Q5 a) Referring to the truss shown in fig. 5a find-

i) Reactions ii) Zero force members iii) Forces in members BF and EF by method of sections. iv) Forces in other members by method of joints. [6]

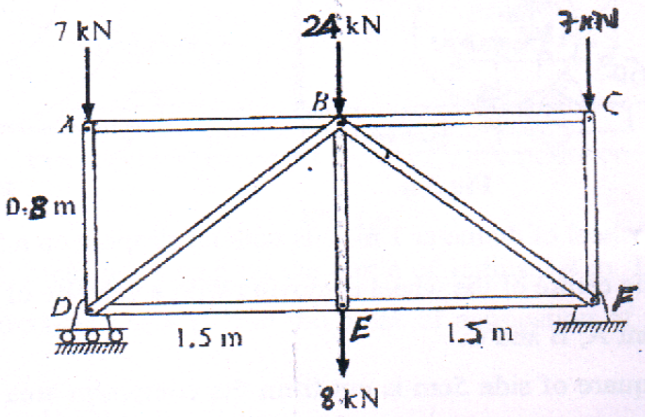

Fig 5.a

b) What maximum power is transmitted if the cross section of the belt is 10 cm^2 and maximum stress is limited to 2400N/cm^2. Density of belt material =5 gm/cm^3. The ratio of effective tension =2. [8]

c) Two blocks P and Q of mass 8kg and 24kg respectively are connected by a weightless rope passing over a frictionless pulley as shown in fig 5.c. Determine the velocity of the system 3 seconds after starting from rest. Take the coefficient of friction for all surface μ=0.3. [6]

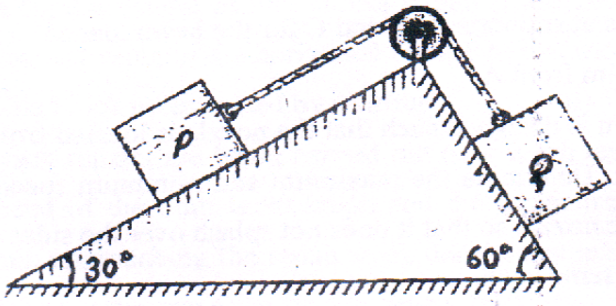

Fig 5.c

Q6 a) Rod AB is supported by a pin and bracket at A and rests against a frictionless peg at C. Determine the reaction at A and C When a 170 N force is applied at B as shown in fig 6.a. [6]