Total No. of Printed Pages: 02

PRN No.	

PAPER CODE	U314-225-A (ESE)

(AY:2024-25) December 2024 (ENDSEM) EXAM

TY (SEMESTER - I)

COURSE NAME: **Construction Management**

Branch: Civil Engineering

COURSE CODE: CVUA31205A

(T.Y. PATTERN 2020)

Time: [1Hr 30 Min]

[Max. Marks: 40]

(*) Instructions to candidates:

1) **Figures to the right indicate full marks. Use of scientific calculator is allowed**
2) **Use suitable data wherever required**
3) **All questions are compulsory. Solve any two sub question each from Questions 1 and 2**
4) **Solve any one sub question (2 marks) from Questions 3 ,4 ,5 and 6 and sub question of 4 marks is compulsory from questions 3,4,5 and 6**

<table>
<tr><th>Q. No.</th><th>Question Description</th><th>Max. Marks</th><th>CO mapped</th><th>BT Level</th></tr>
<tr><td>Q.1</td><td>The following table gives the cost duration data for various activities of the project.
<table>
<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>
<tr><td>1-2</td><td>6</td><td>1800</td><td>4</td><td>2600</td></tr>
<tr><td>1-3</td><td>5</td><td>4000</td><td>4</td><td>4200</td></tr>
<tr><td>2-4</td><td>3</td><td>3000</td><td>2</td><td>3400</td></tr>
<tr><td>3-4</td><td>3</td><td>2600</td><td>2</td><td>2800</td></tr>
<tr><td>3-5</td><td>5</td><td>2400</td><td>4</td><td>2800</td></tr>
<tr><td>4-6</td><td>5</td><td>4000</td><td>4</td><td>5100</td></tr>
<tr><td>5-6</td><td>3</td><td>3000</td><td>2</td><td>4200</td></tr>
</table>
The overhead cost is Rs. 1000/day
a) Draw the network, find the critical path and project duration.
b) Find the optimum project duration and optimum project cost after step-by-step crashing.
c) Enlist the importance of network crashing for construction project.</td><td>[4]
[4]
[4]</td><td>CO1
CO1
CO1</td><td>Applying
Applying
Applying</td></tr>
<tr><td>Q2</td><td>a) Explain work study and work measurement.
b) Describe the aim of 'Method Study'? Describe in details steps involved in Method Study.
c) Illustrate the concept of value engineering.</td><td>[4]
[4]
[4]</td><td>CO2
CO2
CO2</td><td>Understanding
Understanding
Understanding</td></tr>
</table>

<table>
<tr><td>Q3</td><td>a) Enlist the type of risk involved in constructure projects.
OR
b) Illustrate the role of insurance in risk management.
c) Write short note on profit and loss statement.</td><td>[2]

[2]

[4]</td><td>CO3

CO3

CO3</td><td>Understanding

Understanding

Understanding</td></tr>
<tr><td>Q4</td><td>a) Explain in brief Purchase Order.
OR
b) Illustrate the EOQ concept in material management.
c) Annual expenditure of the material used in the construction project is given below. Classify them in A, B, C Classes and plot the ABC Curve.
<table>
<tr><th>Sr. No</th><th>Item</th><th>Cost in Rs.</th></tr>
<tr><td>1</td><td>Cement</td><td>180000</td></tr>
<tr><td>2</td><td>Sand</td><td>35000</td></tr>
<tr><td>3</td><td>Steel</td><td>149000</td></tr>
<tr><td>4</td><td>Aggregates</td><td>90000</td></tr>
<tr><td>5</td><td>Nails</td><td>3200</td></tr>
<tr><td>6</td><td>Binding Wires</td><td>1200</td></tr>
<tr><td>7</td><td>Water</td><td>2500</td></tr>
</table></td><td>[2]

[2]

[4]</td><td>CO4

CO4

CO4</td><td>Understanding

Understanding

Applying</td></tr>
<tr><td>Q.5</td><td>a) Enlist the equipment used in construction projects.
OR
b) Elaborate different cost associated with equipment management.
c) State and explain any one depreciation analysis methods.</td><td>[2]

[2]

[4]</td><td>CO2

CO2

CO2</td><td>Understanding

Understanding

Understanding</td></tr>
<tr><td>Q.6</td><td>a) Elaborate importance of MIS in construction project.
OR
b) Enlist the role of ERP in material management.
c) Elaborate importance of Management Information Systems in construction industry.</td><td>[2]

[2]

[4]</td><td>CO2

CO2

CO2</td><td>Understanding

Understanding

Understanding</td></tr>
</table>