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THIRD SEMESTER

B.Tech. [ME]

SURPRISE TEST-2

Sept -2021

ME 201- Mechanics of Solid

NOTE: Answer all the following equations. Each question carry equal marks.

Assume suitable missing data, if any.

Time: 01 hr

Max Marks: 10

1	Prove that $M = EI \cdot d^2y/dx^2$	2
2	Define turn column , slenderness ratio	2
3	A solid round bar 4 m long and 5 cm in diameter is used as a strut with both edge hinged. Determine crippling load. $E = 2 \times 10^5 \text{ N/mm}^2$	2
4	Differentiate between thick and thin cylinder. What are the stresses developed in thin cylinder subjected to internal fluid pressure	2
5	Derive the expression for maximum torque transmitted by solid circular shaft $T = \pi/16 \cdot D^3$	2