding
17.	How will you estimate the activity duration?	BT-1	Remembering
18.	Explain the basic concepts involved in development of construction plan.	BT-1	Remembering
19.	Summarize the learning curve and define the different phases of learning.	BT-1	Remembering
20.	What is the difference between time oriented scheduling and resource oriented scheduling?	BT-1	Remembering
21.	What do you mean by fast track approach in construction?	BT-1	Remembering
22.	What is planning?	BT-1	Remembering
23.	What are the types of project plan?	BT-1	Remembering
24.	List the role of project managers on construction management?	BT-2	Understanding
<b>PART B</b>			
1.	Explain in detail about the estimation of activity durations and importance of learning curves.	BT-3	Applying
2.	Write short notes on i. Choice of construction technology (7) ii. Choice of construction method (6)	BT-3	Applying
3.	Prepare a generalized report on stages of planning by different agencies.	BT-3	Applying
4.	Define the precedence relationship among various activities and justify the relationship.	BT-3	Applying
5.	Describe the importance of coding system of activities with examples.	BT-3	Applying
6.	List out the factors deciding activity durations.	BT-3	Applying
7.	Explain the procedure to formulate activity network with suitable example.	BT-3	Applying
8.	i. Write down the importance of construction planning. (7)  ii. What are the steps involved in planning? (6)	BT 5	Evaluating

9.	How do you specify precedence relationship in activity on node and activity on branch network?	BT 3	Applying
10.	How will you estimate the resources for work activities?	BT 3	Applying
11.	i. Define WBS (3) ii. Draw a typical WBS tree diagram for residence building construction. (10)	BT 3	Applying
12.	i. Describe the role of planning in the different stages of a Project? (7) ii. Mention the types of plan and objectives of planning? (6)	BT 3	Applying
13.	Explain with reference to a high rise building comparing cast-in-situ and precast construction methods for the RCC structure.	BT 3	Applying
14.	Define construction planning. Explain in detail about the basic concept involved in the development of construction plan.	BT-3	Applying
15.	Explain the procedure of the estimating the resource requirements for activities.	BT 3	Applying
16.	Explain the stages development of construction planning in detail.	BT 3	Applying
17.	Explain the advantages and limitation of planning.	BT 3	Applying
<b>PART C</b>			
1.	Describe in detail the relationship between choice of technology – construction method and the project time frame and budget limitations.	BT-3	Applying
2.	What are the different methods to estimate the time duration of activities?	BT 5	Evaluating
3.	Demonstrate the precedence definition for site preparation and foundation work.	BT 5	Evaluating
4.	Prepare work breakdown and activity network for a tunnelling project by defining the precedence relationship.	BT-3	Applying
5.	List down the major steps in planning a project. Explain in detail about the three natures of plans encountered in a typical construction project.	BT 5	Evaluating

## UNIT II - SCHEDULING PROCEDURES AND TECHNIQUES

Relevance of construction schedules-Bar charts - The critical path method-Calculations for critical

path scheduling and PERT -Activity float and schedules-Presenting project schedules Critical path scheduling for Activity-on-node and with leads, Lags and Windows- Resource oriented scheduling- Scheduling with resource constraints and precedences -Use of Advanced Scheduling Techniques- Scheduling with uncertain durations-Calculations for Monte Carlo Schedule Simulation- Crashing and time/cost tradeoffs -Improving the Scheduling process – Introduction to application software(Primavera, MS Project)

