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NATIONAL INSTITUTE OF TECHNOLOGY CALICUT

ZZ1001 ENGINEERING MECHANICS

Interim Test - I - Monsoon Semester 2013

Time: 1hr Max Marks: 15

1. Find the torque (i.e., moment of forces and couple moments) of the entire system shown in Fig.1 about axis A-A having direction cosines $l=0.63, m=0.72$ *and* $n=0.291$ and going through P. [5]

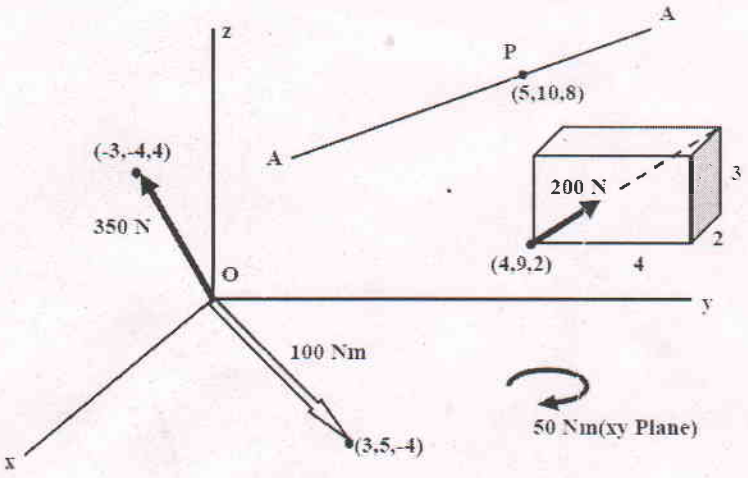

Figure 1.

2. Find the resultant of the systems of forces acting on the pipe assembly at A. The forces and couple are given in the Fig.2. [5]

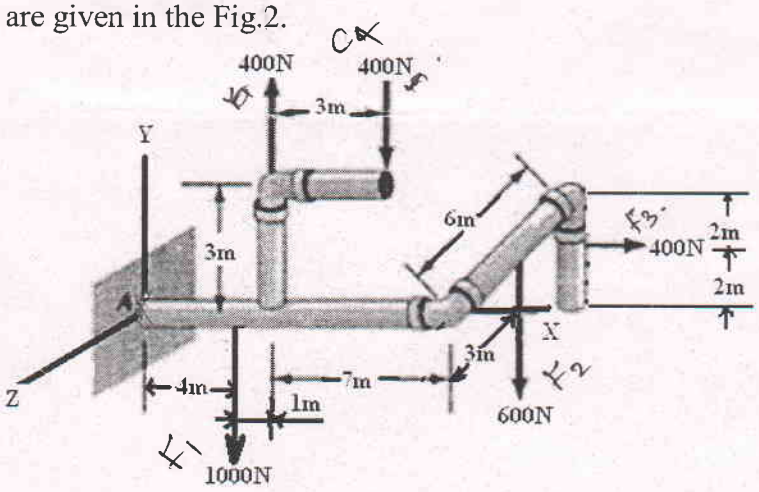

Figure 2.

3. Find the simplest resultant of the loads shown in Fig. 3. Give the intercept of the simplest resultant with the x – axis. [5]

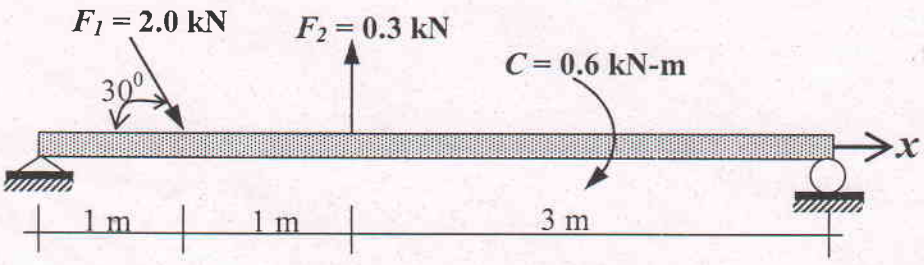

Figure 3.