No. of Printed Pages : 3

BICE-016

B. TECH. (CIVIL ENGINEERING)
BTCLEVI

Term-End Examination

June, 2014

BICE-016 : STRUCTURAL ANALYSIS - III

Time : 3 hours *Maximum Marks : 70*

Note : *(i) Attempt **any five** questions.*
*(ii) **All** questions carry **equal** marks.*
(iii) Assume any data, if missing.
(iv) Use of calculator is allowed.

1. Find the shape factor of a rectangular section having width 'b' and depth 'd'. Also determine the shape factor for a circular section of 10 cm diameter. **14**

2. Analyse the portal frame shown in Fig-1. Draw the B.M. diagram for the frame. **14**

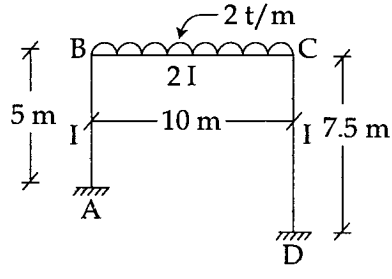

Fig -1

3. Compare portal method and cantilever method with suitable examples. **14**

4. Analyse the fixed arch shown in Fig-2. $I=I_e \sec\phi$ **14**

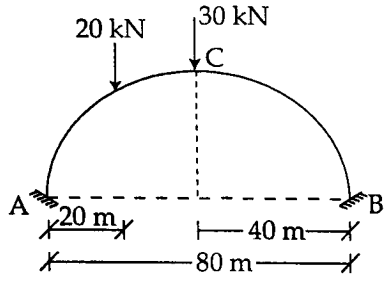

Fig-2

5. Find the Bending moment at 'B' and draw the bending moment and shear force diagram for the continuous beam shown in Fig-3. **14**

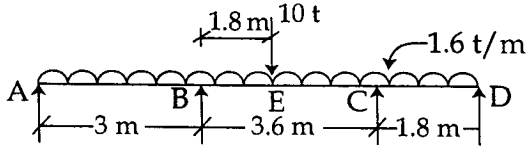

Fig - 3

6. A train of 5 wheels shown in Fig - 4 crosses a simply supported beam of span 22.5 m. Calculate the maximum positive and negative S.F. at the centre of the span, and the absolute maximum B.M. anywhere in the span. **14**

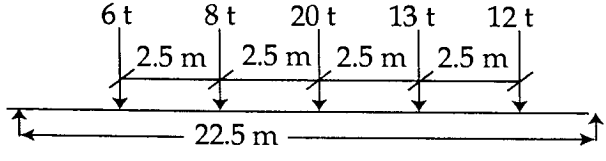

Fig - 4

7. Write short notes on **any two** of the followings : **7x2=14**

(a) Force method

(b) Displacement method

(c) Assumptions of plastic theory
