

CONTINUOUS INTERNAL EVALUATION- 1

| | | | |
|---|-------------------|---|----------------|
| Dept: Civil | Sem / Div: 5 | Sub: Construction Management and Entrepreneurship | S Code: 18CV51 |
| Date: 21/11/22 | Time: 9.30-11.0AM | Max Marks: 50 | Elective: N |
| Note: Answer any 2 full questions, choosing one full question from each part. | | | |

| Q N | Questions | Marks | RBT | COs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|--|-----------------|--------------|----------|-----|-----|-----|-----|-----|----------------|---|---|----|---|---|---|---|----------------|---|---|---|---|---|-----|----|----------------|---|----|---|-----|----|---|----|--|--|--|
| PART A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 a | Define Construction Management. Explain the objectives of Construction Management. | 8 | L2 | CO1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| b | What are the functions of managements? Explain any two of them. | 8 | L2 | CO1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| c | Draw the network for a project consisting of 10 activities as given below. Draw the critical path and mention total duration. | 9 | L2 | CO1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table><tr><th>Activity</th><th>Predecessors</th><th>Duration</th></tr><tr><td>A</td><td>-</td><td>4</td></tr><tr><td>B</td><td>-</td><td>12</td></tr><tr><td>C</td><td>-</td><td>10</td></tr><tr><td>D</td><td>A</td><td>8</td></tr><tr><td>E</td><td>A</td><td>6</td></tr><tr><td>F</td><td>B</td><td>8</td></tr><tr><td>G</td><td>C,D</td><td>10</td></tr><tr><td>H</td><td>E</td><td>10</td></tr><tr><td>I</td><td>G,F</td><td>8</td></tr></table> | Activity | Predecessors | Duration | A | - | 4 | B | - | 12 | C | - | 10 | D | A | 8 | E | A | 6 | F | B | 8 | G | C,D | 10 | H | E | 10 | I | G,F | 8 | | | | | |
| Activity | Predecessors | Duration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | - | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | - | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | - | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D | A | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E | A | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | B | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G | C,D | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H | E | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I | G,F | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 a | What is construction Planning? List the objectives of construction planning. | 8 | L2 | CO1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| b | Explain Work breakdown Structure with neat sketch. | 8 | L2 | CO1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| c | A small project consists of 7 activities. The time estimates in weeks of the different activities are given below. | 9 | L2 | CO1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table><tr><th>Activity /times</th><th>1-2</th><th>1-3</th><th>1-4</th><th>2-5</th><th>3-5</th><th>4-6</th><th>5-6</th></tr><tr><td>t_o</td><td>1</td><td>1</td><td>2</td><td>1</td><td>2</td><td>2</td><td>3</td></tr><tr><td>t_m</td><td>1</td><td>4</td><td>2</td><td>1</td><td>5</td><td>5</td><td>6</td></tr><tr><td>t_p</td><td>7</td><td>7</td><td>8</td><td>1</td><td>14</td><td>8</td><td>15</td></tr></table> <p>Draw a network. Determine the critical path and total duration of project. And also find the variance and standard deviation of the C.P</p> | Activity /times | 1-2 | 1-3 | 1-4 | 2-5 | 3-5 | 4-6 | 5-6 | t _o | 1 | 1 | 2 | 1 | 2 | 2 | 3 | t _m | 1 | 4 | 2 | 1 | 5 | 5 | 6 | t _p | 7 | 7 | 8 | 1 | 14 | 8 | 15 | | | |
| Activity /times | 1-2 | 1-3 | 1-4 | 2-5 | 3-5 | 4-6 | 5-6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| t _o | 1 | 1 | 2 | 1 | 2 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| t _m | 1 | 4 | 2 | 1 | 5 | 5 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| t _p | 7 | 7 | 8 | 1 | 14 | 8 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

CONTINUOUS INTERNAL EVALUATION- 1

PART B

| | | | | | |
|-----------|---|--|---|----|-----|
| 3 | a | Explain (i) Minimum wages act 1948 (ii) Labour production rate of productivity. | 8 | L2 | CO1 |
| | b | Explain the importance of resource management in the construction of a project. | 8 | L2 | CO1 |
| | c | Calculate the time required to grade and finish 50 km of road formation with width equal to thrice the width of of the motor grader, using six passes of the motor grader with speed for each of the successive two passes as 6km/h, 8km/h and 10km/h respectively. Assume machine efficiency based on operator's skill, machine characteristics and working condition as 80%. | 9 | L2 | CO1 |
| OR | | | | | |
| 4 | a | List out the various classification of the construction equipment and explain any one type of construction equipment. | 8 | L2 | CO1 |
| | b | What are the advantages of utilizing the construction equipments. | 8 | L2 | CO1 |
| | c | The initial cost of a piece of construction equipment is ₹35,00,000. It has useful life of 10 years. The estimated salvage value of the equipment at the end of useful life is ₹50,000. Calculate the annual depreciation and book value of the construction equipment using sinking fund method. The interest rate is 8% per year. | 9 | L2 | CO1 |