

Classification →

(1) Based on mode of transfer
Energy -

Shaft Power → Fluid - Pump
Blower or compressor, fans
(Power Absorbing Device)

Fluid → Shaft → Steam, gas

or hydraulic turbine
Power producing device

2) based on working medium -

deals with liquid or water
pump, hydrolic Turbines.

deals with Vapours & gas.

→ gas turbine or steam turbine.
Compressor blower.

(3) Based on Type of Flow

In compressible Flow, liquid & gas

hydro turbine, Blowers fans.

compressible flow → gas at high mach No.

high speed, high pressure ratio compressor, Steam/gas turbine.

(4) Direction of Flow

axial →

radial → depending upon

mixed → flow of path.

Hydraulic M/C \rightarrow Diwite or
M/C which convert hydraulic
Energy into mechanical Energy
or vice versa.

hydraulic Energy \rightarrow mechanical
Energy

Turbines.

mechanical Energy \rightarrow hydraulic
Energy.

Pumps.

Types of turbine

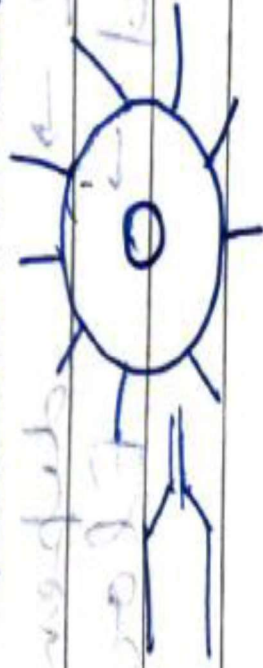
(A) according to type of Energy of inlet

- Impulse turbine

→ at inlet of turbine K.E. of water

is available

→ Pelton wheel



Reaction turbine

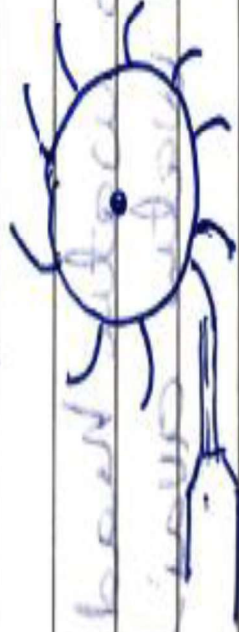
→ at inlet of Turbine KE + Pressure Energy Available.

Francis Kaplan turbine

(2) According to direction of flow of water in the runner base

(A) Tangential flow turbine

water strikes the runner tangential to the path of rotation of runner.
Pelton wheel.

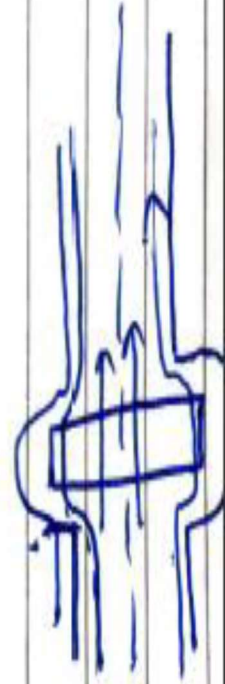


direction of flow

(B) axial flow turbine

water flow in direction parallel to the axis of the turbine.
Kaplan & Propeller turbine

→



(c) radial flow turbine.

water flows in radial direction through the runner. radially inward or outward

old Francis turbine.

D mixed (Radial & axial) flow turbine

1) water flow through the runner in radial direction but leaves in direction parallel to axis of rotation of runner.

modern Francis turbine