

VALLIAMMAI ENGINEERING COLLEGE

SRM Nagar, Kattankulathur – 603 203

DEPARTMENT OF CIVIL ENGINEERING

QUESTION BANK



VI SEMESTER

CE6005 – CONSTRUCTION PLANNING AND SCHEDULING

Regulation – 2013

Academic Year 2017 – 18

Prepared by

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SUBJECT CODE: CE6005

YEAR: III

SUBJECT NAME: CONSTRUCTION PLANNING AND SCHEDULING

SEM : VI

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(As per Anna University 2013 Regulation)

UNIT 1- CONSTRUCTION PLANNING

Basic concepts in the development of construction plans-choice of Technology and Construction method-Defining Work Tasks- Definition- Precedence relationships among activities-Estimating Activity Durations-Estimating Resource Requirements for work activities-coding systems.

PART A

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Name any two coding systems used in the construction industry.	BT-2	Understanding
2.	Prepare a flow chart representing the role of planning in different stages.	BT-5	Evaluating
3.	Write any two objectives of planning.	BT-3	Applying
4.	Explain briefly the precedence relationship among activities.	BT-4	Analyzing
5.	What are the necessities of planning?	BT-3	Applying
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-1	Remembering
9.	Differentiate activity and event.	BT-5	Evaluating
10.	List out the uses of coding system.	BT-1	Remembering
11.	Define work task.	BT-1	Remembering
12.	Classify the different project planning techniques.	BT-4	Analyzing
13.	Describe the significance of choice of technology.	BT-2	Understanding
14.	List out project planning techniques?	BT-1	Remembering

15.	Identify the various resources used for construction project.	BT-1	Remembering
16.	Explain the process involved in planning.	BT-6	Creating
17.	Write short notes on choice of construction method.	BT-3	Applying
18.	How will you estimate the activity duration?	BT-2	Understanding
19.	Explain the basic concepts involved in development of construction plan.	BT-4	Analyzing
20.	Summarize the learning curve and define the different phases of learning.	BT-6	Creating

PART B

S.No	QUESTIONS	BT LEVEL	COMPETENCE
1.	Explain in detail about the estimation of activity durations and importance of learning curves.	BT-6	Creating
2.	Define construction planning. Explain in detail about the basic concept involved in the development of construction plan.	BT-1	Remembering
3.	Prepare a generalized report on stages of planning by different agencies.	BT-5	Evaluating
4.	Define the precedence relationship among various activities and justify the relationship.	BT-1	Remembering
5.	Describe the importance of coding system of activities with examples.	BT-2	Understanding
6.	List out the factors deciding activity durations.	BT-1	Remembering
7.	Explain the procedure to formulate activity network with suitable example.	BT-4	Analyzing
8.	i. Write down the importance of construction planning. (7) ii. What are the steps involved in planning? (6)	BT-3	Applying
9.	How do you specify precedence relationship in activity on node and activity on branch network?	BT-2	Understanding
10.	How will you estimate the resources for work activities?	BT-2	Understanding
11.	i. Define WBS (3)	BT-1	Remembering

	ii. Draw a typical WBS tree diagram for residence building construction. (10)		
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-4	Analyzing
13.	Explain with reference to a high rise building comparing cast-in-situ and precast construction methods for the RCC structure.	BT-4	Analyzing
14.	Define construction planning. Explain in detail about the basic concept involved in the development of construction plan.	BT-1	Remembering

PART – C

1.	Describe in detail the relationship between choice of technology – construction method and the project time frame and budget limitations.	BT- 2	Understanding
2.	What are the different methods to estimate the time duration of activities?	BT-1	Remembering
3.	Demonstrate the precedence definition for site preparation and foundation work.	BT-3	Applying
4.	Prepare work breakdown and activity network for a tunnelling project by defining the precedence relationship.	BT-5	Evaluating

UNIT II- SCHEDULING PROCEDURES AND TECHNIQUES

Relevance of construction schedules-Bar charts - The critical path method-Calculations for critical path scheduling-Activity float and schedules-Presenting project schedules-Critical path scheduling for Activity-on-node and with leads, Lags and Windows-Calculations for scheduling with leads, lags and windows-Resource oriented scheduling-Scheduling with resource constraints and precedences -Use of Advanced Scheduling Techniques-Scheduling with uncertain durations-

Crashing and time/cost trade-offs -Improving the Scheduling process – Introduction to application software.