**PART – A**

<b>Q.N O</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>																								
1.	Write down the significance of critical path?	BT 1	Remembering																								
2.	Prepare a network for the given activity. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Event</th> <th>Immediate predecessor</th> <th>Event</th> <th>Immediate predecessor</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-</td> <td>6</td> <td>3,5</td> </tr> <tr> <td>2</td> <td>1</td> <td>7</td> <td>3,4</td> </tr> <tr> <td>3</td> <td>2</td> <td>8</td> <td>3,7</td> </tr> <tr> <td>4</td> <td>2</td> <td>9</td> <td>7</td> </tr> <tr> <td>5</td> <td>2</td> <td>10</td> <td>3,6,8,9</td> </tr> </tbody> </table>	Event	Immediate predecessor	Event	Immediate predecessor	1	-	6	3,5	2	1	7	3,4	3	2	8	3,7	4	2	9	7	5	2	10	3,6,8,9	BT 1	Remembering
Event	Immediate predecessor	Event	Immediate predecessor																								
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2	1	7	3,4																								
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4	2	9	7																								
5	2	10	3,6,8,9																								
3.	Compare CPM and PERT	BT 1	Remembering																								
4.	Define the terms: - i) Dummy activity    ii) EST    iii) EFT	BT 1	Remembering																								
5.	Define and differentiate between float and slack.	BT 1	Remembering																								
6.	How will you create an activity node and activity event.	BT 1	Remembering																								
7.	How you will estimate the expected time for an activity.	BT 2	Understanding																								
8.	Define the terms: - i) LFT    ii) LST	BT 2	Understanding																								
9.	List the types of networks.	BT 2	Understanding																								
10.	What are the three time estimates used for determining the activity duration in pert procedure?	BT 2	Understanding																								
11.	What are the steps involved in schedule chart?	BT 1	Remembering																								
12.	List out the factors affecting scheduling.	BT 1	Remembering																								
13.	Discuss about the constraints in scheduling.	BT 1	Remembering																								
14.	Explain the terms total float and independent float.	BT 2	Understanding																								
15.	Write down the necessity of resources oriented scheduling.	BT 1	Remembering																								
16.	Distinguish between crash cost and crash time.	BT 2	Understanding																								

17.	Discuss about the purpose of numbering events?	BT 1	Remembering
18.	Explain resource leveling and crashing.	BT 1	Remembering
19.	State the reason why resource oriented scheduling is necessary.	BT 2	Understanding
20.	Define activity cost slope.	BT 3	Applying
21.	What is called time limited schedule	BT 2	Understanding
22.	What is resource limited schedule	BT 1	Remembering
23.	Define resource construct.	BT 2	Understanding
24.	Differentiate activity and node.	BT 2	Understanding

**PART – B**

1.	<p>The duration of activities of a project is as follows. Draw the PERT network diagram. Identify various paths. Identify the critical path. Tabulate the computations. Evaluate the project time?</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td><b>Activity</b></td> <td>1-2</td> <td>1-3</td> <td>2-4</td> <td>2-5</td> <td>4-7</td> <td>5-7</td> <td>7-8</td> <td>3-6</td> <td>6-8</td> </tr> <tr> <td><b>Duration in days</b></td> <td>5</td> <td>10</td> <td>1</td> <td>6</td> <td>12</td> <td>3</td> <td>4</td> <td>7</td> <td>6</td> </tr> </table>	<b>Activity</b>	1-2	1-3	2-4	2-5	4-7	5-7	7-8	3-6	6-8	<b>Duration in days</b>	5	10	1	6	12	3	4	7	6	BT 4	Analyzing				
<b>Activity</b>	1-2	1-3	2-4	2-5	4-7	5-7	7-8	3-6	6-8																		
<b>Duration in days</b>	5	10	1	6	12	3	4	7	6																		
2.	Explain in relation to network analysis, the terms critical activity, non-critical activity, independent float and free float?	BT 3	Applying																								
3.	<p>Draw the network and design the critical path and calculate the ES, EF, LS and LF of the project whose activities are as follows.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th><b>ACTIVITY</b></th> <th><b>DURATION IN DAYS</b></th> <th><b>PRECEDING ACTIVITY</b></th> </tr> </thead> <tbody> <tr> <td>A-B</td> <td>7</td> <td>-</td> </tr> <tr> <td>B-C</td> <td>10</td> <td>A-B</td> </tr> <tr> <td>B-D</td> <td>15</td> <td>A-B</td> </tr> <tr> <td>C-D</td> <td>7</td> <td>B-C</td> </tr> <tr> <td>C-E</td> <td>12</td> <td>B-C</td> </tr> <tr> <td>D-E</td> <td>3</td> <td>B-D,C-D</td> </tr> <tr> <td>E-F</td> <td>5</td> <td>C-E,D-E</td> </tr> </tbody> </table>	<b>ACTIVITY</b>	<b>DURATION IN DAYS</b>	<b>PRECEDING ACTIVITY</b>	A-B	7	-	B-C	10	A-B	B-D	15	A-B	C-D	7	B-C	C-E	12	B-C	D-E	3	B-D,C-D	E-F	5	C-E,D-E	BT 3	Applying
<b>ACTIVITY</b>	<b>DURATION IN DAYS</b>	<b>PRECEDING ACTIVITY</b>																									
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D-E	3	B-D,C-D																									
E-F	5	C-E,D-E																									

