FORCE AND PRESSURE

CHAPTER NO.3
SUB: PHYSICS

LEARNING OUTCOMES

- Students will be able to
- Define moment of a force
- Apply turning effect of force in day to day life situations.
- State the unit of moment of force.

POINTS TO BE COVERED

➢Factors affecting the turning of a body

➢Moment of a force

➢ Unit of moment of force

INTRODUCTION

- Define force.

- What is the SI unit of force?

- 1 kgf = _____N

- Differentiate between a rigid body and a non rigid body.

Factors affecting the turning of a body

- Magnitude of force.
- Perpendicular distance of the force from the pivoted point.

Examples:

- A person pushing a swing will make the swing rotate about its pivot.
- A worker applies a force to a spanner to rotate a nut.
- A person removes a bottle's cork by pushing down the bottle opener's lever.
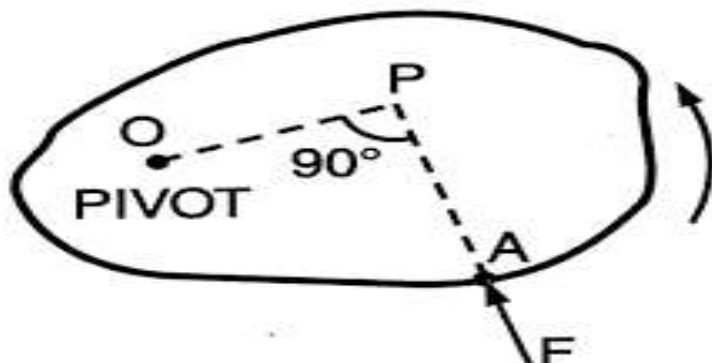- A force is applied to a door knob and the door swings open about its hinge.

Force

•Moment of a force:

The moment of a force is equal to the product of the magnitude of the force and the perpendicular distance of the force from the pivoted point.

Moment of force about the point O

= F x OP

Moment of a force

Units Of Moment of Force

- Unit of moment of force:

- SI unit: newton x metre

- CGS Unit: dyne x cm

- Nm = 10^7 dyne cm.
  - 1 kgf m = 9.8 Nm.
  - 1 gf cm = 980 dyne cm.

HOME ASSIGNMENT

➤ Exercise:B-5,6,7

THANKING YOU
ODM EDUCATIONAL GROUP