PART A

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE																								
1.	Write down the significance of critical path?	BT-3	Applying																								
2.	Prepare a network for the given activity.	BT-1	Remembering																								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <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
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	3			2	8	3,7																					
4	2	9	7																								
5	2	10	3,6,8,9																								
3.	Compare CPM and PERT	BT-6	Creating																								
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-1	Remembering																								
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-4	Analyzing																								
11.	What are the steps involved in schedule chart?	BT-1	Remembering																								
12.	List out the factors affecting scheduling.	BT-5	Evaluating																								
13.	Discuss about the constraints in scheduling.	BT-2	Understanding																								
14.	Explain the terms total float and independent float.	BT-6	Creating																								
15.	Write down the necessity of resources oriented scheduling.	BT-3	Applying																								
16.	Distinguish between crash cost and crash time.	BT-5	Evaluating																								
17.	Discuss about the purpose of numbering events?	BT-2	Understanding																								
18.	Explain resource leveling and crashing.	BT-4	Analyzing																								
19.	State the reason why resource oriented scheduling is necessary.	BT-3	Applying																								
20.	Define activity cost slope.	BT-4	Analyzing																								

PART B

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE																								
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="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Activity</th> <th>1-2</th> <th>1-3</th> <th>2-4</th> <th>2-5</th> <th>4-7</th> <th>5-7</th> <th>7-8</th> <th>3-6</th> <th>6-8</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">Duration in days</td> <td style="text-align: center;">5</td> <td style="text-align: center;">10</td> <td style="text-align: center;">1</td> <td style="text-align: center;">6</td> <td style="text-align: center;">12</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">7</td> <td style="text-align: center;">6</td> </tr> </tbody> </table>	Activity	1-2	1-3	2-4	2-5	4-7	5-7	7-8	3-6	6-8	Duration in days	5	10	1	6	12	3	4	7	6	BT-6	Creating				
Activity	1-2	1-3	2-4	2-5	4-7	5-7	7-8	3-6	6-8																		
Duration in days	5	10	1	6	12	3	4	7	6																		
2.	<p>Explain in relation to network analysis, the terms critical activity, non-critical activity, independent float and free float?</p>	BT-4	Analyzing																								
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="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">ACTIVITY</th> <th style="text-align: left;">DURATION IN DAYS</th> <th style="text-align: left;">PRECEDING ACTIVITY</th> </tr> </thead> <tbody> <tr> <td>A-B</td> <td style="text-align: center;">7</td> <td style="text-align: center;">-</td> </tr> <tr> <td>B-C</td> <td style="text-align: center;">10</td> <td style="text-align: center;">A-B</td> </tr> <tr> <td>B-D</td> <td style="text-align: center;">15</td> <td style="text-align: center;">A-B</td> </tr> <tr> <td>C-D</td> <td style="text-align: center;">7</td> <td style="text-align: center;">B-C</td> </tr> <tr> <td>C-E</td> <td style="text-align: center;">12</td> <td style="text-align: center;">B-C</td> </tr> <tr> <td>D-E</td> <td style="text-align: center;">3</td> <td style="text-align: center;">B-D,C-D</td> </tr> <tr> <td>E-F</td> <td style="text-align: center;">5</td> <td style="text-align: center;">C-E,D-E</td> </tr> </tbody> </table>	ACTIVITY	DURATION IN DAYS	PRECEDING ACTIVITY	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-5	Evaluating
ACTIVITY	DURATION IN DAYS	PRECEDING ACTIVITY																									
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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" data-bbox="300 352 1112 1192"> <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-3	Applying
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Duration (Days)	10	1 2	8	1 2	6	5	8	8	10	6	12																																														
6.	The details of a network are given below, where the durations are in days. Find the critical path and project completion time.	BT-2	Understanding																																																						

	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-3	Applying
	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-1	Remembering
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-2	Understanding
	ACTIVITY	NORMAL		CRASH								
		TIME (month)	COST(Rs)	TIME (month)	COST(Rs)							
	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-1	Remembering

