No. of Printed Pages : 3

BICE-016

B.Tech. CIVIL ENGINEERING (BTCLEVI)

Term-End Examination

00641

June, 2015

BICE-016 : STRUCTURAL ANALYSIS – III

Time : 3 hours *Maximum Marks : 70*

Note : *Answer any* ***five*** *questions. All questions carry equal marks. Assume missing data, if any. Scientific calculator is permitted.*

1. Analyze the rigid joint frame shown in Figure 1 by the Moment Distribution Method. *14*

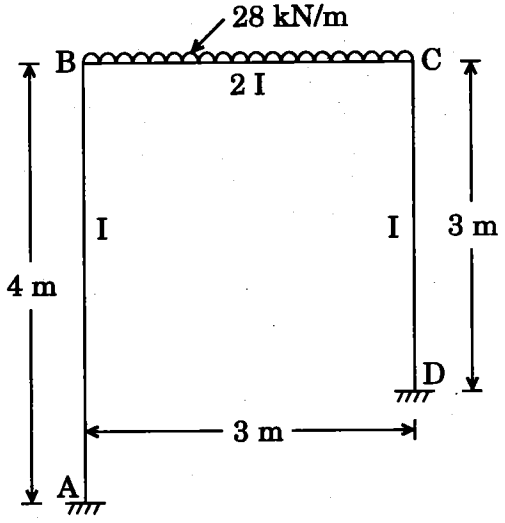

Figure 1

2. Analyze the continuous beam shown in Figure 2 by Kani's Method. *14*

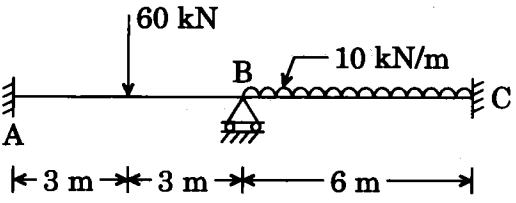

Figure 2

3. Determine the collapse load for a propped cantilever shown in Figure 3 by Static and Kinematic Methods and draw the Composite Beam Mechanism. *14*

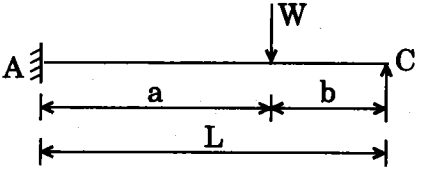

Figure 3

4. For the cantilever beam with a spring support at the free end as shown in Figure 4, draw the influence line diagram for reaction and bending moment at A. *14*

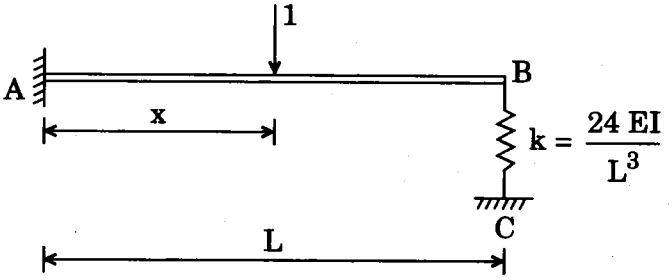

Figure 4

5. Analyze the continuous beam shown in Figure 5 by Force Method. *14*

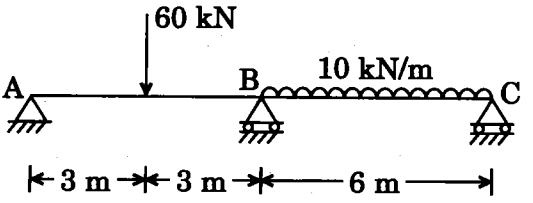

Figure 5

6. (a) Compare the Portal Method and Cantilever Method for lateral loads. *7*

(b) Explain briefly the Determinate and Indeterminate structures. *7*

7. Determine the shape factor for the sections shown in Figure 6 (i) (rectangular) and Figure 6 (ii) (diamond shaped with equal sides). *2×7=14*

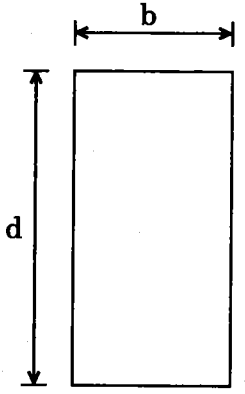

Figure 6 (i)

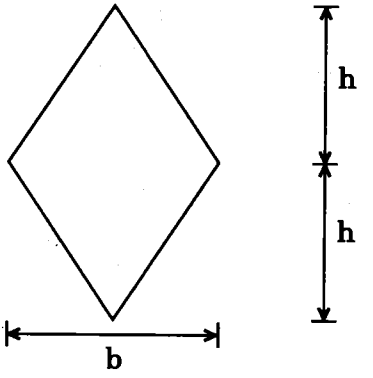

Figure 6 (ii)