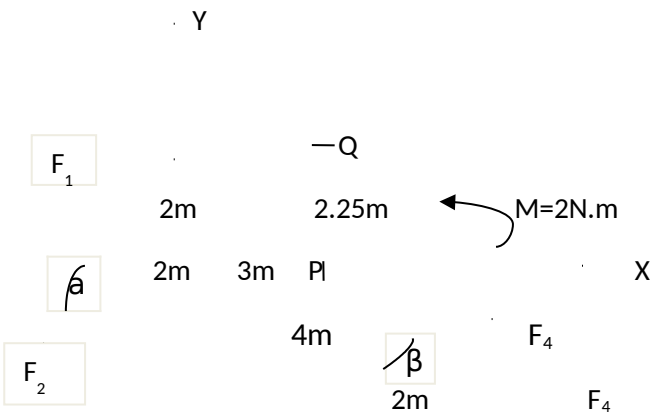
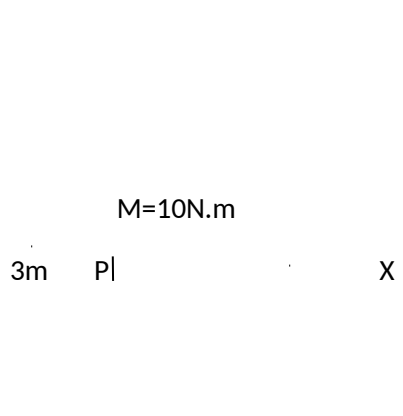
1) The three force systems given below are equivalent. Find the unknown forces F_2 and F_4 of system-1.

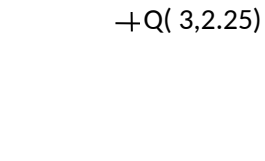
Given: F_1=8N, F_3=6N, a=30, Θ=30, β=90



Force system-1



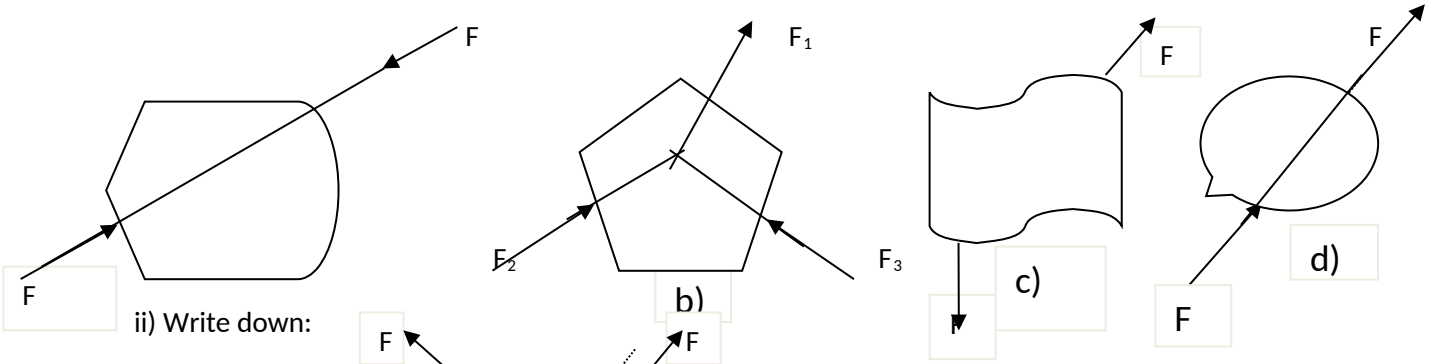
Force system-2 (single couple &resultant force Passes through P(3,0))



Force system-3 (single resultant force passes through Q (3,2.25))

2) answer the questions given below.

i) From the rigid object given below which of them are in equilibrium and which of them are not? Why?



ii) Write down:

a) The necessary and sufficient condition for two force member to be in equilibrium.

b) The necessary condition for three force member to be in equilibrium.