



**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY: PUTTUR**  
(AUTONOMOUS)

Siddharth Nagar, Narayanavanam Road – 517583

**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code: PROJECT PLANNING AND CONTROL (20CE0171)**

**Course & Branch: AGE**

**Year & Sem: IV Year & I Sem**

**Regulation: R20**

**UNIT –I**

**PROJECT MANAGEMENT & BASIC TECHNIQUES OF PROJECT MANAGEMENT**

1	a) Discuss in brief the role of management in project execution. b) What is the role of Decision making in project Management. Explain?	[L1][CO1] [L1][CO1]	[6M] [6M]																								
2	Explain why planning is necessary. Describe various steps for planning a project.	[L2][CO1]	[12M]																								
3	a) Write about project scheduling and describe various steps involved in project scheduling. b) Write about project controlling and describe various steps involved in project controlling.	[L1][CO1] [L1][CO1]	[6M] [6M]																								
4	a) Discuss briefly about project monitoring and control. b) Discuss briefly about project monitoring and information cell.	[L1] [CO1] [L1] [CO1]	[8M] [4M]																								
5	Describe various phases involved in project management and also Explain it in brief?																										
6	a) What is a bar chart? Write down steps for the construction of a bar chart with sketch. b) Write down various Limitations to construct a bar chart.	[L1][CO1] [L1][CO1]	[8M] [4M]																								
7	Draw the bar chart for finalization of designs and work order for a building project.	[L3][CO1]	[12M]																								
	<table border="1"> <thead> <tr> <th>Activity</th> <th>Description</th> <th>Time for completion(weeks)</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Site selection &amp; survey</td> <td>4</td> </tr> <tr> <td>B</td> <td>Design</td> <td>6</td> </tr> <tr> <td>C</td> <td>Preparation of Drawings</td> <td>3</td> </tr> <tr> <td>D</td> <td>Preparation of specifications &amp; tender documents</td> <td>2</td> </tr> <tr> <td>E</td> <td>Tendering (NIT)</td> <td>4</td> </tr> <tr> <td>F</td> <td>Selection of Contractor</td> <td>1</td> </tr> <tr> <td>G</td> <td>Award of work order</td> <td>1</td> </tr> </tbody> </table>	Activity	Description	Time for completion(weeks)	A	Site selection & survey	4	B	Design	6	C	Preparation of Drawings	3	D	Preparation of specifications & tender documents	2	E	Tendering (NIT)	4	F	Selection of Contractor	1	G	Award of work order	1		
Activity	Description	Time for completion(weeks)																									
A	Site selection & survey	4																									
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D	Preparation of specifications & tender documents	2																									
E	Tendering (NIT)	4																									
F	Selection of Contractor	1																									
G	Award of work order	1																									
8	The Activity Breakdown for a certain project is as under.	[L3][CO1]	[12M]																								
	<table border="1"> <thead> <tr> <th>Activity</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> </tr> </thead> <tbody> <tr> <th>Duration(weeks)</th> <td>1</td> <td>2</td> <td>4</td> <td>3</td> <td>1</td> <td>2</td> <td>4</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>Activity 2&amp;3 can be done concurrently and both must follow activity 1.</li> <li>Activity 2 must precede activity 4.</li> <li>activity 5 cannot begin until both activities 2&amp;3 are complete.</li> <li>Activity 6 can be started only after activities 4&amp;5 complete.</li> <li>Activity 7 is the last activity which can be started only after completion of activity 5.</li> </ul> <p>Prepare the bar chart for the project</p>	Activity	1	2	3	4	5	6	7	Duration(weeks)	1	2	4	3	1	2	4										
Activity	1	2	3	4	5	6	7																				
Duration(weeks)	1	2	4	3	1	2	4																				

