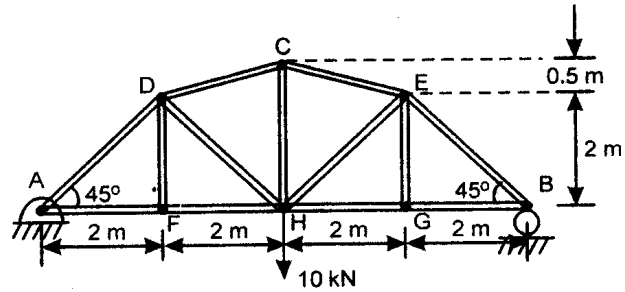
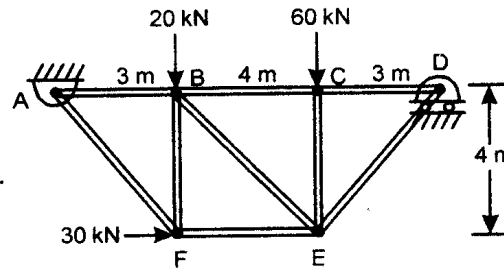


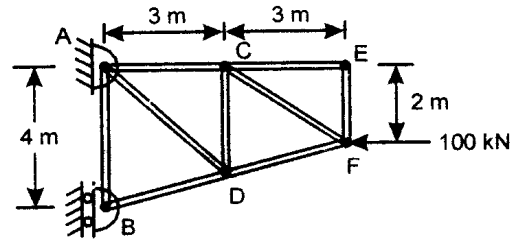
**P1.** Determine the forces developed in the members of the truss. Tabulate the results.



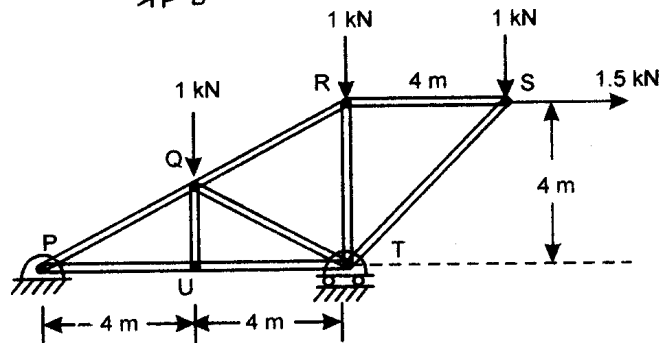
**P2.** Analyse the truss shown. Tabulate your results.



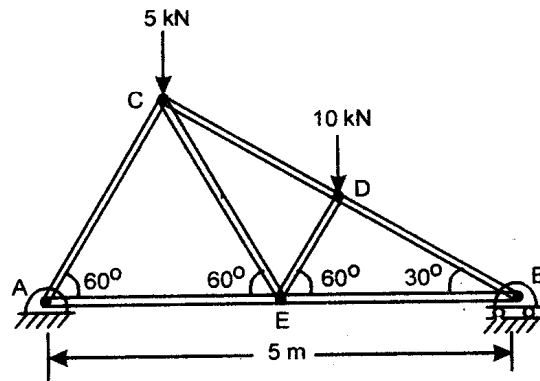
**P3.** Analyse the truss loaded as shown in figure for the magnitude and sense of the forces in its members



**P4.** Determine the magnitude and nature of the forces in all members of the truss using method of joints



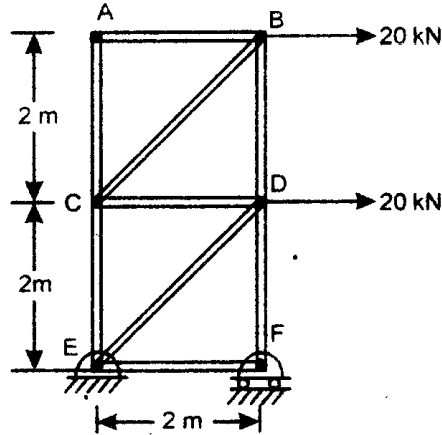
**P5.** Find the forces in all members.



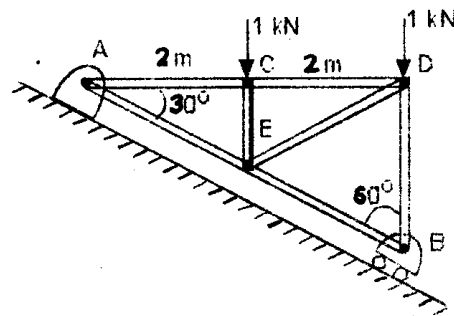
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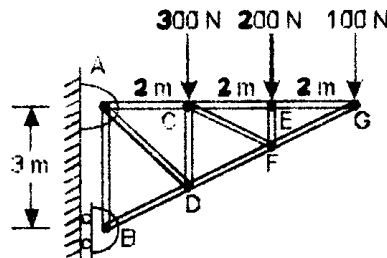
**P6.** Find out the member forces for the pin-jointed truss, loaded as shown.



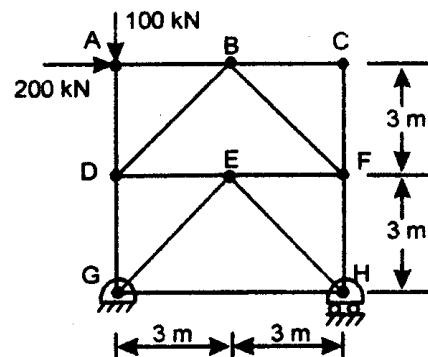
**P7.** Determine the magnitude and nature of the forces in all the members of the truss loaded and supported as shown. Tabulate the results.