4.	<p>The activities of a project are listed below, draw the network diagram and find out the critical path. Find the completion time of the project. Calculate EST, EFT, LST, LFT and mark in the diagram calculated total float and free float, Tabulate the details.</p> <table border="1"> <thead> <tr> <th rowspan="2">Activity item</th> <th rowspan="2">Duration in days</th> <th colspan="2">Activities immediately</th> </tr> <tr> <th>Preceding</th> <th>Following</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>3</td> <td>-</td> <td>B,C</td> </tr> <tr> <td>B</td> <td>4</td> <td>A</td> <td>D</td> </tr> <tr> <td>C</td> <td>6</td> <td>A</td> <td>D</td> </tr> <tr> <td>D</td> <td>3</td> <td>B, C</td> <td>D,E</td> </tr> <tr> <td>E</td> <td>6</td> <td>C</td> <td>G</td> </tr> <tr> <td>F</td> <td>4</td> <td>D</td> <td>I</td> </tr> <tr> <td>G</td> <td>5</td> <td>E</td> <td>H,J</td> </tr> <tr> <td>H</td> <td>3</td> <td>G</td> <td>I</td> </tr> <tr> <td>I</td> <td>6</td> <td>F,H</td> <td>L</td> </tr> <tr> <td>J</td> <td>4</td> <td>G</td> <td>K</td> </tr> <tr> <td>K</td> <td>4</td> <td>J</td> <td>L</td> </tr> <tr> <td>L</td> <td>4</td> <td>I,K</td> <td>-</td> </tr> </tbody> </table>	Activity item	Duration in days	Activities immediately		Preceding	Following	A	3	-	B,C	B	4	A	D	C	6	A	D	D	3	B, C	D,E	E	6	C	G	F	4	D	I	G	5	E	H,J	H	3	G	I	I	6	F,H	L	J	4	G	K	K	4	J	L	L	4	I,K	-	BT 4	Analyzing
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Activity	A	B	C	D	E	F	G	H	I	J	K																																														
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Duration (Days)	10	12	8	12	6	5	8	8	10	6	12																																														
6.	<p>The details of a network are given below, where the durations are in days. Find the critical path and project completion time.</p>	BT 3	Applying																																																						

