Iqra National University

Department of Civil Engineering

Final-Term Examination- 2020

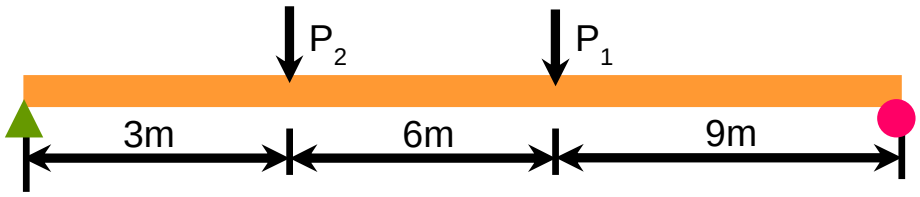
Course Title: Engineering Mechanics **Course Code: CE-122**

Instructor: M.Majid Naeem **Total Marks: 50**

Note: **Attempt all questions.**

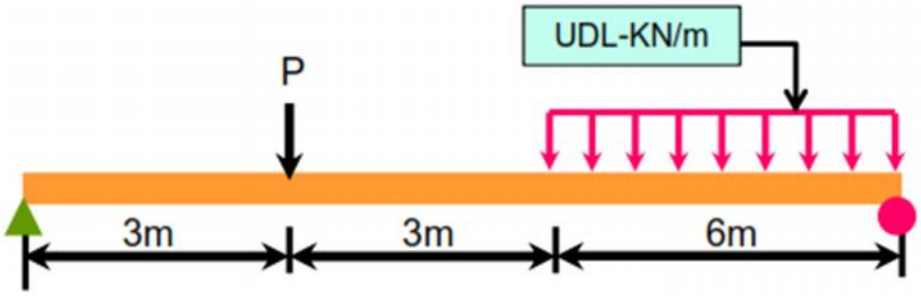
Q1: Find the support reactions, Show all your calculations.

(P_1 = 200 + Student ID No) , (P_2 = 500 + Student ID No) (Marks=5, CLO-02)



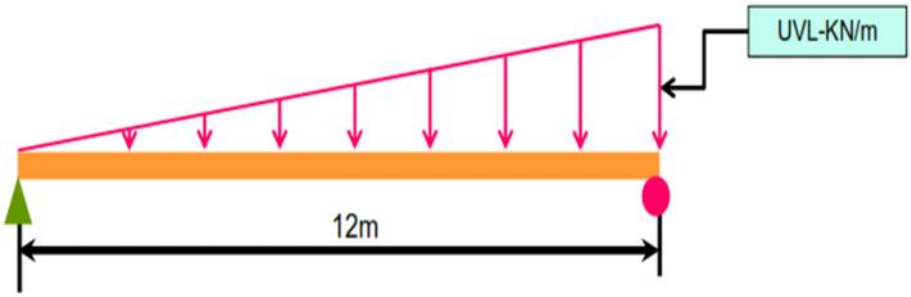
Q2: Draw the neat shear force diagram, Show all your calculations.

(P = 100 + Student ID No) , (UDL = 150 + Student ID No) (Marks=10, CLO-02)

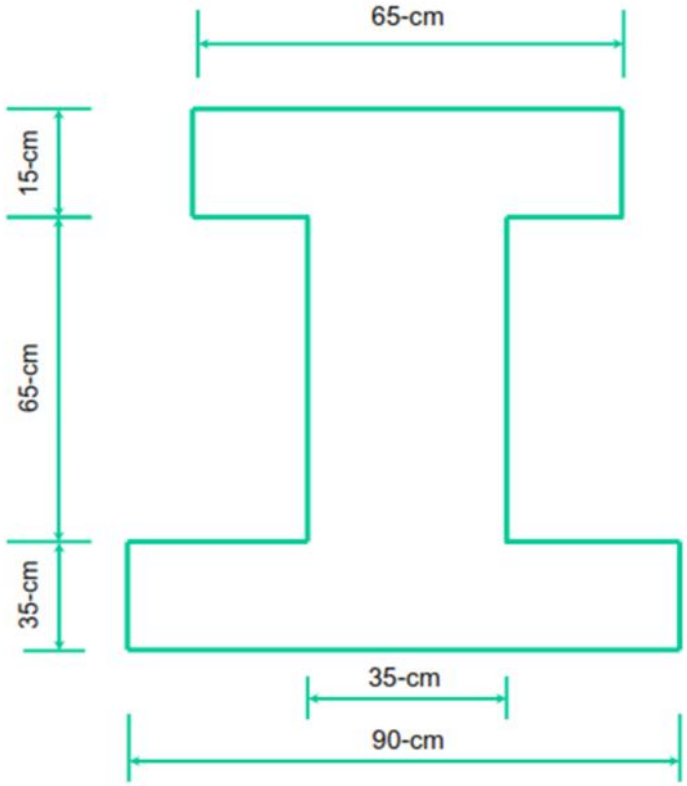


Q3: Draw the neat shear force and bending moment diagrams, Show all your calculations.

(UVL = Student ID No /1000) (Marks=15, CLO-02)



Q4: (a) Find the centroid of the given shape, Show all your calculations. (Marks=4, CLO-02)



(b) For mid area (65cm x 35cm) only find the moment of inertia, Radius of Gyration & Section moduli. (Marks=2+2+2, CLO-02)

Q5: Explain work, energy and power in details along with practical examples from daily life. (Marks=10, CLO-01)

Reference Material:

1. Class Lectures & Videos
2. Engineering Mechanics-Statics by Meriam and Kraige (5th Edition)
3. Engineering Mechanics – Statics by R.C. Hibbeler, 12th Edition
4. Formulas for Stress, Strain, and Structural Matrices by Walter D. Pilkey (2004, Wiley)