

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

School of University Polytechnic**Diploma in Electrical Engineering
Mid Term Examination - Nov 2023****Duration : 90 Minutes
Max Marks : 50****Sem III - N1DI304B - Elementary Mechanical and Civil Engineering**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) Explain Hooke's Law. K2 (2)
- 2) List the types of strain K1 (3)
- 3) Demonstrate the application of equilibrium principles by solving for the reactions in a simply supported beam carrying a point load. K2 (4)
- 4) Interpret how does Hooke's Law relate stress and strain? K2 (6)
- 5) Apply equilibrium principles to a real-world scenario, such as a ladder leaning against a wall, to determine stability. K3 (6)
- 6) Identify how does Poisson's ratio relate to stress and strain? K3 (9)
- 7) Compare simple gear train and compound gear train K4 (8)
- 8) Analyse the practical implications of negative bending moments in beams subjected to varying point loads. K4 (12)

OR

Draw the diagram of a 20 m chain with details. K4 (12)