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Code No. : 16136 AS (A)

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD**

Accredited by NAAC with A++ Grade

**B.E. VI-Semester Advanced Supplementary Examinations, August-2022****Project Management (OE-IV)**

Time: 3 hours

Max. Marks: 60

Note: Answer all questions from **Part-A** and any **FIVE** from **Part-B****Part-A (10 × 2 = 20 Marks)**

Q. No.	Stem of the question	M	L	CO	PO																																								
1.	List types of organization.	2	1	1	9,11																																								
2.	Explain principle of organization.	2	2	1	9,11,																																								
3.	Differentiate between CPM and PERT.	2	1	2	1,11																																								
4.	What is critical path?	2	1	2	1,11																																								
5.	Define i) Normal project time      ii) Normal cost	2	1	3	11																																								
6.	Explain the terms      i) Crash cost      ii) Crash duration	2	1	3	1,11																																								
7.	Classify construction contracts.	2	2	4	6,11																																								
8.	Define Indian contract act.	2	1	4	6,11																																								
9.	Explain optimization.	2	2	5	3,11																																								
10.	Explain about linear programming	2	2	5	3,11																																								
<b>Part-B (5 × 8 = 40 Marks)</b>																																													
11. a)	Explain the merits and demerits of a functional organization	4	2	1	9,11																																								
b)	Explain the functions of project management	4	2	1	9,10,11																																								
12.	A project consist of nine activities and the time estimates of the activities are furnished. Draw the network diagram, identify critical path and its duration. Calculate SLACK	8	3	2	2,3,11																																								
<table border="1"> <thead> <tr> <th>Activity</th> <th>Optimistic</th> <th>Most likely</th> <th>Pessimistic</th> </tr> </thead> <tbody> <tr> <td>1-2</td> <td>6</td> <td>10</td> <td>14</td> </tr> <tr> <td>1-3</td> <td>5</td> <td>7</td> <td>15</td> </tr> <tr> <td>2-3</td> <td>3</td> <td>5</td> <td>7</td> </tr> <tr> <td>2-4</td> <td>4</td> <td>7</td> <td>16</td> </tr> <tr> <td>3-5</td> <td>2</td> <td>4</td> <td>7</td> </tr> <tr> <td>3-6</td> <td>3</td> <td>6</td> <td>15</td> </tr> <tr> <td>4-5</td> <td>2</td> <td>5</td> <td>7</td> </tr> <tr> <td>5-7</td> <td>2</td> <td>10</td> <td>12</td> </tr> <tr> <td>6-7</td> <td>3</td> <td>5</td> <td>7</td> </tr> </tbody> </table>						Activity	Optimistic	Most likely	Pessimistic	1-2	6	10	14	1-3	5	7	15	2-3	3	5	7	2-4	4	7	16	3-5	2	4	7	3-6	3	6	15	4-5	2	5	7	5-7	2	10	12	6-7	3	5	7
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<p>13.</p> <p>14. a)</p> <p>b)</p> <p>15. a)</p> <p>b)</p> <p>16. a)</p> <p>b)</p> <p>17.</p> <p>a)</p> <p>b)</p> <p>c)</p>	<p>Identify the optimum cost and optimum duration of the project. The project overhead costs are Rs 2500/- per week.</p> <table border="1" data-bbox="292 291 1079 660"> <thead> <tr> <th>Activity</th> <th>Normal Duration (Weeks)</th> <th>Normal Cost (Rs)</th> <th>Crash Duration (Weeks)</th> <th>Crash Cost (Rs)</th> </tr> </thead> <tbody> <tr> <td>1-2</td> <td>6</td> <td>7000</td> <td>3</td> <td>14500</td> </tr> <tr> <td>1-3</td> <td>8</td> <td>4000</td> <td>5</td> <td>8500</td> </tr> <tr> <td>2-3</td> <td>4</td> <td>6000</td> <td>1</td> <td>9000</td> </tr> <tr> <td>2-4</td> <td>5</td> <td>8000</td> <td>3</td> <td>15000</td> </tr> <tr> <td>3-4</td> <td>5</td> <td>5000</td> <td>3</td> <td>11000</td> </tr> </tbody> </table> <p>Explain tender and tender notice.</p> <p>Explain the suitability, merits and demerits of Lump sum contract.</p> <p>Optimize the following linear programming model by Graphical Method.</p> <p>Maximize <math>Z = 24X_1 + 32X_2</math></p> <p>Subject to constraints <math>40X_1 + 80X_2 \leq 560</math></p> <p><math>6X_1 + 8X_2 \leq 72</math></p> <p>With <math>X_1 \geq 0, X_2 \geq 0</math></p> <p>Explain the various fields in which optimization is adopted.</p> <p>Categorize the objectives of project management.</p> <p>Explain the guidelines to be followed for better representation of Network Diagram.</p> <p>Answer any <i>two</i> of the following:</p> <p>Explain direct cost and indirect cost.</p> <p>Classify the various tender documents enclosed to the tender schedule.</p> <p>Differentiate between Graphical and Simplex methods in Linear programming.</p>	Activity	Normal Duration (Weeks)	Normal Cost (Rs)	Crash Duration (Weeks)	Crash Cost (Rs)	1-2	6	7000	3	14500	1-3	8	4000	5	8500	2-3	4	6000	1	9000	2-4	5	8000	3	15000	3-4	5	5000	3	11000	<p>8 3 3 3,11</p> <p>4 2 4 6,11</p> <p>4 2 4 6,8,11</p> <p>5 3 5 1,2,3</p> <p>3 3 5 1,11</p> <p>4 2 1 11</p> <p>4 3 2 1,11</p> <p>4 1 3 1,11</p> <p>4 2 4 11</p> <p>4 3 5 1,2</p>
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M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

i)	Blooms Taxonomy Level – 1	26.66
ii)	Blooms Taxonomy Level – 2	40
iii)	Blooms Taxonomy Level – 3 & 4	33.34

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