9	<p>A project consists of a 8 activities A,B,C,D,E,F,G &amp; H with their times of completion as follow:</p> <table border="1"> <tr> <td>Activities</td> <td>A</td> <td>B</td> <td>C</td> <td>D</td> <td>E</td> <td>F</td> <td>G</td> <td>H</td> </tr> <tr> <td>Duration</td> <td>2</td> <td>4</td> <td>2</td> <td>4</td> <td>6</td> <td>4</td> <td>5</td> <td>4</td> </tr> </table> <p>The precedence relationship are as follows:</p> <ul style="list-style-type: none"> <li>• A &amp; B can be performed in parallel.</li> <li>• C &amp; D cannot start until A is complete.</li> <li>• E cannot start until half of the work of activity C is complete.</li> <li>• F can start only after activity D is complete.</li> <li>• F succeeds C.</li> <li>• H is the last activity, which should succeed E.</li> </ul> <p>a) Draw a Bar Chart.  b) What is the total completion time of the project?  c) If there is increase of 2 weeks in time of completion of activity A, what will be the corresponding increase in the total time of the completion of the project.</p>	Activities	A	B	C	D	E	F	G	H	Duration	2	4	2	4	6	4	5	4	[L3][CO1]	[12M]
Activities	A	B	C	D	E	F	G	H													
Duration	2	4	2	4	6	4	5	4													
10	<p>a) Explain briefly about development of a network  b) Explain in brief the difference between PERT AND CPM networks.</p>	[L2][CO1] [L2][CO1]	[6M] [6M]																		

**UNIT –II**  
**ELEMENTS OF NETWORK AND DEVELOPMENT OF NETWORK**

1	<p>a) Define Event with examples? Explain briefly about properties and representation of an Event.</p> <p>b) Explain Briefly about specification of an Event.</p>	[L2][CO2] [L2][CO2]	[6M] [6M]																								
2	<p>a) Define Activity with examples? Explain briefly about representation and identification of Activity.</p> <p>b) What is a Dummy Activity and what are the use of dummy Activity?</p>	[L2][CO2]	[12M]																								
3	Discuss briefly about various network rules to follow in a network diagram.	[L1][CO2]	[12M]																								
4	What are common partial situation in network and how it represents?	[L1][CO2]	[12M]																								
5	<p>a) Explain how will you give numbering the events?</p> <p>b) A Project plan consisting of ten events have predecessor relationships as under:</p> <table border="1"> <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> <p>Draw the network diagram for the project.</p>	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	[L2][CO2] [L3][CO2]	[6M] [6M]
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																								
6	<p>Draw a network diagram for the project having 9 activities with the following interrelationships:</p> <p>a) C follows D but precedes F.</p> <p>b) C follows B but precedes H.</p> <p>c) G follows F but precedes I.</p> <p>d) E follows A but precedes I.</p> <p>e) D follows A.</p> <p>f) H and I terminate at the same time.</p> <p>g) A and B starts at the same time.</p>	[L3][CO2]	[12M]																								
7	<p>The maintenance of project of a building consists of ten jobs. The predecessor relationships are identified by their node numbers, as indicated below:</p> <table border="1"> <thead> <tr> <th>Job</th> <th>Identification</th> <th>Job</th> <th>Identification</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>(1,2)</td> <td>F</td> <td>(4,5)</td> </tr> <tr> <td>B</td> <td>(2,3)</td> <td>G</td> <td>(4,7)</td> </tr> <tr> <td>C</td> <td>(2,4)</td> <td>H</td> <td>(5,8)</td> </tr> <tr> <td>D</td> <td>(3,6)</td> <td>I</td> <td>(6,8)</td> </tr> <tr> <td>E</td> <td>(3,5)</td> <td>J</td> <td>(7,8)</td> </tr> </tbody> </table> <p>Draw the network diagram for the project.</p>	Job	Identification	Job	Identification	A	(1,2)	F	(4,5)	B	(2,3)	G	(4,7)	C	(2,4)	H	(5,8)	D	(3,6)	I	(6,8)	E	(3,5)	J	(7,8)	[L3][CO2]	[12M]
Job	Identification	Job	Identification																								
A	(1,2)	F	(4,5)																								
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C	(2,4)	H	(5,8)																								
D	(3,6)	I	(6,8)																								
E	(3,5)	J	(7,8)																								
8	What are the steps involved in development of a network. Explain briefly with example.	[L3][CO2]	[12M]																								

