



PRESIDENCY UNIVERSITY

BENGALURU

Roll No.													
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End - Term Examinations – May / June 2026

Date: 25-05-2026

Time: 01:00pm – 04:00pm

School: SOCSE	Program: B.Tech (CAI/CCS/CDV/CIT/COM/CSD/CSE/ISE/IST)	
Course Code: CIV2004	Course Name: Integrated Project Management	
Semester: VI	Max Marks: 100	Weightage: 50%

CO - Levels	C01	C02	C03	C04	C05	C06	C07	C08
Marks	-	2	-	15	29	26	14	14

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

10Q x 2M=20M

1.	What are the methods used for estimating cost in a project?	2 Marks	L1	C05
2.	List the key elements of Earned Value Management.	2 Marks	L1	C05
3.	What is the impact of project crashing on Cost and Schedule?	2 Marks	L1	C06
4.	What are the factors to be considered before crashing a project?	2 Marks	L1	C06
5.	Sketch the time-cost relationship.	2 Marks	L1	C06
6.	List the different approaches of scheduling.	2 Marks	L1	C02
7.	What are the different types of resource used in a project?	2 Marks	L1	C07
8.	What are the 2 resource optimization techniques?	2 Marks	L1	C07
9.	What is Project Quality Management?	2 Marks	L1	C08
10.	What is Total Quality Management?	2 Marks	L1	C08

Part B

Answer the Questions.

Total Marks 80M

11.	a.	Explain the steps involved in Project Cost Management.	10 Marks	L2	C05																																																		
Or																																																							
12.	a.	Explain the different types of costs incurred in a project.	10 Marks	L2	C05																																																		
13.	a.	Explain RACI Chart in detail.	10 Marks	L2	C07																																																		
Or																																																							
14.	a.	Describe the different steps involved in Project Resource Management?	10 Marks	L2	C07																																																		
15.	a.	Explain the different steps involved in Project Quality Management?	10 Marks	L2	C08																																																		
Or																																																							
16.	a.	Explain the significance of ISO 9001.	10 Marks	L2	C08																																																		
17.	a.	The following are the time estimates and the precedence relationships of the activities in a project network: <table><thead><tr><th>Activity</th><th>Predecessor Activity</th><th>Optimistic estimate of time</th><th>Most likely estimate of time</th><th>Pessimistic estimate of time</th></tr></thead><tbody><tr><td>A</td><td>-</td><td>2</td><td>4</td><td>6</td></tr><tr><td>B</td><td>A</td><td>8</td><td>11</td><td>20</td></tr><tr><td>C</td><td>A</td><td>10</td><td>15</td><td>20</td></tr><tr><td>D</td><td>B</td><td>12</td><td>18</td><td>24</td></tr><tr><td>E</td><td>C</td><td>8</td><td>13</td><td>24</td></tr><tr><td>F</td><td>C</td><td>4</td><td>7</td><td>16</td></tr><tr><td>G</td><td>D,F</td><td>14</td><td>18</td><td>28</td></tr><tr><td>H</td><td>E</td><td>10</td><td>12</td><td>14</td></tr><tr><td>I</td><td>G,H</td><td>7</td><td>10</td><td>19</td></tr></tbody></table> Draw the PERT network for the project. Find the critical path and mean duration. Also find	Activity	Predecessor Activity	Optimistic estimate of time	Most likely estimate of time	Pessimistic estimate of time	A	-	2	4	6	B	A	8	11	20	C	A	10	15	20	D	B	12	18	24	E	C	8	13	24	F	C	4	7	16	G	D,F	14	18	28	H	E	10	12	14	I	G,H	7	10	19	15 Marks	L3	C04
Activity	Predecessor Activity	Optimistic estimate of time	Most likely estimate of time	Pessimistic estimate of time																																																			
A	-	2	4	6																																																			
B	A	8	11	20																																																			
C	A	10	15	20																																																			
D	B	12	18	24																																																			
E	C	8	13	24																																																			
F	C	4	7	16																																																			
G	D,F	14	18	28																																																			
H	E	10	12	14																																																			
I	G,H	7	10	19																																																			

		i. What is the probability of the project finishing within 55 days? ii. What is the project duration within which the project can be finished with 45% probability?			
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Or