	Activity	A	B	C	D	E	F	G	H	I		
	Predecessor	-	-	A	A	B,C	B,C	D,E	D,E	F,G		
	Duration (Days)	4	3	8	7	9	12	2	5	6		
7.	Calculate the critical path and all the floats by constructing activity on branch network?										BT 4	Analyzing
	Activity	A	B	C	D	E	F	G				
	Predecessor	-	A	A	A	D	C,E	D,F				
	Duration (Days)	3	6	16	10	8	5	3				
8.	(i) Define and differentiate between CPM and PERT. (7) (ii) Compare "Precedence network analysis and critical path method? (6)										BT 4	Analyzing
9.	Determine the minimum cost and optimum duration for the following project. The data of each activity of network is given in the table. Indirect cost is Rs.4000/week.										BT 4	Analyzing
	<b>ACTIVITY</b>	<b>NORMAL</b>		<b>CRASH</b>								
		<b>TIME (month)</b>	<b>COST(Rs)</b>	<b>TIME (month)</b>	<b>COST(Rs)</b>							
	0-1	3	5000	2	5500							
	1-3	14	10000	11	13000							
	1-2	7	6000	4	9000							
	2-3	9	11000	6	18000							
	3-4	4	9000	3	12000							
	4-5	3	6000	2	7800							
10.	Explain in detail about resource oriented scheduling?										BT 3	Applying
11.	A project of five activities, whose activity relationships, activity durations (normal and crash) and activity costs (normal and crash) are given in the following table. Estimate the optimum cost and time. Indirect cost is Rs80/ per day.										BT 3	Applying
	<b>ACTIVITY</b>	<b>NORMAL</b>		<b>CRASH</b>								
		<b>TIME (WEEKS)</b>	<b>COST(Rs)</b>	<b>TIME (WEEKS)</b>	<b>COST(Rs)</b>							
	10-20	3	12000	2	16000							



	10-30	6	18000	3	24000																										
	20-40	2	20000	1	23000																										
	30-40	4	16000	2	21000																										
	40-50	5	30000	4	35000																										
12.	Discuss about the various methods of presenting project schedules.					BT 3	Applying																								
13.	i) Discuss about direct cost and indirect cost? (7) ii) What are the constraints of scheduling? Explain how each constraint affects scheduling? (6)					BT 4	Analyzing																								
14.	Describe the techniques used for scheduling a project with uncertain duration? Explain any one of them in detail?					BT 5	Evaluating																								
15.	Explain critical path method with neat sketch.					BT 3	Applying																								
16.	Explain activity float and schedule.					BT 4	Analyzing																								
17.	Explain the factors affecting Resource scheduling.					BT 4	Analyzing																								
<b>PART C</b>																															
1.	Define crashing of activities, rules for crashing and draw the corresponding graphs and explain direct cost, indirect cost(overhead cost), crashing cost and total cost.					BT 5	Evaluating																								
2.	The following table shows the activity needed to compute the project with their normal time and the shortest time in which the activity can be completed for a building contract and the cost per day for reducing the time of each activity. The contract includes a penalty clause of Rs.100 per day over 17 days. The overhead cost per day is Rs.160					BT 4	Analyzing																								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">ACTIVITY</th> <th style="width: 20%;">NORMAL TIME (DAYS)</th> <th style="width: 20%;">SHORTEST TIME (DAYS)</th> <th style="width: 20%;">COST REDUCTION PER DAY</th> </tr> </thead> <tbody> <tr> <td>1-2</td> <td>6</td> <td>4</td> <td>80</td> </tr> <tr> <td>1-3</td> <td>8</td> <td>4</td> <td>90</td> </tr> <tr> <td>1-4</td> <td>5</td> <td>3</td> <td>30</td> </tr> <tr> <td>2-4</td> <td>3</td> <td>3</td> <td>-</td> </tr> <tr> <td>2-5</td> <td>5</td> <td>3</td> <td>40</td> </tr> </tbody> </table>							ACTIVITY	NORMAL TIME (DAYS)	SHORTEST TIME (DAYS)	COST REDUCTION PER DAY	1-2	6	4	80	1-3	8	4	90	1-4	5	3	30	2-4	3	3	-	2-5	5	3	40
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4.	<p>Prepare a CPM network from the list of operations and time for each operation. Prepare a table giving ES, EF, LS, LF times and total float for each operation. Mark on the diagram the critical path and also the minimum time required for the completion the project.</p> <table border="1"> <thead> <tr> <th>Activity</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> <th>G</th> <th>H</th> <th>I</th> <th>J</th> <th>K</th> <th>L</th> <th>M</th> <th>N</th> <th>O</th> </tr> </thead> <tbody> <tr> <td>Duration weeks</td> <td>3</td> <td>5</td> <td>4</td> <td>7</td> <td>6</td> <td>11</td> <td>6</td> <td>4</td> <td>3</td> <td>6</td> <td>5</td> <td>7</td> <td>5</td> <td>3</td> <td>2</td> </tr> <tr> <td>Preceed</td> <td>-</td> <td>A</td> <td>A</td> <td>B</td> <td>B</td> <td>C</td> <td>D</td> <td>E,F</td> <td>C</td> <td>G</td> <td>H,I</td> <td>I</td> <td>H,I</td> <td>K</td> <td>L</td> </tr> <tr> <td>Success</td> <td>B,C</td> <td>D,E</td> <td>F,I</td> <td>G</td> <td>H</td> <td>H</td> <td>I</td> <td>K</td> <td>K,L</td> <td>M</td> <td>N</td> <td>O</td> <td>N</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Activity	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Duration weeks	3	5	4	7	6	11	6	4	3	6	5	7	5	3	2	Preceed	-	A	A	B	B	C	D	E,F	C	G	H,I	I	H,I	K	L	Success	B,C	D,E	F,I	G	H	H	I	K	K,L	M	N	O	N	-	-	BT 5	Evaluating
Activity	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O																																																				
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5.	<p>The detail of a network are given below where duration are in days. Find the critical path project completion time and all floats.</p>	BT 5	Evaluating																																																																