9	<p>a) Write about breakdown structure and hierarchies.</p> <p>b) Write specification, determine plan breakdown and prepare network for the project of ‘Casting a concrete beam over verandah opening.’”</p>	<p>[L1][CO2]</p> <p>[L1][CO2]</p>	<p>[4M]</p> <p>[8M]</p>
10	<p>a) Construct the network for the manufacture of a storage cabinet, given the following specification:  ‘A simple storage cabinet is to be manufactured by fabrication and assembly of frame and panels. The cabinet is to be painted. Panels and paint are available from store.</p> <p>b) Assume that a statue is to be erected in a village square on a stone platform which is to be built on a cement concrete foundation. The statue is to be prepared at another place, moved and erected. The various operations of entire project are given below. The various operations are not in logical sequence.</p> <p>A. Make statue  B. Shift statue  C. Erect statue  D. Lay Foundation  E. Construction Platform.</p> <p>Represent the above project by</p> <p>i. Activity oriented network  ii. Event oriented network.</p>	<p>[L3][CO2]</p> <p>[L3][CO2]</p>	<p>[12M]</p> <p>[12M]</p>

## UNIT –III

## PERT: TIME ESTIMATES AND PERT: TIME COMPUTATIONS &amp; NETWORK ANALYSIS

1	<p>a) Define PERT? What are the uses of PERT.</p> <p>b) What are the different types of time estimates involved in PERT? Explain in detail.</p>	[L1][CO3] [L2][CO3]	[6M] [6M]																																																										
2	<p>a) What do you understand by the frequency distribution?</p> <p>b) How do you determine i) Mean ii) Variance and iii) Standard deviation</p>	[L1][CO3] [L1][CO3]	[6M] [6M]																																																										
3	<p>a) What is meant by probability distribution curve?</p> <p>b) Differentiate clearly between normal probability distribution curve and beta distribution.</p>	[L1][CO3] [L1][CO3]	[6M] [6M]																																																										
4	<p>a) Explain briefly about determination of time computations.</p> <p>b) Discuss briefly about computation of Expected time, Critical Path and Slack</p>	[L2][CO4] [L1][CO4]	[6M] [6M]																																																										
5	<p>A project schedule has the following characteristics</p> <p>a) Construct network diagram</p> <p>b) Find the estimated duration and variance</p> <p>c) Find the critical path and expected project completion time</p> <p>What is the probability of completing the project on or before 22 weeks</p> <table border="1"> <thead> <tr> <th rowspan="2">Activity</th> <th rowspan="2">Predecessor</th> <th colspan="3">Duration ( weeks)</th> </tr> <tr> <th><math>t_o</math></th> <th><math>t_m</math></th> <th><math>t_p</math></th> </tr> </thead> <tbody> <tr><td>A</td><td>-</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>B</td><td>-</td><td>1</td><td>3</td><td>5</td></tr> <tr><td>C</td><td>-</td><td>1</td><td>4</td><td>7</td></tr> <tr><td>D</td><td>A</td><td>1</td><td>2</td><td>3</td></tr> <tr><td>E</td><td>B</td><td>1</td><td>2</td><td>9</td></tr> <tr><td>F</td><td>C</td><td>1</td><td>5</td><td>9</td></tr> <tr><td>G</td><td>C</td><td>2</td><td>2</td><td>8</td></tr> <tr><td>H</td><td>E, F</td><td>4</td><td>4</td><td>10</td></tr> <tr><td>I</td><td>D</td><td>2</td><td>5</td><td>8</td></tr> <tr><td>J</td><td>H, G</td><td>2</td><td>2</td><td>8</td></tr> </tbody> </table>	Activity	Predecessor	Duration ( weeks)			$t_o$	$t_m$	$t_p$	A	-	5	6	7	B	-	1	3	5	C	-	1	4	7	D	A	1	2	3	E	B	1	2	9	F	C	1	5	9	G	C	2	2	8	H	E, F	4	4	10	I	D	2	5	8	J	H, G	2	2	8	[L3][CO4]	[12M]
Activity	Predecessor			Duration ( weeks)																																																									
		$t_o$	$t_m$	$t_p$																																																									
A	-	5	6	7																																																									
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J	H, G	2	2	8																																																									
6	<p>A project schedule has the following characteristics</p> <p>a) Construct network diagram</p> <p>b) Find the estimated duration and variance</p> <p>c) Find the critical path, slack and expected project completion time</p> <p>What is the probability of completing the project on or before 42 weeks</p> <table border="1"> <thead> <tr> <th rowspan="2">Activity</th> <th rowspan="2">Dependency</th> <th colspan="3">Duration( Days)</th> </tr> <tr> <th><math>t_o</math></th> <th><math>t_m</math></th> <th><math>t_p</math></th> </tr> </thead> <tbody> <tr><td>A</td><td>-</td><td>3</td><td>12</td><td>21</td></tr> <tr><td>B</td><td>A</td><td>2</td><td>5</td><td>14</td></tr> <tr><td>C</td><td>A</td><td>6</td><td>15</td><td>30</td></tr> <tr><td>D</td><td>B</td><td>1</td><td>2</td><td>3</td></tr> <tr><td>E</td><td>B</td><td>5</td><td>14</td><td>17</td></tr> <tr><td>F</td><td>C,D</td><td>2</td><td>5</td><td>14</td></tr> <tr><td>G</td><td>C,D</td><td>4</td><td>5</td><td>12</td></tr> <tr><td>H</td><td>E,F</td><td>1</td><td>4</td><td>7</td></tr> </tbody> </table>	Activity	Dependency	Duration( Days)			$t_o$	$t_m$	$t_p$	A	-	3	12	21	B	A	2	5	14	C	A	6	15	30	D	B	1	2	3	E	B	5	14	17	F	C,D	2	5	14	G	C,D	4	5	12	H	E,F	1	4	7	[L3][CO4]	[12M]										
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C	A	6	15	30																																																									
D	B	1	2	3																																																									
E	B	5	14	17																																																									
F	C,D	2	5	14																																																									
G	C,D	4	5	12																																																									
H	E,F	1	4	7																																																									

