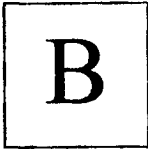


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**B.Tech. Degree IV Semester Special Supplementary Examination
September 2014**

**CE 1403 (A/B) ANALYSIS OF STRUCTURES I
(2012 Scheme)**

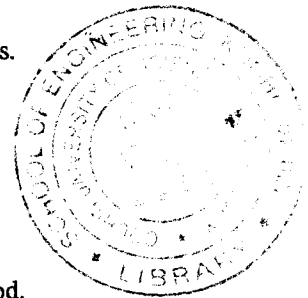
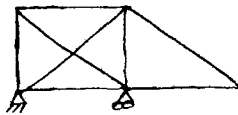
Time : 3 Hours

Maximum Marks : 100

**PART A
(Answer ALL questions)**

(8 × 5 = 40)

- I. (a) What is endurance limit?
- (b) What is shear centre?
- (c) State Castigliano's theorem for finding the deflection of statically determinate trusses.
- (d) Find the degree of static indeterminacy of the truss shown in the figure.



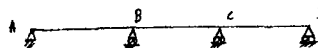
- (e) Find the deflection of cantilever beam at B shown in the figure using unit load method.



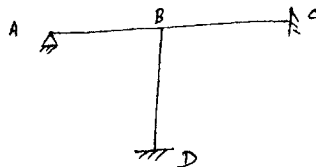
- (f) Find the degree of static indeterminacy of the frame shown in the figure.



- (g) Find the degree of kinematic indeterminacy of the beam shown in the figure.



- (h) Write the equilibrium equations for the frame shown in the figure.



PART B

(4 × 15 = 60)

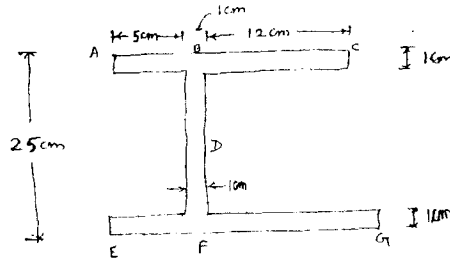
- II. Write short notes on the following:

- (i) Impact factor
- (ii) Endurance curve
- (iii) Stress concentration factor
- (iv) St.venant's principle.

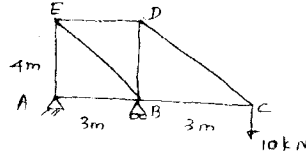
OR

(P.T.O.)

III. Compute the location of shear centre for the I section shown in the figure.

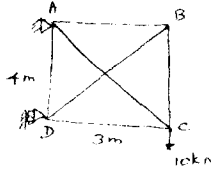


IV. Compute the deflection of truss at joint C shown in the figure using unit load method. AE is constant.

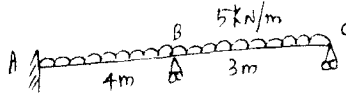


OR

V. Compute the force in the member AC using Castigliano's theorem, for the truss shown in the figure. AE is constant.

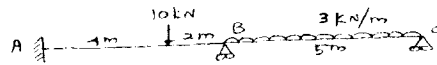


VI. Draw BMD. Use strain energy method for the beam shown in the figure. EI is constant.

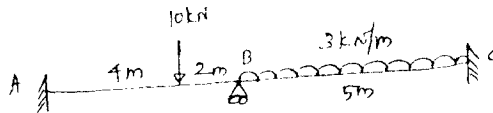


OR

VII. Draw BMD. Use three moment equation for the beam shown in the figure. EI is constant.



VIII. Draw BMD. Apply slope deflection method, for the beam shown in the figure. EI is constant.



OR

IX. Draw BMD. Apply slope deflection method, for the frame shown in the figure. EI is constant.

