GALGOTIAS UNIVERSITY

ADMISSION NUMBER												

School of University Polytechnic

Diploma in Civil Engineering
Semester End Examination - Nov 2023

Duration : 180 Minutes
Max Marks : 100

Sem V - N1DB503T - Design of Steel Structure

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 the permissible stresses for steel tension members?	K1	(2)
2)	Explain the significance of effective length in the design of steel columns.	K2	(4)
3)	Expalin the advantages of steel structure.	K2	(6)
4)	Calculate the value of a 20mm diameter rivet in a double cover Butt joint. The thickess of plates is 16mm and cover plates is 9mm. Given permissible shear stress in rivet is 90N/mm2 and permissible bearing stress is 270N/mm2.	K3	(9)
5)	Calculate the value of a 24 mm diameter rivet in a double cover Butt joint. The thickess of plates is 16mm and cover plates is 9mm. Given permissible shear stress in rivet is 90N/mm2 and permissible bearing stress is 270N/mm2.	K3	(9)
6)	Evaluate the strength of one 18 mm diameter rivet in double shear.	K5	(10)
7)	Analyze the safe cmpressive load capacity of a discontinuous single angle strut ISA 100 X 100 X 10 MM.The distace from centre to centre of its fastenings is 2.6 m.The angle is connected at each leg by two rivet	K4	(12)
8)	Evaluate the strength of one 16 mm diameter rivet in single shear.	K5	(15)
9)	Detect numerous butt joint and riveted joint types.	K5	(15)
10)	Design a lap joint to connect a plate 110 x 10 mm with the flange of a column .The joint should be dessigned to develop full strength of plate.Take permissible shear stress in rivet is 90 N/mm2, permissible tensile stress in plate is 150 N/mm2, permissible tearing strength in plate is 270 N/mm2,	K6	(18)