

Nome do Aluno: _____

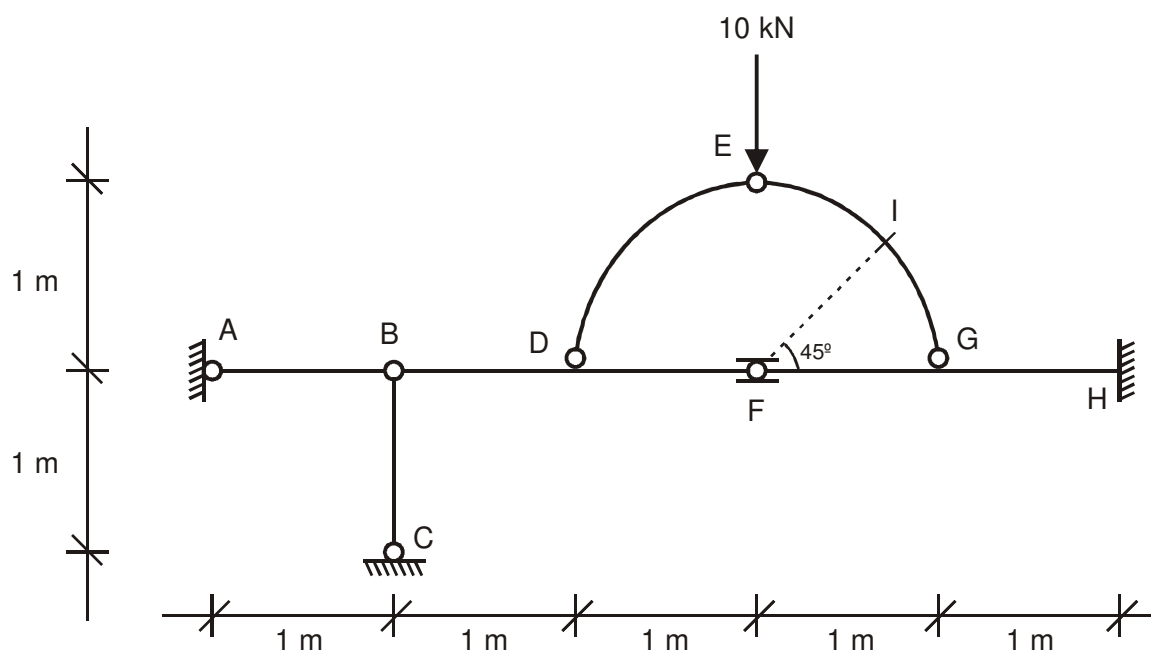
Nº USP: _____

Assinatura: _____

Nota: _____

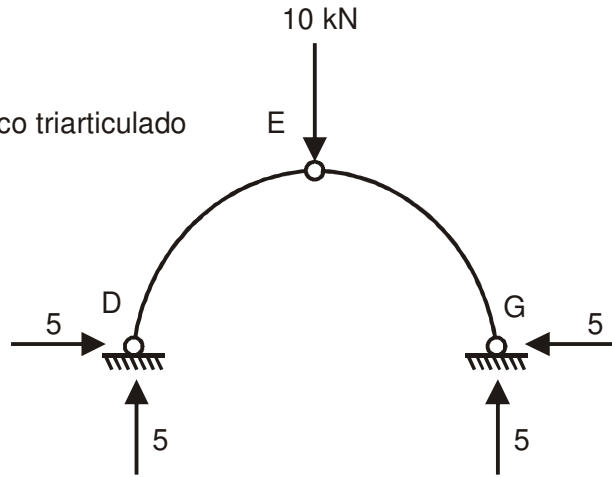
Q3 (3,0) Na estrutura associada da figura, determine:

- as subestruturas e as suas denominações;
- as reações no apoio H;
- o momento fletor na seção I.

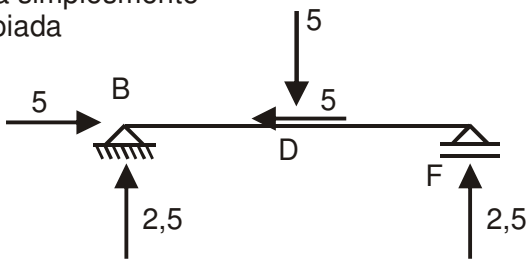


RESPOSTA:

1) Arco triarticulado

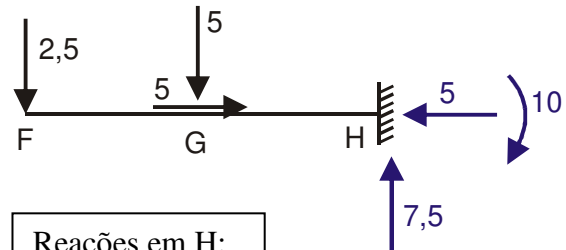
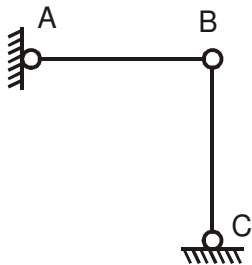


2) Viga simplesmente apoiada



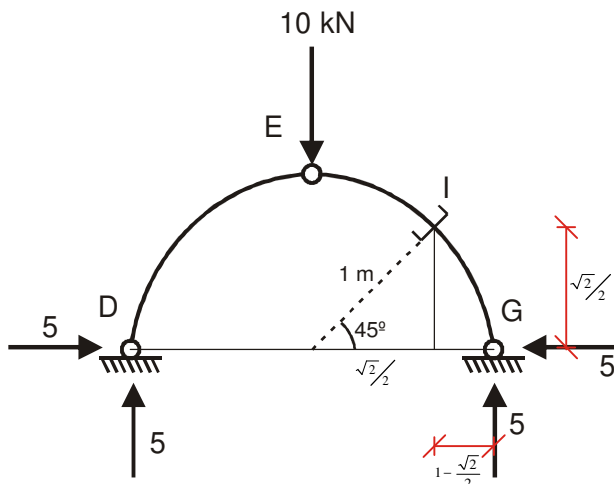
3) Viga engastada

4) Pórtico triarticulado



Reações em H:
 $X_H = -5 \text{ kN}$
 $Y_H = +7,5 \text{ kN}$
 $M_H = -10 \text{ kN.m}$

c) Momento fletor na seção I:



$$M = 5 \times \left(1 - \frac{\sqrt{2}}{2}\right) - 5 \times \frac{\sqrt{2}}{2} = 5 \times (1 - \sqrt{2}) \text{ kN} \cdot \text{m}$$

$$M = -2,07 \text{ kN} \cdot \text{m}$$

(traciona fibras superiores/externas)