Ref. No. **Ex/CON/PC/B/T/222/2022**

B. Construction Engineering 2rd year 2nd Semester Examination – 2022

Subject: Design of Structure-I

Total Time: 3 hour
Full Marks: 100

PART-I

(Full Marks-50)

Use Separate answer sheet for each part.

CO1 [10]	[1] limit state methods with comparing to Working stress method. Classify the section ISMB500@0.852KN/m.
CO2 [15]	[2] Answer all the questions (a)Determine the design axial load capacity of the column ISMB 300, if the length of column is 7m and its both one ends fixed. [10] (b) Draw the different type of Roof truss. [5]
CO3 [10]	[3] Write the name of different type of bolt joint along with sketch. What do you mean by efficiency of joint? How we can determine the efficiency of joint.
CO4 [15]	[4] Answer a or b (a) A roof of hall measuring 8m × 12 M Consists of 150mm thick RC Slab supported on steel I-Beams spaced @ 3m apart. The finishing load may be taken as 2.0 KN/m^2 and LL=3.5 KN/m^2, Design the steel beam. (b) Design a Welded Plate Girder of Span 24m to carry superimposed load of 40 KN/m. Avoid use of End bearing and intermediate stiffeners. Use Fe-415 (E250) Steel.

Ref. No. Ex. Ex/CON/PC/B/T/222/2022

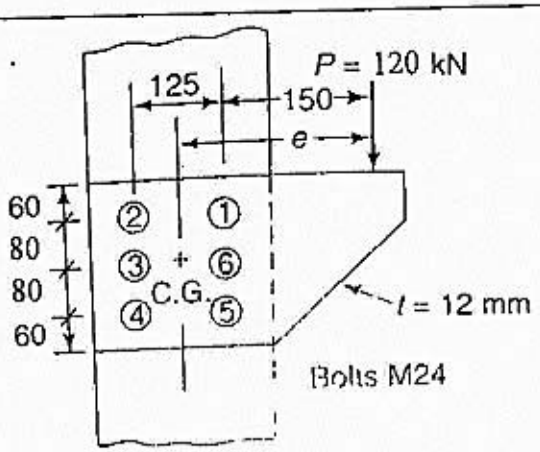
B. CONS. ENGG. 2ND YR 2ND SEMESTER EXAM.-2022

DESIGN OF STRUCTURE-I (STEEL)

Time : Three hours **Full Marks : 50**

Group / Part : PART II

Instructions : Use Separate Answer scripts for each Group
Answer All Questions

No of Questions	Part II	Marks
Q1.	 (a) Given the bracket connection shown all bolts portion and acting. Find out resultant shear forces acting on every bolt	25
Q2	a) What is working stress method, define the process in brief.	05
	b) Why limit state of design method is more realistic and acceptable as modern design concept.	05
	c) In limit state method what two kinds of limit state we consider.	05
	d) What are different principle we consider for limit state of serviceability, describe this phenomenon in brief.	10