	Activity	A	B	C	D	E	F	G		
	Predecessor	-	-	A,B	C	C	D	D,E		
	Duration	3	5	4	6	3	2	4		

### UNIT III - COST CONTROL MONITORING AND ACCOUNTING

The cost control problem-The project Budget-Forecasting for Activity cost control - financial accounting systems and cost accounts-Control of project cash flows-Schedule control-Schedule and Budget updates-Relating cost and schedule information.

#### PART – A

Q.N O	QUESTIONS	BT LEVEL	COMPETENCE
1.	What is meant by contingencies and define income?	BT 1	Remembering
2.	What are the project cost budget monitoring parameters?	BT 1	Remembering
3.	List out the sources of cash inflow and cash outflow.	BT 1	Remembering
4.	Differentiate financial and managerial accounting.	BT 1	Remembering
5.	Explain the term project budget.	BT 1	Remembering
6.	List out the classification of cost control.	BT 1	Remembering
7.	Write down the advantages of financial accounting.	BT 2	Understanding
8.	Explain the objectives of cost accounting and necessity for project management.	BT 2	Understanding
9.	Differentiate between fixed cost and variable cost.	BT 2	Understanding
10.	Classify the types of accounting system.	BT 2	Understanding
11.	Compare cost committed from cost exposure.	BT 1	Remembering
12.	Explain schedule control.	BT 1	Remembering
13.	Name the controls considered before start of the projects.	BT 2	Applying
14.	Define project cash flow.	BT 1	Remembering
15.	Compare percentage completion method and completed contract method	BT 1	Remembering
16.	Distinguish between budget cost and revised cost.	BT 1	Remembering
17.	Create the S-curve and mention its uses.	BT 1	Remembering
18.	List out the components of cash flow status report.	BT 1	Remembering
19.	Rewrite the formula for schedule control.	BT 1	Remembering

