DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

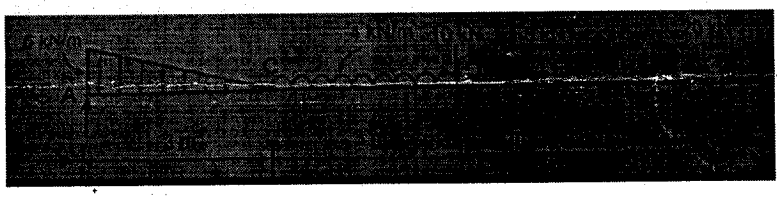
Mid Semester Examination – Oct 2019

Course : B. Tech in MECHANICAL ENGINEERING **Semster : IV**

Subject Name: Strength of Material (SOM) **Subject Code: BT-MEC 403**

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.

	QUESTIONS	(CO)	(Level)	Mark
Q. 1	Attempt following Questions (6 Marks)			
	1. Define Stress	CO1	C1	01
	2. Define Poisson's ratio	CO1	C1	01
	3. Define Longitudinal Stain	CO1	C1	01
	4. Define Core of section	CO1	C1	01
	5. Define Proof resilience	CO1	C1	01
	6. Define Principal strain	CO1	C1	01
Q.2	**Solve Any TWO of the following.**			
(A)	Explain the Stress Strain Curve for brittle material	CO1	C2	03
(B)	A steel rod 40mm in diameter is 2.5 m long . Find the maximum stress induced when pull of 80 kN is applied I) gradually ii)suddenly also find instantaneous elogation. Take E=200 Gpa Comment on result.	CO2	C4	03
(C)	Compute normal and shere stress on failure plane if vertical and horizontal normal stress acting on block are 60MPa (tension) and 30 MPa (comp) and shere stress 20 MPa .	CO2	C4	03
Q. 3	**Solve ANY ONE of the following.**			
(A)	State and derive relation between shear force and bending moment	CO3	C4	08
(B)	 Draw SFD and BMD for the beam as shown in fig. and indicate all the significant values at respective points on the beam .	CO3	C5	08
	Best Luck			