USN ☐☐☐☐☐☐☐☐☐☐ **15CV52**

Fifth Semester B.E. Degree Examination, Dec.2019/Jan.2020
Analysis of Indeterminate Structures

Time: 3 hrs.   Max. Marks: 80

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

Module-1

1   Analyse the continuous beam shown in Fig Q1 by slope deflection method. Draw bending moment diagram and shear force diagram.

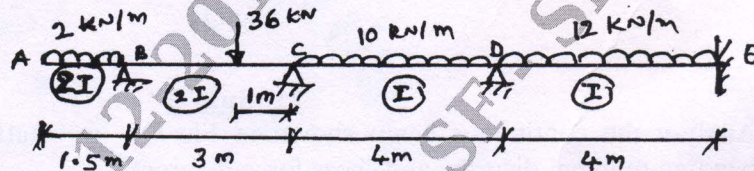Fig Q1   **(16 Marks)**

OR

2   Analyse the portal frame shown in Fig Q2 by slope deflection method. Draw bending moment diagram.

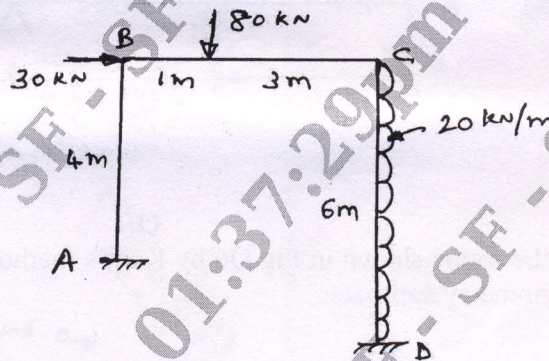Fig Q2   **(16 Marks)**

Module-2

3   Analyse the continuous beam shown in Fig Q3 by moment distribution method. Draw bending moment diagram and shear force diagram. Support at B sinks by 10mm.
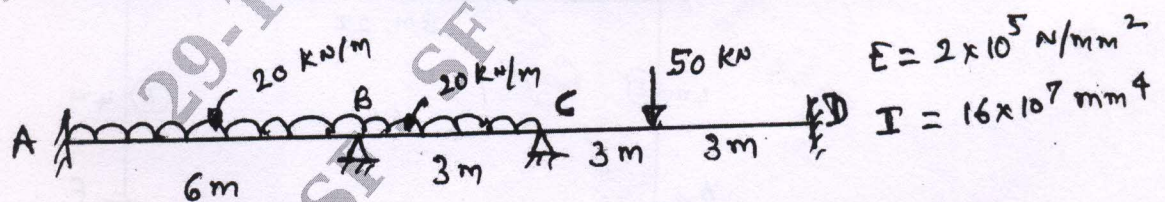

$E = 2 \times 10^5 \, N/mm^2$
$I = 16 \times 10^7 \, mm^4$

Fig Q3   **(16 Marks)**

OR

4   Analyse the frame shown in Fig Q4 by moment distribution method. Draw bending moment diagram.
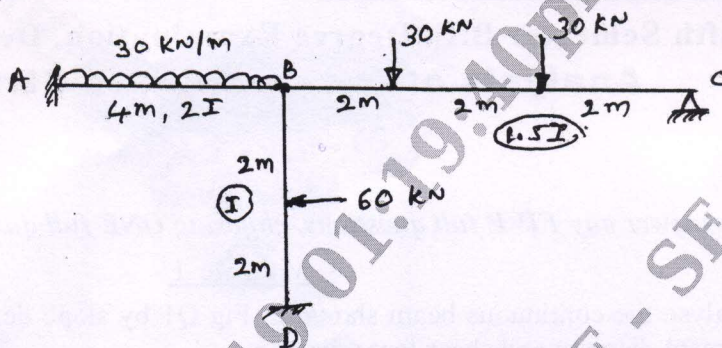

Fig Q4   (16 Marks)

<u>Module-3</u>

5   Analyse the continuous beam shown in Fig Q5 by rotation contribution method. Draw bending moment diagram and shear force diagram.

Fig Q5   (16 Marks)

OR

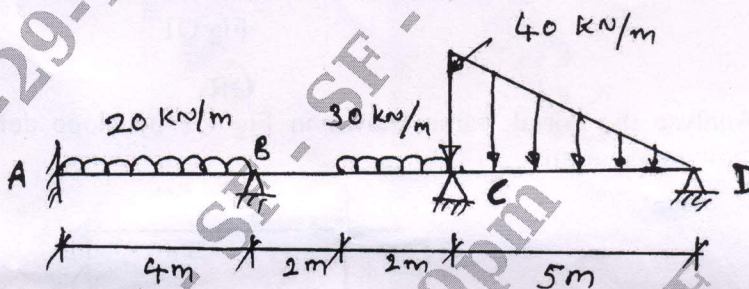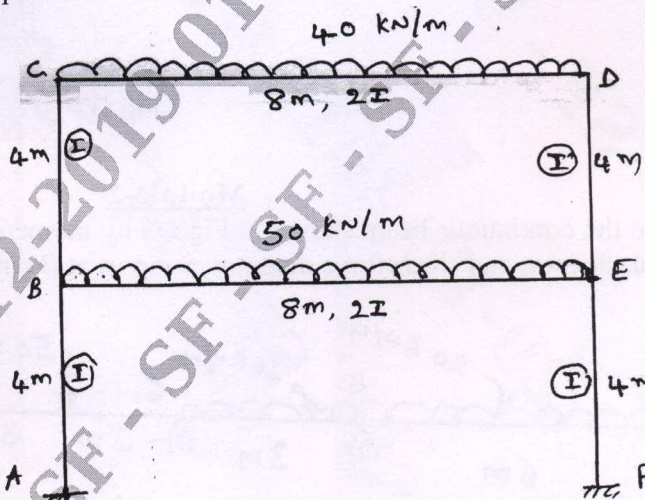**6**   Analyse the frame shown in Fig Q6 by Kani's method. Draw bending moment diagram. Use axis of symmetry approach.

Fig Q6   (16 Marks)