18.	a.	A project consists of the following activities and the three time estimates are as follows: <table border="1"><tr><td>Activity</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>Predecessors</td><td>-</td><td>-</td><td>A</td><td>B</td><td>A</td><td>C,D</td><td>C,D,E</td><td>F</td></tr><tr><td>T_o days</td><td>2</td><td>2</td><td>3</td><td>4</td><td>3</td><td>4</td><td>3</td><td>4</td></tr><tr><td>T_m days</td><td>5</td><td>6</td><td>4</td><td>6</td><td>5</td><td>6</td><td>5</td><td>8</td></tr><tr><td>T_p days</td><td>7</td><td>9</td><td>9</td><td>10</td><td>12</td><td>13</td><td>6</td><td>13</td></tr></table> a. What is the expected duration of the project? b. Identify the critical path. c. What is the project duration within which the project can be finished with 85% probability? d. What is the project duration within which the project can be finished with 45% probability?	Activity	A	B	C	D	E	F	G	H	Predecessors	-	-	A	B	A	C,D	C,D,E	F	T _o days	2	2	3	4	3	4	3	4	T _m days	5	6	4	6	5	6	5	8	T _p days	7	9	9	10	12	13	6	13	15 Marks	L3	C04
Activity	A	B	C	D	E	F	G	H																																										
Predecessors	-	-	A	B	A	C,D	C,D,E	F																																										
T _o days	2	2	3	4	3	4	3	4																																										
T _m days	5	6	4	6	5	6	5	8																																										
T _p days	7	9	9	10	12	13	6	13																																										

19.	a.	A company has a contract to supply and install 50 industrial machines for a total fixed cost of ₹250 lakhs. The installation schedule is 5 machines per week, to finish in 10 weeks. At week 6, only 25 machines have been installed, and the expenditure is ₹160 lakhs. Calculate CV, SV, CPI, SPI, EPCC, ACC, and EPCT, and interpret the results.	15 Marks	L3	C05
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Or

20.	a.	An event management firm is hired to organize 10 corporate events for a total fixed price of ₹80 lakhs. They plan to complete one event per week, completing the project in 10 weeks. At week 6, only 5 events have been completed, and the cost incurred is ₹50 lakhs. Compute CV, SV, CPI, SPI, EPCC, ACC, and EPCT, and provide an interpretation.	15 Marks	L3	C05
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21.	a.	Following table shows cost and duration of each activity. The indirect cost is Rs.3150/week. Determine the optimum duration of project and minimum cost.	20 Marks	L3	C06
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		<table> <tr> <th>Activity</th><th>Predecessor</th><th>Normal Duration (weeks)</th><th>Normal Cost (Rs)</th><th>Crash Duration (weeks)</th><th>Crash Cost (Rs)</th></tr> <tr> <td>A</td><td>-</td><td>7</td><td>8,000</td><td>4</td><td>15500</td></tr> <tr> <td>B</td><td>-</td><td>9</td><td>5,000</td><td>6</td><td>9500</td></tr> <tr> <td>C</td><td>A</td><td>5</td><td>7,000</td><td>2</td><td>10,000</td></tr> <tr> <td>D</td><td>A</td><td>6</td><td>9,000</td><td>4</td><td>16,000</td></tr> <tr> <td>E</td><td>B, C</td><td>6</td><td>6,000</td><td>4</td><td>12,000</td></tr> </table>	Activity	Predecessor	Normal Duration (weeks)	Normal Cost (Rs)	Crash Duration (weeks)	Crash Cost (Rs)	A	-	7	8,000	4	15500	B	-	9	5,000	6	9500	C	A	5	7,000	2	10,000	D	A	6	9,000	4	16,000	E	B, C	6	6,000	4	12,000			
Activity	Predecessor	Normal Duration (weeks)	Normal Cost (Rs)	Crash Duration (weeks)	Crash Cost (Rs)																																				
A	-	7	8,000	4	15500																																				
B	-	9	5,000	6	9500																																				
C	A	5	7,000	2	10,000																																				
D	A	6	9,000	4	16,000																																				
E	B, C	6	6,000	4	12,000																																				

Or

22.	a.	An event planning company has the following activities: <table> <tr> <th>Activity</th><th>Normal Duration (days)</th><th>Crash Duration (days)</th><th>Normal Cost (₹)</th><th>Crash Cost (₹)</th><th>Predecessor</th></tr> <tr> <td>A</td><td>2</td><td>1</td><td>1000</td><td>1800</td><td>–</td></tr> <tr> <td>B</td><td>5</td><td>3</td><td>4000</td><td>6000</td><td>A</td></tr> <tr> <td>C</td><td>3</td><td>2</td><td>2000</td><td>3500</td><td>A</td></tr> <tr> <td>D</td><td>4</td><td>2</td><td>3000</td><td>5000</td><td>B, C</td></tr> <tr> <td>E</td><td>3</td><td>1</td><td>1500</td><td>3000</td><td>D</td></tr> </table> Find the optimum cost of the project after crashing. Consider indirect cost as Rs. 300 per day.	Activity	Normal Duration (days)	Crash Duration (days)	Normal Cost (₹)	Crash Cost (₹)	Predecessor	A	2	1	1000	1800	–	B	5	3	4000	6000	A	C	3	2	2000	3500	A	D	4	2	3000	5000	B, C	E	3	1	1500	3000	D	20 Marks	L3	C06
Activity	Normal Duration (days)	Crash Duration (days)	Normal Cost (₹)	Crash Cost (₹)	Predecessor																																				
A	2	1	1000	1800	–																																				
B	5	3	4000	6000	A																																				
C	3	2	2000	3500	A																																				
D	4	2	3000	5000	B, C																																				
E	3	1	1500	3000	D																																				