

B. ARCH.**THEORY EXAMINATION (SEM-II) 2016-17****ARCHITECTURAL STRUCTURES- II****Time : 3 Hours****Max. Marks : 50****Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.****SECTION – A****1. Attempt all parts of the following questions:****10 x 1 = 10**

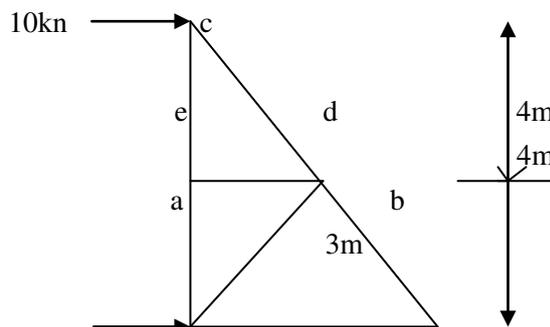
- (a) Define Short column.
- (b) What are the different end conditions of column?
- (c) What are the assumptions of Euler's theory?
- (d) Define degree of redundancy.
- (e) Explain the rapid hardening cement.
- (f) Define cube strength of concrete.
- (g) Define determinate truss structure.
- (h) Define contra flexure point.
- (i) Define live loads.
- (j) What is deflection?

SECTION – B**2. Attempt any five parts of the following questions:****5 x 5 = 25**

- (a) Explain different types of cements.
- (b) A 250mm long cantilever of rectangular section 40mm wide and 30mm deep carries audl load "w". Calculate the value of w. if the maximum deflection in the cantilever is not to exceed 0.5mm. Take $E=70\text{kn/m}^2$.
- (c) A simply support beam of span 3m carried a central point load of 30kn. $I_{xx}=15.614*10^{-6}\text{m}^4$. Calculate the central deflection.
- (d) Drive the expression for Euler's formula when one end of the column is fixed and other end is hinged.
- (e) Determine the deflection of simply supported beam (s.s.) of span L and udl w by double integration.
- (f) Writes a note on plane cement concrete in briefs.
- (g) What is truss and give their types in details?
- (h) Write the method of joint to solve a truss in briefs detail?

SECTION – C**Attempt any two parts of the following questions:****2 x 7.5 = 15**

3. Determine the critical buckling load for a column of length L and column with one end fixed and the other end free.
4. Using the method of joints, find the forces in member of the truss shown in fig.



5. Determine the critical load in a column pinned at both ends, of length L and column property EI.