Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

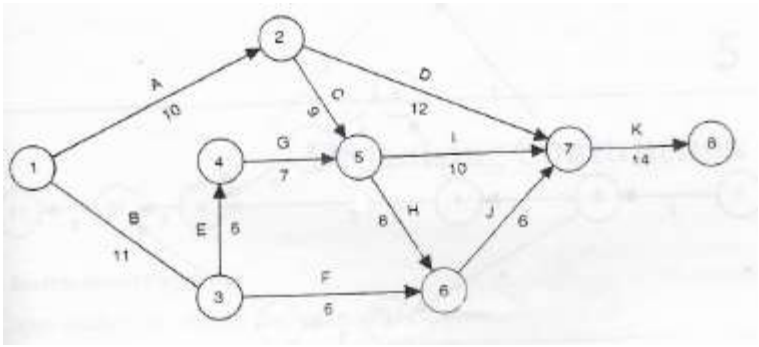
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, June 2021(online)

Course: Construction Management Practices — **Semester: II**
Program: M.Tech, Structure Engg. , Civil Engg — **Time 03 hrs.**
Course Code: CIVL 7017 — **Max. Marks: 100**
Pages: 04
Instructions:

SECTION A

S. No.		Marks	CO
Q 1	A. CPM stands for a. Critical Project Management b. Critical Path Management c. Critical Path Method d. Critical Program Method B. In CPM network Critical Path is defined as a. Longest path with minimum slack b. Longest path with zero float c. Path with zero float only d. Path with minimum float C. On A-O-A network a. Activity shown on node & arrow give direction b. Activity shown by arrow & event by node c. Activity shown on node & event also on node d. Activity shown over Arrow & Event shown below arrow D. Fulkerson's rule is used for a. Drawing network with A-O-N method b. Calculating project time of a network c. Numbering the events in a network d. Calculating critical path in a network E. Resource Levelling means a. Allocating the Resources to the project b. Calculating project time of a network c. Numbering the events in a network d. Calculating critical path in a network	**5**	**CO2**
Q 2	Define briefly the role of Construction Manager	**5**	**CO1**
Q 3	Define & differentiate the following: (1) Float (2) Slack	**5**	**CO3**
Q 4	A. BOT contract called as Build,_____ & _____ contract.	**5**	**CO3**

<table>
<tr><td></td><td>B. Full form of PPP contract is _____ _____ _____ Contract.</td><td></td><td></td></tr>
<tr><td>Q 5</td><td>Define the various phases of Construction Project?</td><td>5</td><td>CO1</td></tr>
<tr><td>Q 6</td><td>What is need & importance of estimation & costing?</td><td>5</td><td>CO5</td></tr>
<tr><td colspan="4">SECTION B</td></tr>
<tr><td>Q 7</td><td>What are various type of Contract in construction industry? Explain characteristic, advantage & disadvantage of Cost Plus contract.

OR
What are various Alternate Dispute Resolution methods? Give detail of arbitration & its advantage & Disadvantage.</td><td>10</td><td>CO3</td></tr>
<tr><td>Q 8</td><td>As a project manager, how you define project and what are the various reasons you understand are for failure of any construction Project?</td><td>10</td><td>CO4</td></tr>
<tr><td>Q 9</td><td>The network of a construction project as shown in fig below with estimated durations of various activities.
 

Determine the following
(i) Activity times (ii) Total float & free float for each activity (iii) Critical Path for the network</td><td>10</td><td>CO2</td></tr>
<tr><td>Q 10</td><td>A construction Project consists of 12 activities. The predecessor relationships and duration mentioned below
<table><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><td>I</td><td>J</td><td>K</td><td>L</td></tr><tr><td>Predecessors</td><td>-</td><td>A</td><td>A</td><td>A</td><td>C</td><td>C</td><td>B, E</td><td>F</td><td>F</td><td>D, I</td><td>G, H</td><td>K, J</td></tr><tr><td>Durations</td><td>3</td><td>5</td><td>4</td><td>6</td><td>3</td><td>4</td><td>5</td><td>5</td><td>3</td><td>4</td><td>2</td><td>3</td></tr></table></td><td>10</td><td>CO2</td></tr>
</table>

<table>
<tr><td></td><td>Draw a Network for the construction project and identify Critical Path.</td><td></td><td></td></tr>
<tr><td>Q11</td><td>A project consists of three activities as detailed below. Determine optimum project completion time assuming indirect costs @ Rs. 1000/- per day

<table><tr><td rowspan="2">Activity</td><td colspan="2">Normal</td><td colspan="2">Crash</td></tr><tr><td>Time (days)</td><td>Cost (Rs.)</td><td>Time (Days)</td><td>Cost (Rs.)</td></tr><tr><td>1-2</td><td>5</td><td>4000</td><td>4</td><td>5000</td></tr><tr><td>1-3</td><td>7</td><td>8000</td><td>3</td><td>10000</td></tr><tr><td>2-3</td><td>6</td><td>6000</td><td>2</td><td>8400</td></tr></table>
Draw the time-cost diagram also.</td><td>10</td><td>CO2</td></tr>
<tr><td colspan="4">SECTION-C</td></tr>
<tr><td>Q 12</td><td>Figure shows the drawings Two roomed quarter. Estimate the quantities of the following