7 The network for a construction project is shown in figure. The three time estimates foreach activity are given along each activity arrow. Compute

- Expected time of completion of each activity
- Earliest expected time for each event
- Latest allowable occurrence time for each event.

```

    graph LR
      1((1)) -- "6-9-18" --> 2((2))
      1((1)) -- "5-8-17" --> 3((3))
      2((2)) -- "4-7-10" --> 6((6))
      2((2)) -- "4-7-22" --> 4((4))
      3((3)) -- "4-7-16" --> 4((4))
      3((3)) -- "2-5-8" --> 7((7))
      4((4)) -- "4-10-22" --> 5((5))
      5((5)) -- "6-11-20" --> 10((10))
      5((5)) -- "4-9-20" --> 7((7))
      6((6)) -- "3-5-13" --> 8((8))
      7((7)) -- "4-7-16" --> 9((9))
      8((8)) -- "5-8-17" --> 10((10))
      9((9)) -- "4-7-16" --> 10((10))
    
```

[L3][CO4]

[12M]

8 A project has the following characteristics

Activity	Predecessor	Duration (weeks)		
		$t_o$	$t_m$	$t_p$
A	-	0.5	2	7
B	A	1	3	5
C	A	1	5	7
D	B	3	5	3
E	C	2	4	9
F	C	3	7	9
G	D,E	4	6	8
H	F	6	8	10
I	G,H	2	6	8
J	G,H	5	8	8
K	I	1	3	8
L	J	3	7	8

[L3][CO4]

[12M]