20.	Discuss about the account payable journal and accounts receivable journal.	BT 2	Understanding										
21.	Define cost accounting.	BT 1	Remembering										
22.	Define cost ratio.	BT 2	Understanding										
23.	What are the different compounds of a balance sheet?	BT 2	Understanding										
24.	List out any five indirect cost.	BT 2	Understanding										
<b>PART – B</b>													
1.	i. Describe the stages of work at which cost control is affected. (7) ii. Classify the cost control systems and explain it. (6)	BT 4	Analyzing										
2.	Brief about the project budget?	BT 4	Analyzing										
3.	Explain in detail about the cash flow control in a project.	BT 3	Applying										
4.	List out the various categories of cost involved in a project. Explain it in detail.	BT 4	Analyzing										
5.	Describe about on Schedule control.	BT 3	Applying										
6.	Explain the elements of cash flow status report.	BT 4	Analyzing										
7.	Illustrate the main points in determination of cash flow.	BT 4	Analyzing										
8.	Suppose that a company began six jobs in a year, completing three jobs and having three jobs still underway at the end of the year. Details of the six jobs are shown in the table given below. Evaluate the company's net profit.	BT 3	Applying										
<table border="1" style="width: 100%;"> <thead> <tr> <th colspan="2" style="text-align: center;"><b>Net Profit on Completed Contracts (amounts in thousands)</b></th> </tr> </thead> <tbody> <tr> <td>Job 1</td> <td style="text-align: right;">1436</td> </tr> <tr> <td>Job 2</td> <td style="text-align: right;">356</td> </tr> <tr> <td>Job 3</td> <td style="text-align: right;">-738</td> </tr> <tr> <td>Total Net Profit on Completed Jobs</td> <td style="text-align: right;">1054</td> </tr> </tbody> </table>		<b>Net Profit on Completed Contracts (amounts in thousands)</b>		Job 1	1436	Job 2	356	Job 3	-738	Total Net Profit on Completed Jobs	1054		
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Job 1	1436												
Job 2	356												
Job 3	-738												
Total Net Profit on Completed Jobs	1054												

	Status of Jobs underway Original control price Contract changes (change orders) Total cost to date Payments received or due to date Estimated cost to complete	Job 4 4200 400 3600 3520 500	Job 5 3800 600 1710 1830 2300	Job 6 5630 -300 620 340 5000									
9.	Describe the Forecasting for activity cost control.				BT 3	Applying							
10.	How will you calculate the net profit using percentage of completion method and completed contract method				BT 4	Analyzing							
11.	Define budget and describe its importance for a construction project and explain how the cost and time trends monitored using S curve.				BT 3	Applying							
12.	Write a brief note on relating cost and schedule information.				BT 4	Analyzing							
13.	Explain the terms, i. Measurement of cost performance (7) ii. Investment appraisal (6)				BT 4	Analyzing							
14.	Give a detailed explanation on schedule and budget updates. Describe the following, i. Control estimate (7) ii. Cost planning (6)				BT 3	Applying							
15.	Explain the types of Accounting systems in detail.				BT 4	Analyzing							
16.	Explain the different stages of cost control in detail.				BT 3	Applying							
17.	What are the major causes of unfavorable direct cost variances? Explain the two major objectives of budgeted cost analysis.				BT 4	Analyzing							
<b>PART – C</b>													
1.	Fill the table below. It lists 8 different financial transactions for a construction project. Classify them as Direct cost, Indirect cost, Overhead cost, Cash inflow and outflow.				BT 4	Analyzing							
	<table border="1"> <thead> <tr> <th>S.No</th> <th>Financial component</th> <th>Cash inflow, outflow</th> <th>Direct cost, Indirect cost, Overhead cost</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	S.No	Financial component	Cash inflow, outflow	Direct cost, Indirect cost, Overhead cost								
S.No	Financial component	Cash inflow, outflow	Direct cost, Indirect cost, Overhead cost										

	1.	Mobilization advance given by client				
	2.	Expenditure for worker accident treatment				
	3.	Raw materials purchase				
	4.	Payment for advertisement				
	5.	Monthly salaries and wages				
	6.	Hire charges for machineries				
	7.	Deposit paid to client while getting the work				
	8.	Constructing the temporary office at site				
2.	Explain the different components of accounting system and methods of accounting.				BT 4	Analyzing
3.	Discuss how the cost control for a construction project is carried out.				BT 4	Analyzing
4.	Describe the cash flow statement for a contractor company for residential project showing the various inflow and outflow components for 6 months duration.				BT 5	Evaluating
5.	What are the guide lines to be kept in mind while preparing a budget to make it more effective?				BT 5	Evaluating
<b>UNIT IV - QUALITY CONTROL AND SAFETY DURING CONSTRUCTION</b>						
Quality and safety Concerns in Construction-Organizing for Quality and Safety-Work and Material Specifications-Total Quality control-Quality control by statistical methods - Statistical Quality control with Sampling by Attributes-Statistical Quality control with Sampling by Variables Safety.						
<b>PART – A</b>						
<b>Q.N O</b>	<b>QUESTIONS</b>				<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	Define quality circle				BT 1	Remembering
2.	List the important items to be inspected during the construction				BT 1	Remembering
3.	List out the safety measures				BT 1	Remembering
4.	Define accident				BT 1	Remembering
5.	List the applications of quality circle				BT 1	Remembering
6.	Define injury frequency rate				BT 1	Remembering
7.	Distinguish the health and safety				BT 2	Understanding

