NAME:……..CLASS:……..……

SECOND TERM: E-LEARNING NOTES

JS 3 (BASIC 9)

SUBJECT: BASIC TECHNOLOGY

SCHEME OF WORK

WEEK TOPIC

1. *Revision of first term work*
2. *Mechanical energy transmission system. (a) Friction (b) effects of friction (c) advantages and disadvantages of friction (d) methods of reducing friction (e) belt and chain drive (f) comparison with the gear drive*
3. *Mechanical energy transmission system.Gear. (i) Gears and gearing systems and related calculations. (ii) types of gears; internal gear, external gear,… (iii) uses of gears; power transmission, changing of direction, for selecting speed(iv) gear ratios and speed ratio (V) friction between meshed gears.*
4. *Mechanical energy transmission system. Motion (i) linear motion (ii) lever arrangement to produce linear motion (iii) uses of slides and slot in mechanical system (iv) Rotary motion, types of rotary motion – oneway rotary motion and the reversible rotary motion. (v) Conversion of rotary motion to linear motion*
5. *Mechanical energy transmission system. Airflow. (i) Speed and pressure relationship in air flow. (ii) Variation of air pressure and air speed and their applications. Pneumatics; (i) simple hydraulics and pneumatics devices; simple force pump, double acting pump,… (ii) Compressed air devices, hydraulic jacks, simple garden sprinkler, reaction turbine, water wheel*
6. *Simple electrical wiring: (a) electrical circuit: series and parallel circuits (b) wiring tools and materials; pliers, hammer, screw driver, clips, wooden blocks, cables, etc. (c) accessories: switches, lamp holders, etc*
7. *Building (a) foundation (i) definition and function of foundation: support and weight of walls, roofs and inhabitants (ii) foundation types: strip, stepped, raft etc. (iii) types and properties of soil (iv) hand tools and plant for excavation: diggers, shovels, excavator, etc. (b) walls; (i) materials for making walls: grass, zinc, curtain, bricks, etc. (ii) types of walls: walls grass, zinc, curtain bricks etc. (iii) materials for bonding*
8. *Building (c) floors: (i) floor: basement, ground floor, first floor, etc. (ii) DPC (d) doors, windows and openings (i) Doors: flush door, glazed, sliding, revolving, etc. (ii) windows: louver, sliding, casement, etc (iii) lintel*

9. *Building (e) Roofs (i) types of roof: flat roof, double pitched, lean-to Gable, etc (ii) roofing materials: grass, zinc, aluminium, etc. (f) simple blue print reading (I) sanitary wares: sink, bath, showers, etc. soak-away, septic tank, socket, windows, doors, room, etc.*

10. Practical projects.

WEEK ONE*: Revision of last terms' work*

WEEK TWO

CLASS: *Basic 9*

TOPIC*:* *Mechanical Energy Transmission system*

Period one*:* *Friction*

Content*; -Definition of friction*

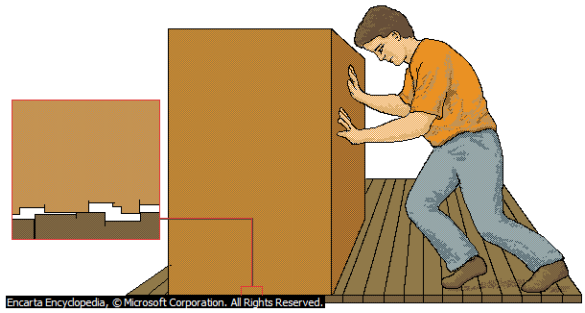
- *Nature/characteristics of friction*
- *Types of frictional force*
- *Effect of friction*
- *Advantages of friction*
- *Disadvantages of friction*
- *Methods of reducing friction*

Definition of friction

Friction can be defined as a ***force*** *which* ***opposes motion****.*

It is a ***force*** *which* ***stops/prevents motion****. It acts whenever there is motion or tendency for something to move. i.e friction (or frictional force) is absent if there is no motion or if there is no force intending to cause motion.It stops your car when the brake is applied. It prevents your foot from slipping backward when you walk.*

Friction can also be defined as a force of attraction between the molecules of two bodies in contact which prevents relative motion between the two bodies.



friction is preventing this box from moving.

Nature/characteristics of friction

- *It always opposes motion*
- *It depends on the nature of surfaces in contact. Friction between…*