



**NAVRACHANA
UNIVERSITY**
a UGC recognized University

School: School of Engineering and Technology
Program/s: B.Tech Civil Engineering
Year: 4th **Semester:** 8th
Examination: End Semester Examination
Examination year: May 2023

Course Code: CE430

Course Name: Construction planning and management

Date: 15/05/2023

Time: 10:00 am to 12:00pm

Total Marks: 40

Total Pages: 02

Instructions:

- Write each answer on a new page.
- Use of a calculator is permitted.
- * COs=Course Outcome mapping. # BTL=Bloom's Taxonomy Level mapping

Q. No.	Details			Marks	COs*	BTL#
Q.1	Answer the following: (Attempt any five)			20	CO1, CO2	BT3, BT6, BT7
	1. What are the objectives and importance of project management? 2. Classify Activity and explain each in brief. 3. Write a short note on characteristics of Operation Research. 4. State the properties of linear programming. 5. Explain the purpose of Valuation in detail. 6. Describe Stepwise procedure for resource allocation.					
Q.2	Activity	Precedence	Normal time (week)	06	CO3,	BT2, BT3, BT8
	A	=	3			
	B	A	3			
	C	A	7			
	D	A	9			
	E	D	5			
	F	B,C,E	6			
	G	F	4			
	H	F	13			
	I	G	10			
Prepare network diagram and Determine Critical path for given data.						

<p>Q.3</p>	<p>A ship has three cargo holds, forward, aft and center. The capacity limits are:</p> <p>Forward 2000 tons, 100,000 cubic meters</p> <p>Center 3000 tons, 135,000 cubic meters</p> <p>Aft 1500 tons, 30,000 cubic meters.</p> <p>The following cargoes are offered; the ship owners may accept all or any part of each commodity:</p> <table border="1" data-bbox="160 468 1148 617"> <thead> <tr> <th>Commodity</th> <th>Amount in tons</th> <th>Volume/ton in cubic meters</th> <th>Profit per ton in Rs</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>6000</td> <td>60</td> <td>60</td> </tr> <tr> <td>B</td> <td>4000</td> <td>50</td> <td>80</td> </tr> <tr> <td>C</td> <td>2000</td> <td>25</td> <td>50</td> </tr> </tbody> </table> <p>1) In order to preserve the trim of the ship the weight in each hold must be proportional to the capacity in tons. How should the cargo be distributed so as to maximize profit? Formulate this as linear programming problem.</p>	Commodity	Amount in tons	Volume/ton in cubic meters	Profit per ton in Rs	A	6000	60	60	B	4000	50	80	C	2000	25	50	<p>06</p>	<p>CO4, CO5</p>	<p>BT 1, BT 5, BT 7</p>
Commodity	Amount in tons	Volume/ton in cubic meters	Profit per ton in Rs																	
A	6000	60	60																	
B	4000	50	80																	
C	2000	25	50																	
<p>Q.4</p>	<p>A scooter purchase for Rs. 75000. If after 6 years its scrap value is Rs. 12000, calculate annual depreciation using following methods. Rate of interest is 11%.</p> <p>1. Straight line method</p> <p>Sinking fund method</p>	<p>08</p>	<p>CO5</p>	<p>BT3, BT7</p>																

*****End of Question Paper*****