8.	How will you interpret the quality control when chance cause and assignable cause exists in a process??	BT 2	Understanding
9.	Discuss the various causes of accident	BT 2	Understanding
10.	Summarize the sampling by attributes	BT 2	Understanding
11.	Classify the statistical sampling methods for quality control	BT 2	Understanding
12.	Examine how the quality control is important in a construction project	BT 2	Understanding
13.	Show the various charts used in statistical quality control	BT 2	Understanding
14.	Explain producer's risk and consumer's risk	BT 2	Understanding
15.	Explain the total quality control	BT 2	Understanding
16.	Differentiate sampling by attributes and sampling by variables	BT 2	Understanding
17.	Prepare a list of duties of quality circle?	BT 1	Remembering
18.	How will you prepare yourselves for the safety audit?	BT 1	Remembering
19.	What are the charts would you recommend for statistical quality control?	BT 2	Understanding
20.	How do you assess the injury frequency rate?	BT 1	Remembering
21.	Define quality circle.	BT 2	Understanding
22.	Define variable	BT 1	Remembering
23.	How do you improve in jobsite in construction?	BT 2	Understanding
24.	Mention two safety quotation.	BT 2	Understanding
<b>PART – B</b>			
1.	Describe the statistical quality control with sampling by attributes.	BT 4	Analyzing
2.	Describe the total quality management and collect the details about the statistical quality control with sampling by variables.	BT 3	Applying
3.	Define accidents and the causes for accidents at construction sites and the various costs are associated with accidents.	BT 3	Applying
4.	Discuss the importance of quality and safety in construction.	BT 4	Analyzing

5.	Summarize the safety requirements of construction industry.	BT 3	Applying
6.	Classify the different methods of statistical quality control.	BT 3	Applying
7.	Explain the problems associated with the safety of a construction site.	BT 4	Analyzing
8.	Explain the importance of safety.	BT 4	Analyzing
9.	Prepare a list of human factors which causes an accidents and mention the various causes of accident.	BT 4	Analyzing
10.	Summarize the following: (i) Statistical quality control by sampling (7) (ii) Safety in construction (6)	BT 3	Applying
11.	Define and differentiate between QA and QC with example.	BT 3	Applying
12.	List the safety precautions for the high rise RCC cast-in-situ construction.	BT 3	Applying
13.	Define and differentiate between statistical quality control with sampling of attributes and statistical quality control with sampling of variables	BT 4	Analyzing
14.	Give detail about the measurement of safety.	BT 5	Evaluating
15.	Explain the various stages of risk cost management.	BT 3	Applying
16.	Briefly explain about the concept of Total quality control and describe how it is established in construction industry.	BT 4	Analyzing
17.	Explain the Statistical Quality control with Sampling by Variables Safety	BT 4	Analyzing

**PART C**

1.	Discuss about the accident prevention programme and provide the general safety programme for a construction project	BT 5	Evaluating
2.	Describe the quality assurance techniques.	BT 4	Analyzing
3.	“Indian construction industry requires a comprehensive legislation for the quality, safety and welfare of its workman” Analyse the above statement and comment on it.	BT 4	Analyzing
4.	Create a brief report on residential project for quality analysis and safety elements which is carried out on the site.	BT 5	Evaluating
5.	Write the case study about historical review of Quality control.	BT 5	Evaluating



**UNIT V - ORGANIZATION AND USE OF PROJECT INFORMATION**

Types of project information-Accuracy and Use of Information-Computerized organization and use of Information -Organizing information in databases-relational model of Data bases-Other conceptual Models of Databases-Centralized database Management systems-Databases and application programs-Information transfer and Flow.