9 The network for a certain project is shown in figure. Determine the expected time foreach of the path. Which path is critical?

```

    graph LR
      1((1)) -- "6-8-11" --> 2((2))
      1((1)) -- "3-7-9" --> 3((3))
      1((1)) -- "5-7-10" --> 4((4))
      2((2)) -- "8-10-12" --> 7((7))
      2((2)) -- "4-8-14" --> 6((6))
      3((3)) -- "8-10-12" --> 6((6))
      4((4)) -- "4-6-8" --> 5((5))
      5((5)) -- "3-5-6" --> 6((6))
      6((6)) -- "7-10-15" --> 8((8))
      7((7)) -- "5-8-12" --> 8((8))
    
```

[L3][CO3]

[12M]

- 10** A project schedule has the following characteristics
- Construct network diagram
  - Find the estimated duration and variance
  - Find the critical path and expected project completion time
- What is the probability of completing the project on or before 24 weeks

[L3][CO4]

[12M]

Activity	Predecessor	Duration ( weeks)		
		$t_o$	$t_m$	$t_p$
A	-	4	5	6
B	-	1	3	5
C	-	1	4	7
D	A	1	2	3
E	B	1	2	9
F	C	1	5	9
G	C	2	2	8
H	E, F	4	4	7
I	D	3	5	8
J	H, G	2	2	7

**UNIT -IV**

**CPM: NETWORK ANALYSIS**

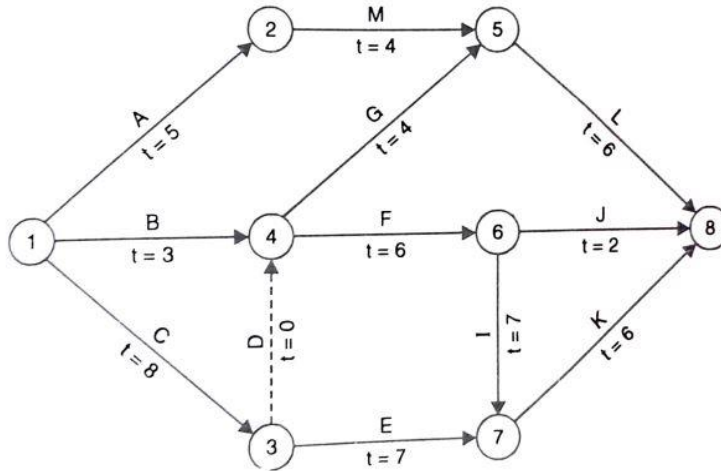
<b>1</b>	a) Define CPM and Its Applications.	[L1] [CO4]	[6M]																																												
	b) Explain CPM process with flow chart.	[L2] [CO4]	[6M]																																												
<b>2</b>	What is CPM Network analysis? Explain in detail.	[L2] [CO4]	[12M]																																												
<b>3</b>	a) Explain briefly about start and finish times of activities.	[L2] [CO4]	[6M]																																												
	b) What do you understand by critical path? How it is determined?	[L1] [CO4]	[6M]																																												
<b>4</b>	Define float and its types? Explain computation of different types of floats.	[L2] [CO4]	[12M]																																												
<b>5</b>	The following details are available regarding a project:	[L3] [CO4]	[12M]																																												
	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Activity</th> <th>Dependency</th> <th>Duration (months)</th> </tr> </thead> <tbody> <tr><td>A</td><td>-</td><td>2</td></tr> <tr><td>B</td><td>-</td><td>5</td></tr> <tr><td>C</td><td>-</td><td>4</td></tr> <tr><td>D</td><td>B</td><td>5</td></tr> <tr><td>E</td><td>A</td><td>7</td></tr> <tr><td>F</td><td>A</td><td>3</td></tr> <tr><td>G</td><td>B</td><td>3</td></tr> <tr><td>H</td><td>C,D</td><td>6</td></tr> <tr><td>I</td><td>C,D</td><td>2</td></tr> <tr><td>J</td><td>E</td><td>5</td></tr> <tr><td>K</td><td>F,G, H</td><td>4</td></tr> <tr><td>L</td><td>F,G, H</td><td>3</td></tr> <tr><td>M</td><td>I</td><td>12</td></tr> <tr><td>N</td><td>J,K</td><td>8</td></tr> </tbody> </table> <p>a) Construct the CPM network.                      b) Determine the critical path, the critical activities and the project completion time.                      c) Compute Total float &amp; Free floats for non-critical activities.</p>	Activity	Dependency	Duration (months)	A	-	2	B	-	5	C	-	4	D	B	5	E	A	7	F	A	3	G	B	3	H	C,D	6	I	C,D	2	J	E	5	K	F,G, H	4	L	F,G, H	3	M	I	12	N	J,K	8	
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L	F,G, H	3																																													
M	I	12																																													
N	J,K	8																																													
<b>6</b>	Find out the completion time and the critical activities for the following project:	[L2] [CO4]	[12M]																																												