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	
	ACTIVITY	NORMAL		CRASH			
		TIME (WEEKS)	COST(Rs)	TIME (WEEKS)			COST(Rs)
	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-1	Remembering	
13.	i) Discuss about direct cost and indirect cost? (7)				BT-2	Understanding	
	ii) What are the constraints of scheduling? Explain how each constraint affects scheduling? (6)						
14.	Describe the techniques used for scheduling a project with uncertain duration? Explain any one of them in detail?				BT-4	Analyzing	

PART – C

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-1	Remembering	
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			
	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

	<table border="1"> <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> <tr><td>3-6</td><td>12</td><td>8</td><td>200</td></tr> <tr><td>4-6</td><td>8</td><td>5</td><td>50</td></tr> <tr><td>5-6</td><td>6</td><td>6</td><td>-</td></tr> </table> <p>i. Cost completing the 8 activities in normal time is Rs.6500. Estimate the normal duration of the project, its cost and its critical path</p> <p>ii. Estimate the optimum duration of the project and their corresponding cost using cost time function.</p>	2-4	3	3	-	2-5	5	3	40	3-6	12	8	200	4-6	8	5	50	5-6	6	6	-																																										
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3.	<p>The details of a network are given below where the duration is in days.</p> <table border="1"> <thead> <tr><th>ACTIVITY</th><th>t_0</th><th>t_m</th><th>t_p</th></tr> </thead> <tbody> <tr><td>1-2</td><td>2</td><td>5</td><td>8</td></tr> <tr><td>1-3</td><td>1</td><td>4</td><td>7</td></tr> <tr><td>2-3</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>2-4</td><td>2</td><td>4</td><td>6</td></tr> <tr><td>2-6</td><td>5</td><td>7</td><td>12</td></tr> <tr><td>3-4</td><td>3</td><td>5</td><td>10</td></tr> <tr><td>3-5</td><td>3</td><td>6</td><td>9</td></tr> <tr><td>4-5</td><td>7</td><td>6</td><td>10</td></tr> <tr><td>4-6</td><td>2</td><td>5</td><td>8</td></tr> <tr><td>5-6</td><td>2</td><td>4</td><td>6</td></tr> </tbody> </table> <p>Describe the critical path, float and project completion time?</p>	ACTIVITY	t_0	t_m	t_p	1-2	2	5	8	1-3	1	4	7	2-3	0	0	0	2-4	2	4	6	2-6	5	7	12	3-4	3	5	10	3-5	3	6	9	4-5	7	6	10	4-6	2	5	8	5-6	2	4	6	BT- 2	Understanding																
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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>Activ</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></tr> </thead> <tbody> <tr><td>Dur (wks)</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></tr> <tr><td>Prece</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></tr> <tr><td>Succ</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></tr> </tbody> </table>	Activ	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Dur (wks)	3	5	4	7	6	11	6	4	3	6	5	7	5	3	Prece	-	A	A	B	B	C	D	E,F	C	G	H,I	I	H,I	K	Succ	B,C	D,E	F,I	G	H	H	I	K	K,L	M	N	O	N	-	BT-5	Evaluating
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Succ	B,C	D,E	F,I	G	H	H	I	K	K,L	M	N	O	N	-																																																	

UNIT 3- 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.NO	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-3	Applying
3.	List out the sources of cash inflow and cash outflow.	BT-1	Remembering
4.	Differentiate financial and managerial accounting.	BT-2	Understanding
5.	Explain the term project budget.	BT-6	Creating
6.	List out the classification of cost control.	BT-1	Remembering
7.	Write down the advantages of financial accounting.	BT-3	Applying
8.	Explain the objectives of cost accounting and necessity for project management.	BT-4	Analyzing
9.	Differentiate between fixed cost and variable cost.	BT-2	Understanding
10.	Classify the types of accounting system.	BT-3	Applying
11.	Compare cost committed from cost exposure.	BT-6	Creating
12.	Explain schedule control.	BT-4	Analyzing
13.	Name the controls considered before start of the projects.	BT-1	Remembering
14.	Define project cash flow.	BT-1	Remembering
15.	Compare percentage completion method and completed contract method	BT-4	Analyzing
16.	Distinguish between budget cost and revised cost.	BT-2	Understanding
17.	Create the S-curve and mention its uses.	BT-5	Evaluating
18.	List out the components of cash flow status report.	BT-1	Remembering
19.	Rewrite the formula for schedule control.	BT-5	Evaluating
20.	Discuss about the account payable journal and accounts receivable journal.	BT-2	Understanding