**PART – A**

<b>Q.N O</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	Name the PIMS components	BT 1	Remembering
2.	List the types of project information in respect of a construction project.	BT 1	Remembering
3.	Define relational database	BT 1	Remembering
4.	List out the information set for the progress of the project	BT 1	Remembering
5.	List out the advantages and disadvantages of centralized database management system	BT 1	Remembering
6.	Define decision support system	BT 1	Remembering
7.	Discuss the different stages in construction	BT 2	Understanding
8.	Summarize a few lines about the PIMS	BT 2	Understanding
9.	Describe the database management program	BT 2	Understanding
10.	Estimate how the centralized DBM is more advantages over stand-alone system.	BT 2	Understanding
11.	Examine the performance specifications	BT 1	Remembering
12.	Examine how the accuracy is necessary in information	BT 1	Remembering
13.	Show the importance of network code specifications	BT 2	Applying
14.	Explain the integrated system design	BT 1	Remembering
15.	How will you analyze the network data model?	BT 1	Remembering
16.	Compare the organized information and unorganized information	BT 1	Remembering
17.	Prepare a list of other conceptual models of databases	BT 1	Remembering
18.	How will you generalize the information transfer and flow	BT 1	Remembering
19.	Why do you recommend the object oriented data representation?	BT 1	Remembering

20.	Compare the relational model of data bases and conceptual models of databases	BT 1	Remembering
21.	What are the types of project information?	BT 1	Remembering
22.	Define DBM	BT 2	Understanding
23.	What are the advantages of relational models of databases?	BT 2	Understanding
24.	Define hierarchical model	BT 2	Understanding
<b>PART – B</b>			
1.	Describe the database management system.	BT 4	Analyzing
2.	Elaborate in detail about the various sets of information collected in regard to construction project information.	BT 4	Analyzing
3.	List out the various functions of different managers and the software required for their requirements.	BT 3	Applying
4.	Discuss in detail about the computerized organization and use of information in a project.	BT 4	Analyzing
5.	How will you interpret the database approach to contractor's account and explain it briefly? Mention its advantages and disadvantages also.	BT 3	Applying
6.	Briefly explain the hierarchical models for organizing databases.	BT 4	Analyzing
7.	Illustrate a typical flow chart of an integrated accounting system for the generation of financial reports and explain them briefly.	BT 4	Analyzing
8.	Explain the information transfer and flow in organizing project information.	BT 3	Applying
9.	Describe the network models for organizing project information databases.	BT 5	Evaluating
10.	Bring out the benefits of computerized information system.	BT 4	Analyzing
11.	Describe the importance of information system in the	BT 3	Applying

	effective management of construction.		
12.	Explain the any two types of DBMS based on Information Systems followed in construction industry	BT 4	Analyzing
13.	Discuss in detail about various quality control by statistical methods.	BT 4	Analyzing
14.	Explain the main functions of Project Management Information System? What are the major components of it?	BT 3	Applying
15.	Explain how the information can be organized using computers.	BT 4	Analyzing
16.	Explain centralized database management system.	BT 3	Applying
17.	Explain the problems in information system management in detail.	BT 4	Analyzing
<b>PART – C</b>			
1.	Design an organization chart for the medium size construction company and explain it briefly.	BT 4	Analyzing
2.	Discuss the problems in information system management.	BT 4	Analyzing
3.	Explain how you will assess the information in an organized manner using computers.	BT 4	Analyzing
4.	Illustrate a frame based data storage hierarchy system adopted in construction industry.	BT 5	Evaluating
5.	Explain the types of project information? Write the use of project information in construction.	BT 5	Evaluating