

Name:

Enrolment No:



**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination, July 2020**

**Course:** Construction Management Practices

**Program:** M.Tech, Structure Engg. , Civil Engg

**Course Code:** CIVL 7017

**Pages:** 04

**Instructions:**

**Semester:** II

**Time** 03 hrs.

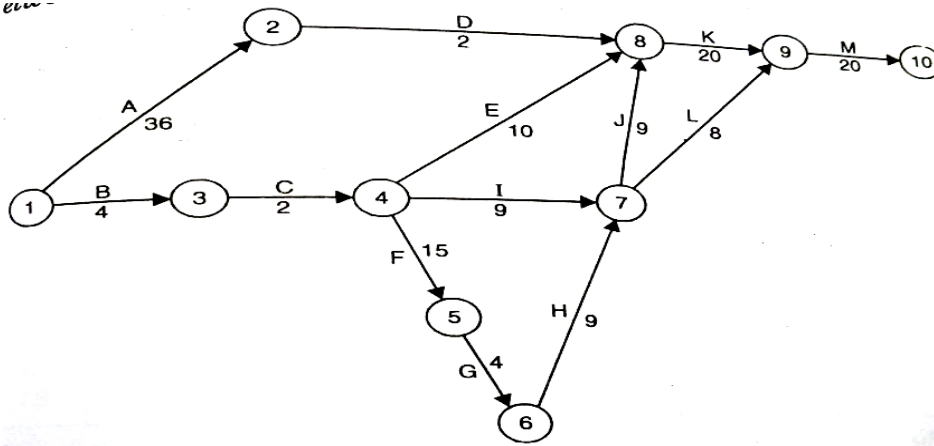
**Max. Marks:** 100

**SECTION A**

S. No.		Marks	CO																						
Q 1	Define the difference between Float & Slack.	4	CO2																						
Q 2	Define briefly the role of Construction Management.	4	CO1																						
Q 3	Define the following: (1) Tender (2) Contract	4	CO3																						
Q 4	Define two approaches of resource allocation for their optimum utilization in Project.	4	CO2																						
Q 5	A construction Project consists of 10 events. The predecessor relationships as indicated below: <table border="1" data-bbox="284 1066 1274 1249"><thead><tr><th>Event</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th></tr></thead><tbody><tr><td>Immediate Predecessor</td><td>-</td><td>1</td><td>2</td><td>2</td><td>2</td><td>3,5</td><td>3,4</td><td>3,7</td><td>7</td><td>3,6,8,9</td></tr></tbody></table> Draw Network diagram.	Event	1	2	3	4	5	6	7	8	9	10	Immediate Predecessor	-	1	2	2	2	3,5	3,4	3,7	7	3,6,8,9	4	CO2
Event	1	2	3	4	5	6	7	8	9	10															
Immediate Predecessor	-	1	2	2	2	3,5	3,4	3,7	7	3,6,8,9															

**SECTION B**

Q 6	What are various type of Contract in construction industry? Explain characteristic, advantage & disadvantage of for Cost Plus contract & Lump Sum contract.	10	CO3
Q 8	Discuss the Project Quality management and steps involved for defining it? Explain the process for Quality control.  <b>Or</b> Explain the Risk Management for project? Draw flow chart of risk management process, showing each step with its purpose & tools used.	10	CO4
Q 7	The network of a construction project as shown in fig below with estimated durations of various activities.	10	CO2



Determine the following

- (i) Activity time, (ii) Total float & free float for each activity (iii) Critical Path for the network

Q 9 A construction Project consists of 12 activities. The predecessor relationships and duration mentioned below

Activity	A	B	C	D	E	F	G	H	I	J	K	L
Predecessors	-	A	A	A	C	C	B, E	F	F	D, I	G, H	K, J
Durations	3	5	4	6	3	4	5	5	3	4	2	3

Draw a Network for the construction project and identify following

- (i) Activity time, (ii) All floats for each activity (iii) Critical Path for the network

