

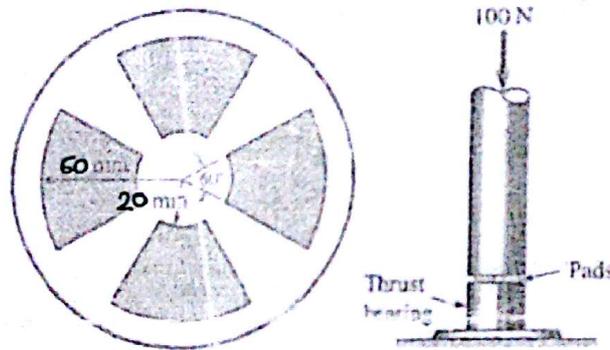
Department of Applied Mechanics
ENGINEERING MECHANICS (AML-110)
Semester-II: Session (2012-2013)
Minor - I

Time: 1 hr

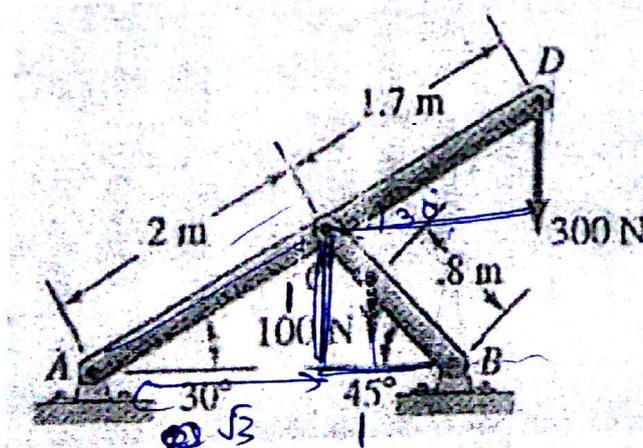
Max. Marks: 40

Note: Answer all four questions. All questions carry equal marks.

- Q1) The support end of a dry thrust bearing is shown. Four pads form the contact surface. If a shaft creates a 100-N thrust uniformly distributed over the pads, what is the resisting torque for a dynamic co-efficient of friction of 0.1?

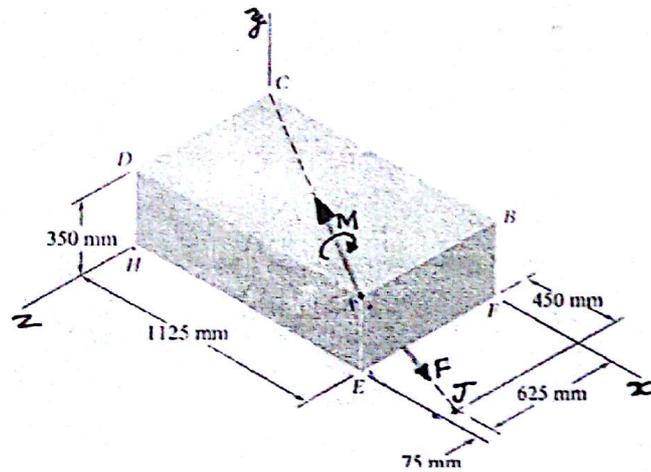


- Q2) Light rods AD and BC are pinned together at C and support a 300-N and a 100-N load. What are the supporting forces at A and B?

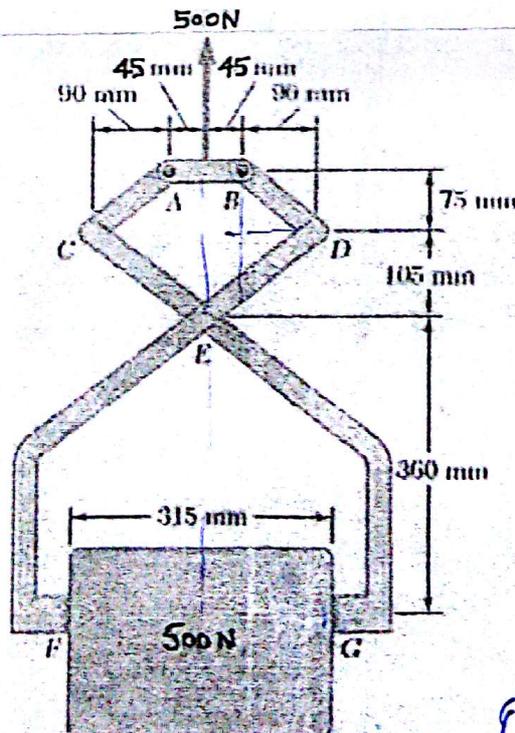


P.T.O.

Q3) A 230 N force F and a 265 N-m couple M are applied to corner A of the block shown. Replace the given force-couple system with an equivalent force-couple system at corner H .



Q4) A 500-N concrete block is to be lifted by the pair of tongs shown. Determine the smallest allowable value of the coefficient of static friction between the block and the tongs at F and G .



$$\frac{315}{2}$$

~~0.15~~
0.26