

ASSIGNMENT 2

Question 1: Explain two types of friction; dry friction and fluid friction and give practical examples.

Dry friction: This is a force that opposes the relative lateral motion of two solid surfaces in contact. **Example:** Antifriction bearings, which have to operate without a liquid lubricant will experience high wear and friction.

Fluid friction: Describes the friction between layers of a viscous fluid that are moving relative to each other.

Example: A practical example of fluid friction is a fluid flow examples, in a tube, not as solid plug, but with more or less complicated internal motion with continuously changing velocities at all points of reference in the fluid.

Question 2: Explain the following types of machines.

1. **Wedges:** This is a triangular shaped tool, and is a portable inclined plane, and one of the six classical simple machines.
2. **Square-Threaded screws:** The square thread form is a common screw thread form, used in high load applications such as lead screws and jackscrews. It gets its name from the square cross-section of the thread. It is the lowest friction and most efficient thread form, but it is difficult to fabricate.
3. **Journal Bearings:** In a journal bearing, the shaft rotates inside a loose-fitting bearing shell of softer, often porous, bearing material.