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School of Engineering**M.Tech Structural Engineering
Mid Term Examination - Nov 2023****Duration : 90 Minutes
Max Marks : 50****Sem I - G1PC104T - Design of Concrete Structural Systems**General Instructions*Answer to the specific question asked**Draw neat, labelled diagrams wherever necessary**Approved data hand books are allowed subject to verification by the Invigilator*

- 1) Can you explain Hooke's Law and its significance in simple terms? K2 (2)
- 2) Stirrups may be 'vertical' or inclined. When does it become mandatory to use vertical stirrups? K1 (3)
- 3) Relate and describe the situations where a check on development bond is called for. K2 (4)
- 4) Explain the Tensile Strength for material. K2 (6)
- 5) Identify the significance of plastic hinge rotational capacity. K3 (6)
- 6) Develop the Reinforced concrete slabs are generally singly reinforced. Why not doubly reinforced? K3 (9)
- 7) Classify the term axially loaded column in detail K4 (8)
- 8) Analysis a RC beam of rectangular section 300x600mm is reinforced with 4 bars of 25mm dia at an effective depth of 550mm. the effective span of a beam is 7m.. use M20 and Fe415. Find safe UDL also super imposed load beam can carry K4 (12)

OR

Categorize the Neutral Axis and Stresses in concrete and steel are known. K4 (12)