PART B

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE																																												
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-1	Remembering																																												
2.	Brief about the project budget?	BT-1	Remembering																																												
3.	Explain in detail about the cash flow control in a project.	BT-4	Analyzing																																												
4.	List out the various categories of cost involved in a project. Explain it in detail.	BT-1	Remembering																																												
5.	Describe about on Schedule control.	BT-3	Applying																																												
6.	Explain the elements of cash flow status report.	BT-2	Understanding																																												
7.	Illustrate the main points in determination of cash flow.	BT-6	Creating																																												
8.	<p>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.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: left;">Net Profit on Completed Contracts (amounts in thousands)</th> </tr> </thead> <tbody> <tr> <td style="width: 40%;">Job 1</td> <td style="width: 20%;">1436</td> <td colspan="2"></td> </tr> <tr> <td>Job 2</td> <td>356</td> <td colspan="2"></td> </tr> <tr> <td>Job 3</td> <td>-738</td> <td colspan="2"></td> </tr> <tr> <td>Total Net Profit on Completed Jobs</td> <td>1054</td> <td colspan="2"></td> </tr> <tr> <th colspan="4" style="text-align: left;">Status of Jobs underway</th> </tr> <tr> <td>Original control price</td> <td>Job 4 4200</td> <td>Job 5 3800</td> <td>Job 6 5630</td> </tr> <tr> <td>Contract changes (change orders)</td> <td>400</td> <td>600</td> <td>-300</td> </tr> <tr> <td>Total cost to date</td> <td>3600</td> <td>1710</td> <td>620</td> </tr> <tr> <td>Payments received or due to date</td> <td>3520</td> <td>1830</td> <td>340</td> </tr> <tr> <td>Estimated cost to complete</td> <td>500</td> <td>2300</td> <td>5000</td> </tr> </tbody> </table>	Net Profit on Completed Contracts (amounts in thousands)				Job 1	1436			Job 2	356			Job 3	-738			Total Net Profit on Completed Jobs	1054			Status of Jobs underway				Original control price	Job 4 4200	Job 5 3800	Job 6 5630	Contract changes (change orders)	400	600	-300	Total cost to date	3600	1710	620	Payments received or due to date	3520	1830	340	Estimated cost to complete	500	2300	5000	BT-5	Evaluating
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9.	Describe the Forecasting for activity cost control.	BT-2	Understanding
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-2	Understanding
12.	Write a brief notes on relating cost and schedule information.	BT-3	Applying
13.	Explain the terms, i. Measurement of cost performance (7) ii. Investment appraisal (6)	BT-4	Analyzing
14.	Describe the following , i. control estimate (7) ii. cost planning (6)	BT-1	Remembering



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- 2	Understanding																																
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		while getting the work				
	8.	Constructing the temporary office at site				
2.	Explain the different components of accounting system and methods of accounting.				BT-6	Creating
3.	Discuss how the cost control for a construction project is carried out.				BT- 2	Understanding
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-1	Remembering

UNIT 4- QUALITY CONTROL AND SAFETY DURING CONSTRUCTION

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 by Sampling and Variables-Safety.

PART A

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
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-3	Applying

12.	Examine how the quality control is important in a construction project	BT-3	Applying
13.	Show the various charts used in statistical quality control	BT-3	Applying
14.	Explain producer's risk and consumer's risk	BT-4	Analyzing
15.	Explain the total quality control	BT-4	Analyzing
16.	Differentiate sampling by attributes and sampling by variables	BT-4	Analyzing
17.	Prepare a list of duties of quality circle?	BT-5	Evaluating
18.	How will you prepare yourselves for the safety audit?	BT-5	Evaluating
19.	What are the charts would you recommend for statistical quality control?	BT-6	Creating
20.	How do you assess the injury frequency rate?	BT-6	Creating

