CBCS SCHEME

USN ☐☐☐☐☐☐☐☐☐☐   15CV52

Fifth Semester B.E. Degree Examination, Dec.2018/Jan.2019
Analysis of Indeterminate Structures

Time: 3 hrs.   Max. Marks: 80

*Note: **A**nswer any **FIVE** full questions, choosing **ONE** full question from each module.*

Module-1

1   Analyze the continuous beam shown in Fig.Q.1 by slope deflection method and draw BMD.
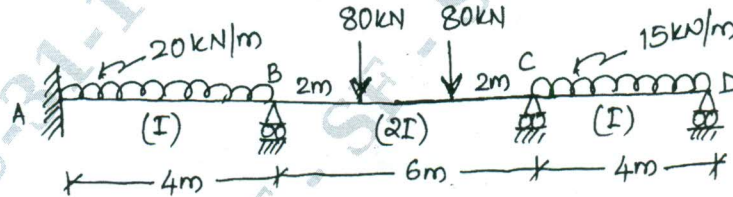   **(16 Marks)**

Fig.Q.1

OR

2   Analyze the rigid frame shown in Fig.Q.2 by slope deflection method and draw BMD.
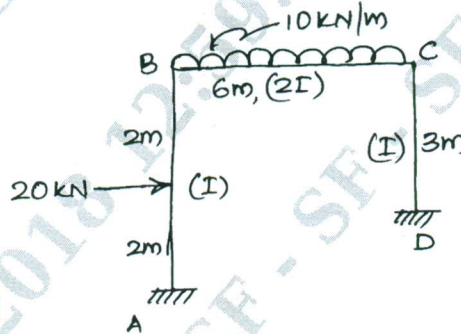   **(16 Marks)**

Fig.Q.2

Module-2

3   Analyze and draw BMD for the continuous beam shown in Fig.Q.3 by moment distribution method if support 'B' sinks by 30mm and support 'C' sinks by 20mm.
Take EI = 24,000 kNm^2.
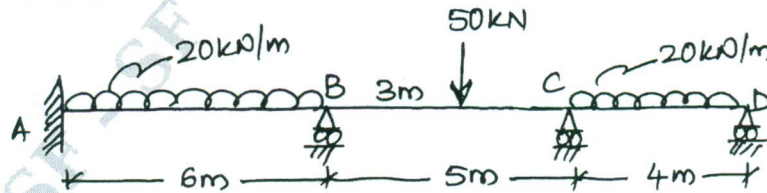   **(16 Marks)**

Fig.Q.3

OR

4   Analyze the rigid frame shown in Fig.Q.4 by moment distribution method and draw BMD.
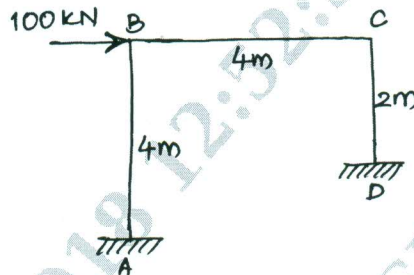
        (16 Marks)

Fig.Q.4

Module-3

5   Analyze and draw BMD for the continuous beam shown in Fig.Q.5 by Kani's method, if support 'B' sinks by 10mm and $E = 2 \times 10^5$ N/mm², $I = 1.2 \times 10^{-4}$ m⁴.   **(16 Marks)**
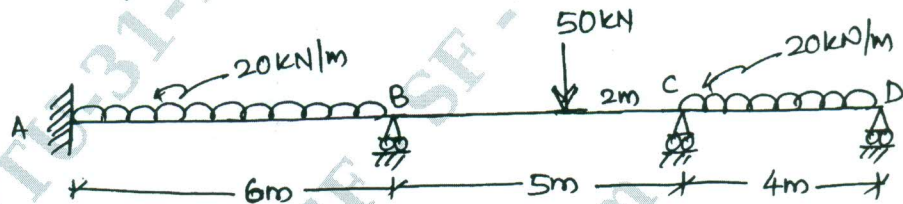

Fig.Q.5

OR

6   Analyze the rigid frame shown in Fig.Q.6 by Kani's method and draw BMD.   **(16 Marks)**
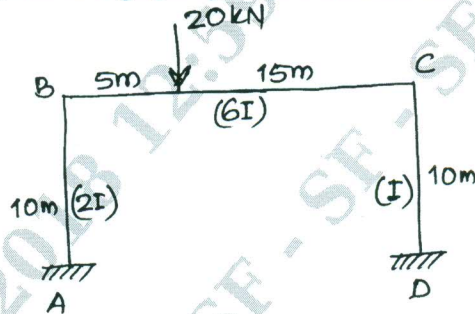

Fig.Q.6

Module-4

7   Analyze the continuous beam shown in Fig.Q.7 by matrix flexibility method using system approach and draw BMD. Take moments as redundants.   **(16 Marks)**
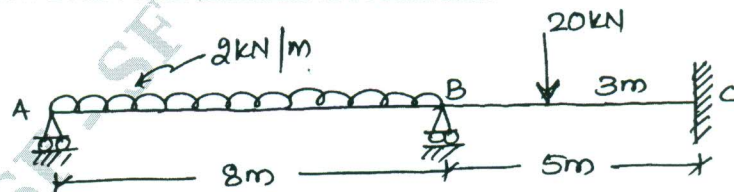

Fig.Q.7

OR

8   Analyze the pin-jointed truss shown in Fig.Q.8 by matrix flexibility method of system approach and determine forces in all the members. Take force in member 'OA' as redundant.   **(16 Marks)**
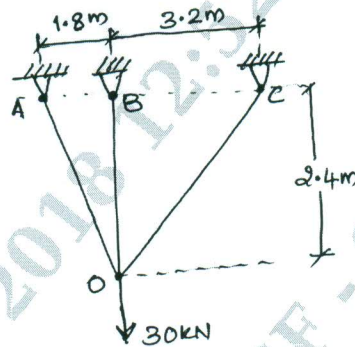

Fig.Q.8

Module-5

9   Analyze the rigid frame shown in Fig.Q.9 by matrix stiffness method and draw BMD.
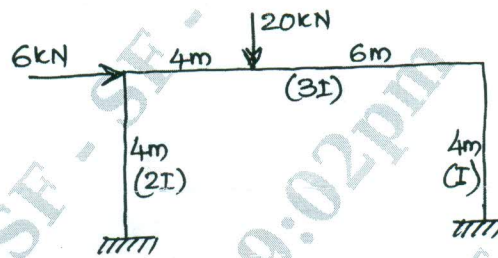**(16 Marks)**

Fig.Q.9

OR

10   Analyze the pinjointed frame shown in Fig.Q.10 by matrix stiffness method and find forces in all the members. The numbers in parentheses are the C/S areas of members in sqmm. (Take E = constant).   **(16 Marks)**
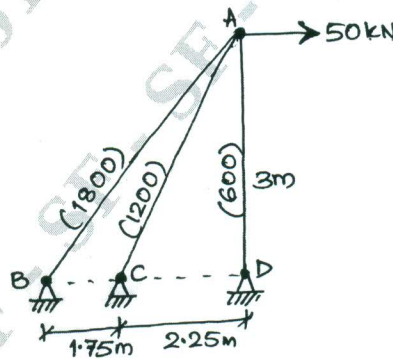

Fig.Q.10

* * * * *