10

CO2

### SECTION-C

Q 10 A project consists of five activities as detailed below. Determine optimum project completion time assuming indirect costs @ Rs. 450/- per week

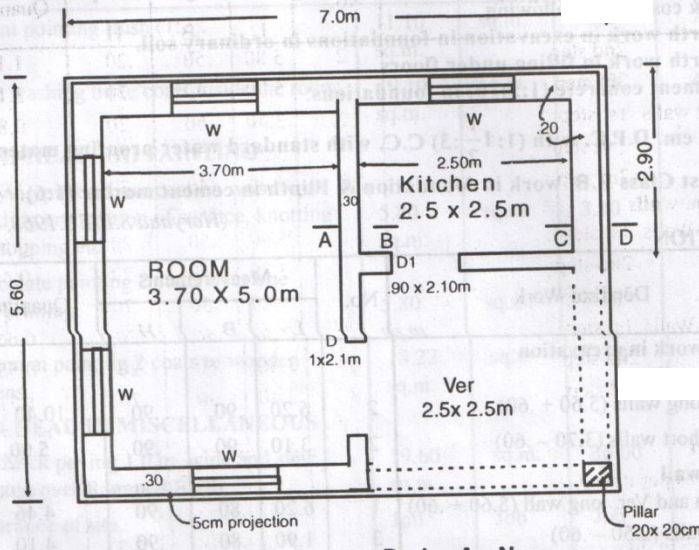
Activity	Normal Time $T_N$ (weeks)	Crash Time $T_C$ (weeks)	Normal Cost $C_N$ (Rs.)	Crash Cost $C_C$ (Rs.)
(1-2)	5	4	600	800
(1-3)	3	1	400	600
(1-4)	8	5	900	1200
(2-4)	4	2	600	1200
(3-4)	4	3	500	700

20

CO2

	<b>OR</b>		
	<p>For the below mentioned network assume that, after working 15 days on the project, the following conditions exist:</p> <ol style="list-style-type: none"> <li>Activities 1-2, 1-3, &amp; 1-4 are completed as originally planned</li> <li>Activity 2-4 is in process &amp; will be completed in 3 more days</li> <li>Activity 3-6 is in process and will need 18 more days for completion</li> <li>Activity 6-7 appears to present some problem &amp; its new estimated time of completion is 12 days</li> <li>Activity 6-8 can be completed in 5 days instead of originally planned 7 days</li> </ol> <div style="text-align: center;"> <pre> graph LR     1((1)) -- 9 --&gt; 2((2))     1 -- 10 --&gt; 3((3))     1 -- 6 --&gt; 4((4))     2 -- 7 --&gt; 4     2 -- 18 --&gt; 5((5))     3 -- 5 --&gt; 4     3 -- 12 --&gt; 6((6))     4 -- 20 --&gt; 7((7))     5 -- 8 --&gt; 7     6 -- 7 --&gt; 7     6 -- 7 --&gt; 8((8))     7 -- 6 --&gt; 8 </pre> </div> <ol style="list-style-type: none"> <li>Formulate a new project based on the assessment at the end of 15 days. Including all activities in the new project</li> <li>Draw bar chart for the original project and show on it the progress as on 15th day. Indicate also the modification based on the re-assessment</li> </ol>	<b>20</b>	<b>CO2</b>
Q 11	<p>Figure shows the drawings of a single room quarter. Estimate the quantities and cost of the following by Long wall and short wall method.</p> <ol style="list-style-type: none"> <li>Earth work in excavation in foundation in ordinary soil</li> <li>Cement concrete in foundations</li> <li>2.5 cm DPC with (1:1.5:3) CC with standard water proofing material</li> <li>First class B.B. work in foundation &amp; Plinth in cement mortar(1:6)</li> </ol>	<b>20</b>	<b>CO5</b>

# SINGLE ROOM QUARTER



P L A N