- 7 The network for a certain project shown in fig, along with the estimated duration's of various activities .Determine the following.
- Earliest event time and Latest event times of each activity
  - Determine total float and free float of each activity
  - Find critical path

[L3][CO4]

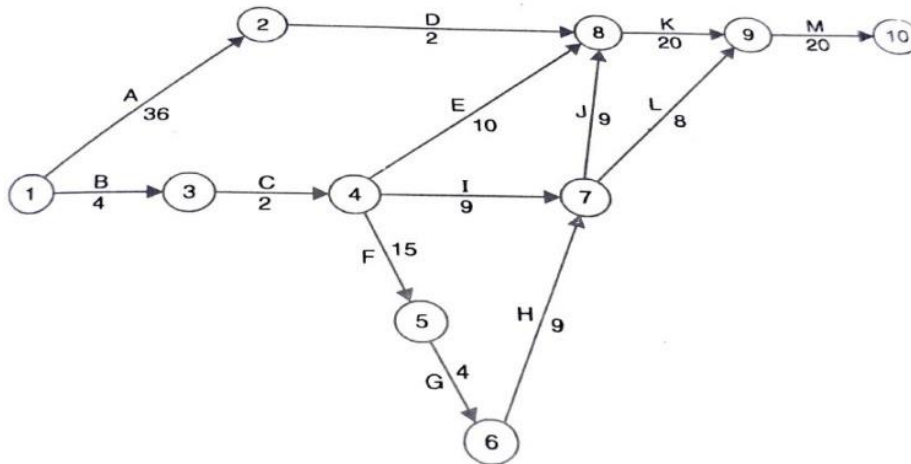
[12M]



- 8 The network for a certain project shown in fig , along with the estimated time of completion of each activity marked. Compute the activity times, and total float, free float and independent float for each activity. Locate the critical path on the network.

[L3][CO4]

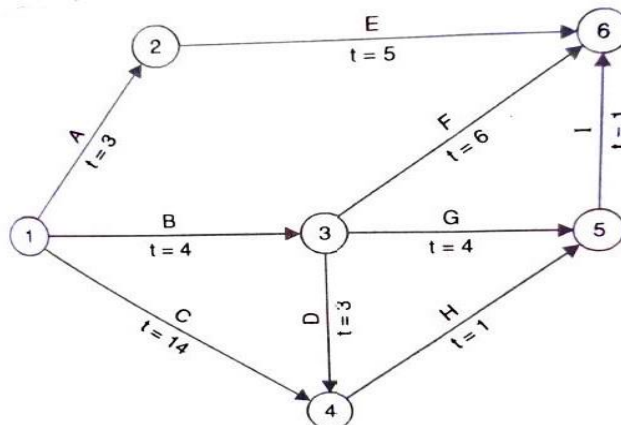
[12M]



- 9 The network shown in fig has the estimated duration for each activity marked. Determine total float for each activity and establish the critical path.