**P8.** Using any method, find the forces in each member of the truss.



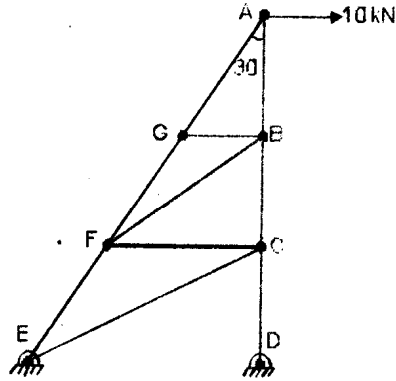
**P9.** Find the forces in the truss shown.



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**P10.** Find forces in all the members of the truss.



**ANSWERS**

**P1.**  $F_{AD} = F_{BE} = 7.07 \text{ kN(C)}$ ;  
 $F_{AF} = F_{BG} = F_{FH} = F_{HG} = 5 \text{ kN (T)}$ ;  
 $F_{CD} = F_{CE} = 8.23 \text{ kN (C)}$ ;  
 $F_{DH} = F_{HE} = 4.24 \text{ kN (T)}$ ;  
 $F_{CH} = 4 \text{ kN (T)}$ ;  $F_{DF} = F_{EG} = 0$

**P2.**  $F_{FE} = 3 \text{ kN (T)}$ ;  $F_{BF} = 44 \text{ kN (C)}$ ;  
 $F_{BC} = F_{CD} = 27 \text{ kN (C)}$ ;  
 $F_{AF} = 55 \text{ kN (T)}$ ;  $F_{CE} = 60 \text{ kN (C)}$ ;  
 $F_{AB} = 3 \text{ kN (C)}$ ;  
 $F_{DE} = 45 \text{ kN (T)}$ ;  $F_{BE} = 34 \text{ kN (T)}$

**P3.**  $F_{BD} = 52.7 \text{ kN (C)}$ ,  
 $F_{AB} = 16.66 \text{ kN (T)}$ ,  
 $F_{AD} = 23.56 \text{ kN (C)}$ ,  
 $F_{AC} = 33.34 \text{ kN (C)}$ ,  $F_{CF} = 40 \text{ kN (C)}$ ,  
 $F_{CD} = 22.23 \text{ kN (T)}$ ,  
 $F_{DF} = 70.3 \text{ kN (C)}$ ,  $F_{CE} = F_{EF} = 0$

**P4.**  $F_{ST} = 1.414 \text{ kN (C)}$ ,  $F_{RS} = 2.5 \text{ kN (T)}$ ,  
 $F_{QT} = 1.118 \text{ kN (C)}$ ,  
 $F_{PQ} = 1.677 \text{ kN (T)}$ ,  
 $F_{QR} = 2.795 \text{ kN (T)}$ ,  
 $F_{RT} = 2.25 \text{ kN (C)}$ ,  
 $F_{QU} = F_{PU} = F_{UT} = 0$

**P5.**  $R_B = 7.5 \text{ kN}\uparrow$ ;  
 $F_{BD} = 15 \text{ kN (C)}$ ;  
 $F_{BE} = 13 \text{ kN (T)}$ ;  
 $F_{CD} = 10 \text{ kN (C)}$ ;  
 $F_{DE} = F_{AC} = 8.68 \text{ kN (C)}$ ;  
 $F_{EC} = 8.66 \text{ kN (T)}$ ;  
 $F_{AE} = 4.34 \text{ kN (T)}$ ;

**P6.**  $F_{BC} = 28.28 \text{ kN (T)}$ ,  
 $F_{BD} = 20 \text{ kN (C)}$ ;  
 $F_{CD} = 20 \text{ kN (C)}$ ,  
 $F_{EC} = 20 \text{ kN (T)}$ ;  
 $F_{ED} = 56.56 \text{ kN (T)}$ ;  
 $F_{DF} = 60 \text{ kN (C)}$ .  
 $F_{AB} = F_{AC} = F_{EF} = 0$

**P7.**  $F_{AE} = 1.748 \text{ kN (T)}$ ,  
 $F_{AC} = F_{CD} = 0.864 \text{ kN (C)}$ ,  
 $F_{DE} = 1 \text{ kN (T)}$ ,  $F_{BD} = 1.5 \text{ kN (C)}$ ,  
 $F_{BE} = 0.75 \text{ kN (T)}$ ,  $F_{CE} = 1 \text{ kN (C)}$ .

**P8.**  $F_{GF} = 223.6 \text{ N (C)}$ ,  
 $F_{CE} = F_{EG} = 200 \text{ N (T)}$ ,  
 $F_{CF} = 223.6 \text{ N (T)}$ ,  $F_{DF} = 447.3 \text{ N (C)}$ ,  
 $F_{BD} = 745.3 \text{ N (C)}$ ,  $F_{AB} = 333.2 \text{ N (T)}$ ,  
 $F_{AD} = 377.3 \text{ N (T)}$ ,  $F_{AC} = 400 \text{ N (T)}$ ,  
 $F_{CD} = 400 \text{ N (C)}$ ,  $F_{EF} = 200 \text{ N (C)}$ .

**P9.**  $F_{GE} = F_{BD} = 141.4 \text{ kN (T)}$ ,  
 $F_{BF} = F_{EH} = 141.4 \text{ kN (C)}$ ,  
 $F_{AD} = F_{DE} = F_{FH} = 100 \text{ kN (C)}$ ,  
 $F_{AB} = 200 \text{ kN (C)}$ ,  
 $F_{BC} = F_{CF} = 0$

**P10.**  $F_{BG} = F_{BF} = F_{FC} = F_{CE} = 0$ ;  
 $F_{AB} = F_{BC} = F_{CD} = 17.32 \text{ kN (C)}$ ;  
 $F_{AG} = F_{GF} = F_{EF} = 20 \text{ kN (T)}$ ;

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