PART B

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Describe the statistical quality control with sampling by attributes.	BT-1	Remembering
2.	Describe the total quality management and collect the details about the statistical quality control with sampling by variables.	BT-1	Remembering
3.	Define accidents and the causes for accidents at construction sites and the various costs are associated with accidents.	BT-1	Remembering
4.	Discuss the importance of quality and safety in construction	BT-2	Understanding
5.	Summarize the safety requirements of construction industry.	BT-2	Understanding
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-5	Evaluating
10.	Summarize the following: (i) Statistical quality control by sampling (7) (ii) Safety in construction (6)	BT-6	Creating
11.	Define and differentiate between QA and QC with example	BT-1	Remembering

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-2	Understanding
14.	Give detail about the measurement of safety.	BT-4	Applying

PART – C

1.	Discuss about the accident prevention programme and provide the general safety programme for a construction project	BT- 2	Understanding
2.	Describe the quality assurance techniques.	BT- 2	Understanding
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-6	Creating
4.	Create a brief report on residential project for quality analysis and safety elements which is carried out on the site.	BT-5	Evaluating

UNIT 5- ORGANISATION 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

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
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-3	Applying
12.	Examine how the accuracy is necessary in information	BT-3	Applying
13.	Show the importance of network code specifications	BT-3	Applying
14.	Explain the integrated system design	BT-4	Analyzing
15.	How will you analyze the network data model?	BT-4	Analyzing
16.	Compare the organized information and unorganized information	BT-4	Analyzing
17.	Prepare a list of other conceptual models of databases	BT-5	Evaluating
18.	How will you generalize the information transfer and flow	BT-5	Evaluating
19.	Why do you recommend the object oriented data representation?	BT-6	Creating
20.	Compare the relational model of data bases and conceptual models of databases	BT-6	Creating

PART B

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Describe the database management system.	BT-1	Remembering
2.	Elaborate in detail about the various sets of information collected in regard to construction project information.	BT-1	Remembering
3.	List out the various functions of different managers and the software required for their requirements.	BT-1	Remembering
4.	Discuss in detail about the computerized organization and use of information in a project.	BT-2	Understanding
5.	How will you interpret the database approach to contractor's	BT-2	Understanding

	account and explain it briefly. Mention its advantages and disadvantages also.		
6.	Briefly explain the hierarchical models for organizing databases.	BT-3	Applying
7.	Illustrate a typical flow chart of an integrated accounting system for the generation of financial reports and explain them briefly.	BT-3	Applying
8.	Explain the information transfer and flow in organizing project information.	BT-4	Analyzing
9.	Describe the network models for organizing project information databases.	BT-5	Evaluating
10	Bring out the benefits of computerized information system.	BT-6	Creating
11	Describe the importance of information system in the effective management of construction.	BT-1	Remembering
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-2	Understanding
14	Explain the main functions of Project Management Information System? What are the major components of it?	BT-4	Analyzing

PART – C

1.	Design an organization chart for the medium size construction company and explain it briefly.	BT-5	Evaluating
2.	Discuss the problems in information system management.	BT- 2	Understanding
3.	Explain how you will assess the information in an organized manner using computers.	BT- 2	Understanding
4.	Illustrate a frame based data storage hierarchy system adopted in construction industry.	BT-3	Applying

VALLIAMMAI ENGINEERING COLLEGE

DEPARTMENT OF CIVIL ENGINEERING

CE 6005 – CONSTRUCTION OF PLANNING AND SCHEDULING

QUESTION BANK

S.no	UNIT NO.		BT1	BT2	BT3	BT4	BT5	BT6	Total Question
1	Unit-1	Part-A	6	4	3	3	2	2	20
		Part-B	4	3	2	3	1	1	14
		Part-C	1	1	1	-	1	-	4
2	Unit-2	Part-A	6	4	3	3	2	2	20
		Part-B	4	3	2	3	1	1	14
		Part-C	1	2	-	-	1	-	4
3	Unit-3	Part-A	6	4	3	3	2	2	20
		Part-B	4	3	2	3	1	1	14
		Part-C	1	2	-	-	-	1	4
4	Unit-4	Part-A	6	4	3	3	2	2	20
		Part-B	4	3	2	3	1	1	14
		Part-C	-	2	-	-	1	1	4
5	Unit-5	Part-A	6	4	3	3	2	2	20
		Part-B	4	3	2	3	1	1	14
		Part-C	-	2	1	-	1	-	4

TOTAL NO. OF QUESTIONS IN EACH PART

PART-A	100
PART-B	70
PART-C	20
TOTAL	190