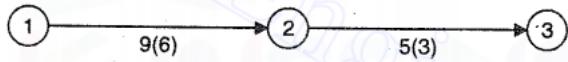
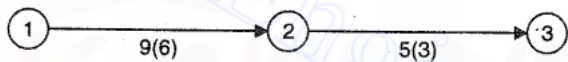
[L3][CO4]

[12M]



<b>10</b>	A small project consisting of eight activities has the following characteristics: <table border="1"><thead><tr><th>Activity</th><th>Dependency</th><th>Duration (days)</th></tr></thead><tbody><tr><td>A</td><td>-</td><td>7</td></tr><tr><td>B</td><td>-</td><td>3</td></tr><tr><td>C</td><td>A</td><td>6</td></tr><tr><td>D</td><td>B</td><td>3</td></tr><tr><td>E</td><td>D,F</td><td>3</td></tr><tr><td>F</td><td>B</td><td>2</td></tr><tr><td>G</td><td>C</td><td>3</td></tr><tr><td>H</td><td>E,G</td><td>2</td></tr></tbody></table> <p>a) Construct the CPM network. b) Determine the critical path, the critical activities and the project completion time. Compute Total float &amp; Free floats for Non-Critical activities</p>	Activity	Dependency	Duration (days)	A	-	7	B	-	3	C	A	6	D	B	3	E	D,F	3	F	B	2	G	C	3	H	E,G	2	[L3][CO4]	[12M]
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A	-	7																												
B	-	3																												
C	A	6																												
D	B	3																												
E	D,F	3																												
F	B	2																												
G	C	3																												
H	E,G	2																												

**UNIT –IV**  
**CPM: COST MODEL, COST UPDATING, RESOURCES ALLOCATION**

<b>1</b>	Explain briefly about project cost. Also explain components involved in total cost.	[L2][CO4]	[12M]															
<b>2</b>	<p>Gives the information about various activities of network shown in fig.1</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Activity</th> <th>Normal duration (days)</th> <th>Normal Cost (Rs.)</th> <th>Crash duration (days)</th> <th>Crash cost (Rs.)</th> </tr> </thead> <tbody> <tr> <td>1-2</td> <td style="text-align: center;">9</td> <td style="text-align: center;">8000</td> <td style="text-align: center;">6</td> <td style="text-align: center;">9500</td> </tr> <tr> <td>2-3</td> <td style="text-align: center;">5</td> <td style="text-align: center;">5000</td> <td style="text-align: center;">3</td> <td style="text-align: center;">5500</td> </tr> </tbody> </table> <p style="text-align: center;">    <b>Fig-1</b> </p> <p>The project overhead costs are @ Rs. 300.0 per day. Determine</p> <p>(a) Direct cost-duration relationship</p> <p>(b) Total cost-duration relationship and the corresponding least cost plan (network)</p>	Activity	Normal duration (days)	Normal Cost (Rs.)	Crash duration (days)	Crash cost (Rs.)	1-2	9	8000	6	9500	2-3	5	5000	3	5500	[L3][CO4]	[12M]
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<b>4</b>	<p>a) Explain about Indirect project cost and Direct project cost.</p> <p>b) Explain slope of direct cost curve</p>	[L2][CO4] [L2][CO4]	[6M] [6M]															
<b>5</b>	Differentiate between project cost and optimum duration in detail with neat sketch.	[L3][CO4]	[12M]															
<b>6</b>	<p>a) What are the data required for updating?</p> <p>b) What are the steps involved in the process of updating?</p>	[L1][CO4] [L1][CO4]	[6M] [6M]															
<b>7</b>	What is Cost optimization? What are the various steps involved in time cost optimization?	[L1][CO4]	[12M]															
<b>8</b>	Explain about Resources usage profiles histograms.	[L2][CO4]	[12M]															
<b>9</b>	With the help of an illustrative example, explain Resources smoothing method	[L2][CO4]	[12M]															
<b>10</b>	<p>Discuss about</p> <p>i. Resources smoothing</p> <p>ii. Resources Levelling</p>	[L2][CO4]	[12M]															