DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Mid Semester Examination – March 2019

Course : B. Tech in CIVIL ENGINEERING	Semester : III
Subject Name: Structural Mechanics- I	Subject Code: CV403
Max Marks: 20	Date: 13th March 2019
Time: 3 pm to 4 pm	Duration: 1 Hour

Instructions to the Students:

1. Assume suitable data wherever necessary and State it clearly.
2. Figures to Right Indicate full Marks.
3. L indicates Low Level, M indicates Medium Level & H indicates High Level.

QUESTIONS	(Level/CO)	Marks
Q. 1 Attempt following Questions (Any 6)		6
1. Define Indeterminate Structures.	CO1, L	
2. Explain Free Body Diagram.	CO1, M	
3. Define Strain energy.	CO2, M	
4. Write equation for strain energy stored due to Bending Moment.	CO2, M	
5. Write Deflection equation for simply supported beam carrying UDL over entire span.	CO3, H	
6. What is determinate structure?	CO2, M	
7 What are the Assumptions in Truss analysis?		
Q.2 Solve Any TWO of the following.		6
(A) State and explain Castiglione's theorem I.	CO1, M	
(B) Deferentiate Determinate & Indeterminate Structures.	CO2, M	
(C) State and Explain Williot Mohr's Diagram.	CO1, Low	
Q.3 Solve ANY ONE of the following.		8
(A) a) Derive the slope, deflection and curvature equation.	CO 2, High	
b) Derive Maxwell's Reciprocal theorem.		
(B) A Beam AB of span 6 Mtr. Carries a point load of 45 KN at a distance of 4.0 Mtr. From the left end A. Find 1.Slope at A. 2 Deflection under the load. 3 Section Where Maximun. Deflection occurs & it's Value.	CO 3, Medium	
Take E = 200 KN/ MM² And I= 8.225 x 10⁷ MM⁴		

*** End ***