GALGOTIAS UNIVERSITY

ADMISSION NUMBER

School of University Polytechnic

Diploma in Civil Engineering
Semester End Examination - Jun 2024

Duration : 180 Minutes
Max Marks : 100

Sem IV - N1DB403B - DPME2020 - Strength of Material

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)	Define simply supported beam.	K1(2)
2)	What are the different methods of finding slope and deflection.	K2(4)
3)	Define the different types of loads.	K2(6)
4)	State the Bending Equation with assumptions.	K3(9)
5)	A rod 200 cm long and of diameter 3 cm is subjected to an axial pull of 30 kN. If the young's modulus of the material of the rod is 2×10^5 N/mm^2, determine - stress, strain and elongation of the rod.	K3(9)
6)	A beam 4 metre long, simply supported at its ends, carries a point load W at its centre.If the slope at the ends of the beam is not to exceed 1°, find the deflection at the centre of the beam.	K5(10)
7)	Show that the product of inertia of an area about two mutually perpendicular axis is zero, if the area is symmetrical about one of these axis.	K4(12)
8)	Derive the equation for elastic constants.	K5(15)
9)	Explain the importance of moment of inetria in practical examples.	K5(15)
10)	What is the procedure of finding thermal stresses in a composite bar?	K6(18)