

B.E. Civil Engineering (Model Curriculum) Sem-VI
PCC-CE604 : Structural Analysis II

P. Pages : 3

Time : Three Hours

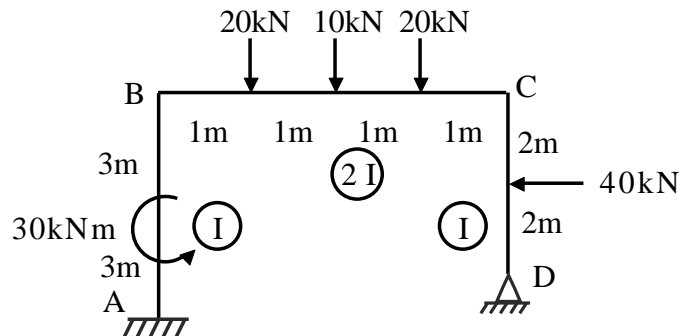


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Max. Marks : 80

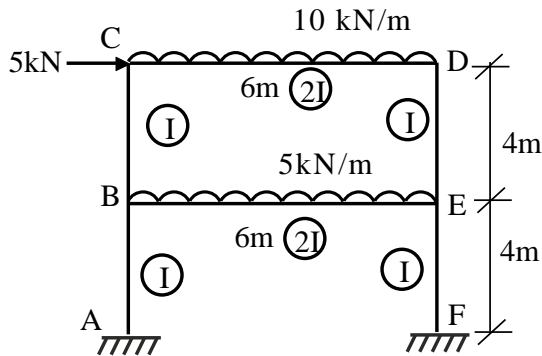
- Notes :
1. All questions carry equal marks.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Retain the construction lines.
 5. Illustrate your answers wherever necessary with the help of neat sketches.

1. Analyze the frame shown in fig. below by Kani's method. Clearly explain All calculations and draw BMD. **16**

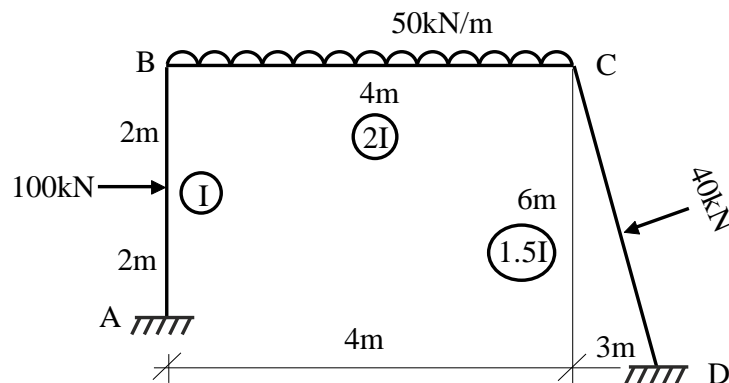


OR

2. Analyze the frame shown in fig. by Kani's method and Draw BMD. Explain all calculations. **16**

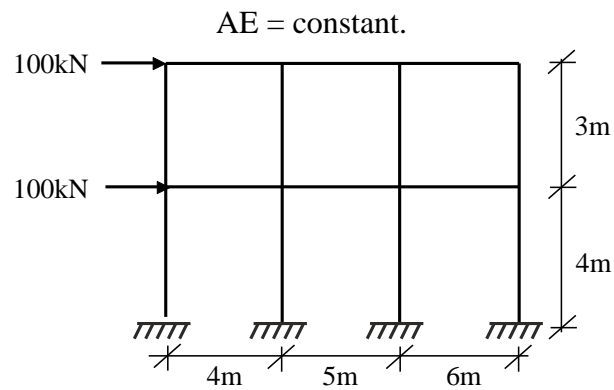


3. Analyze the frame shown in fig. below by moment distribution method and draw BMD. **16**

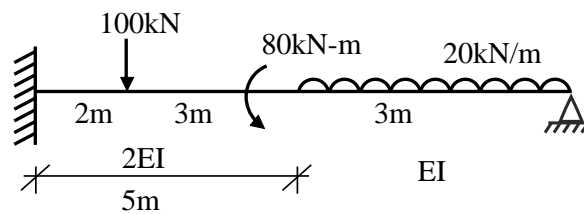


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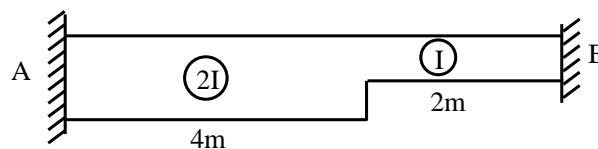
4. Analyze the frame by cantilever method and Draw BMD. 16