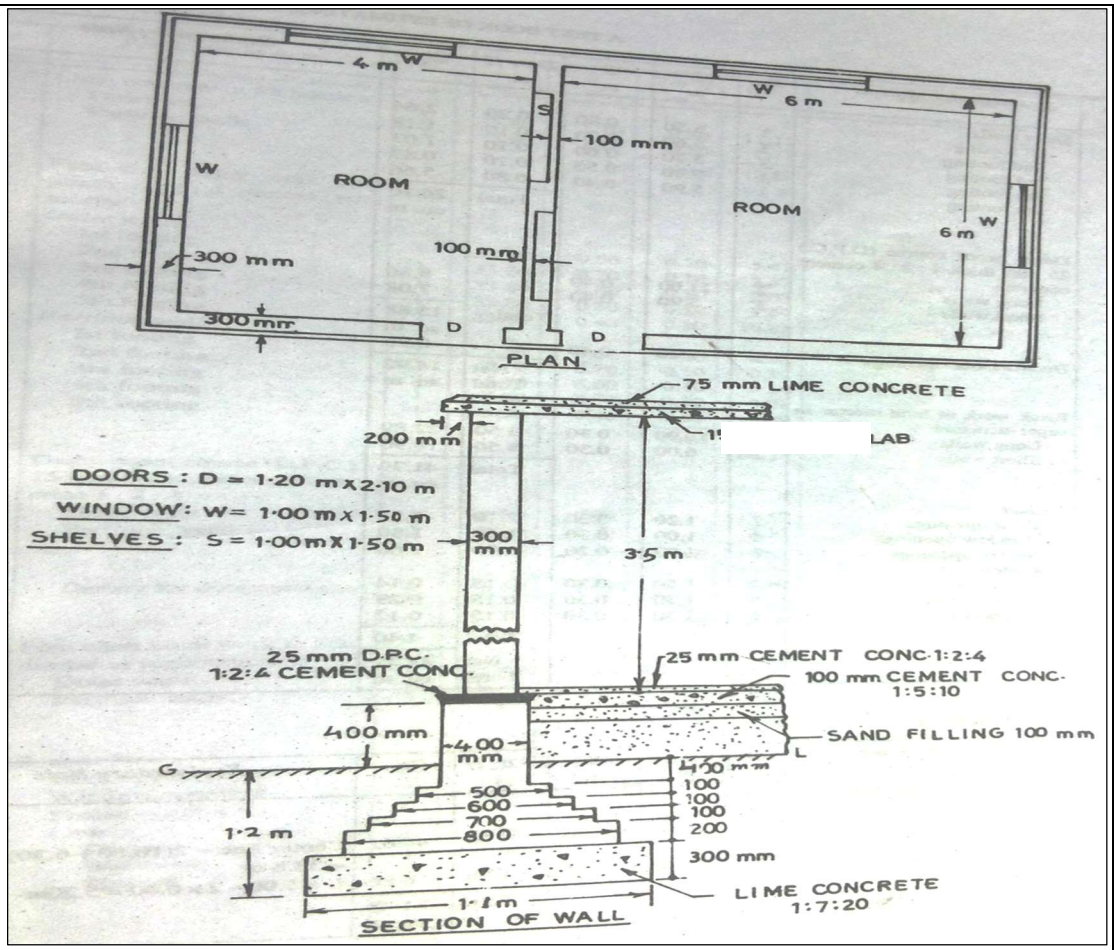
1. Earth work in excavation in foundation in ordinary soil
2. Cement concrete in foundations
3. 2.5 cm DPC with (1:2:4) CC with standard water proofing material
4. First class B.B. work in foundation & Plinth in cement mortar (1:6)

by

Long wall and short wall method.

OR

Center Line Method</td><td>20</td><td>CO5</td></tr>
</table>


4 m
W
6 m
S
100 mm
ROOM
ROOM
6 m
300 mm
100 mm
300 mm
D
D
PLAN
75 mm LIME CONCRETE
200 mm
LAB
DOORS : D = 1·20 m x 2·10 m
WINDOW: W = 1·00 m x 1·50 m
SHELVES : S = 1·00 m x 1·50 m
300 mm
3·5 m
25 mm D.P.C. 1:2:4 CEMENT CONC.
25 mm CEMENT CONC. 1:2:4
100 mm CEMENT CONC. 1:5:10
SAND FILLING 100 mm
400 mm
400 mm
G
500
600
700
800
100
100
100
200
300 mm
1·2 m
LIME CONCRETE 1:7:20
1·1 m
SECTION OF WALL