5. a) Analyze the beam shown by below column Analogy method. 8

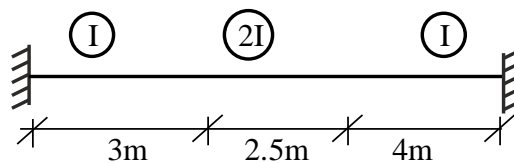


- b) Using column analogy method, calculate 8
- C.O.F. from A to B.
 - Stiffness.
 - Moment at A for unit vertical downward displacement at B.

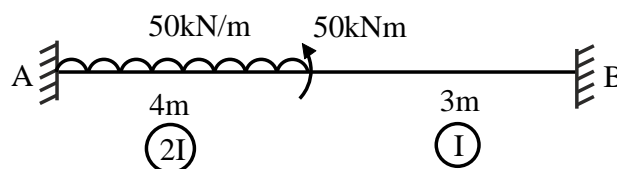


OR

6. a) Using column Analogy method, calculate 6
- Stiffness.
 - Carry over factor A to B.

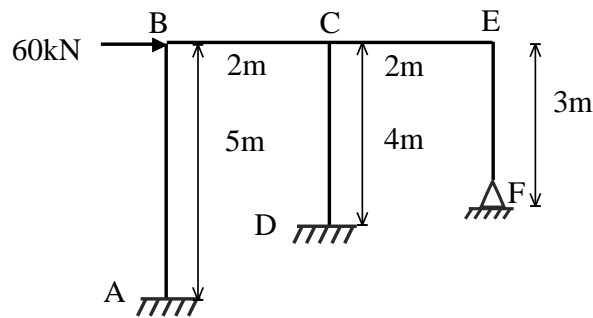


- b) Analyze the frame below by column Analogy method and Draw BMD. 10



7. Analyze the frame by moment Distribution method and draw BMD.

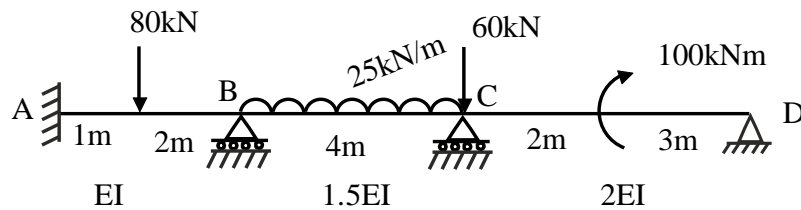
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OR

8. Analyze the beam of flexibility method and draw BMD.

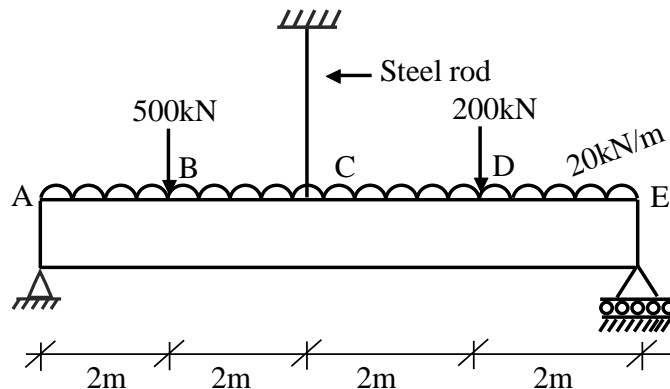
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9. Analyze the truss shown below by Strain energy method and forces in all the members.

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- Wooden beam 200mm×300mm
- Mild steel rod 30mm dia.
- Modulus of elasticity of wood is $1 \times 10^4 \text{ N/mm}^2$.
- Modulus of elasticity for mild steel $2 \times 10^5 \text{ N/mm}^2$
- Steel Rod 1m long



OR

10. Write short notes on **any four** of the following.

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- i) Stress optic law.
- ii) Isoclinics and Isochromatics.
- iii) Equilibrium and compatibility condition.
- iv) Plane stress and plane strain problems.
- v) Generalized Hooke's law.
