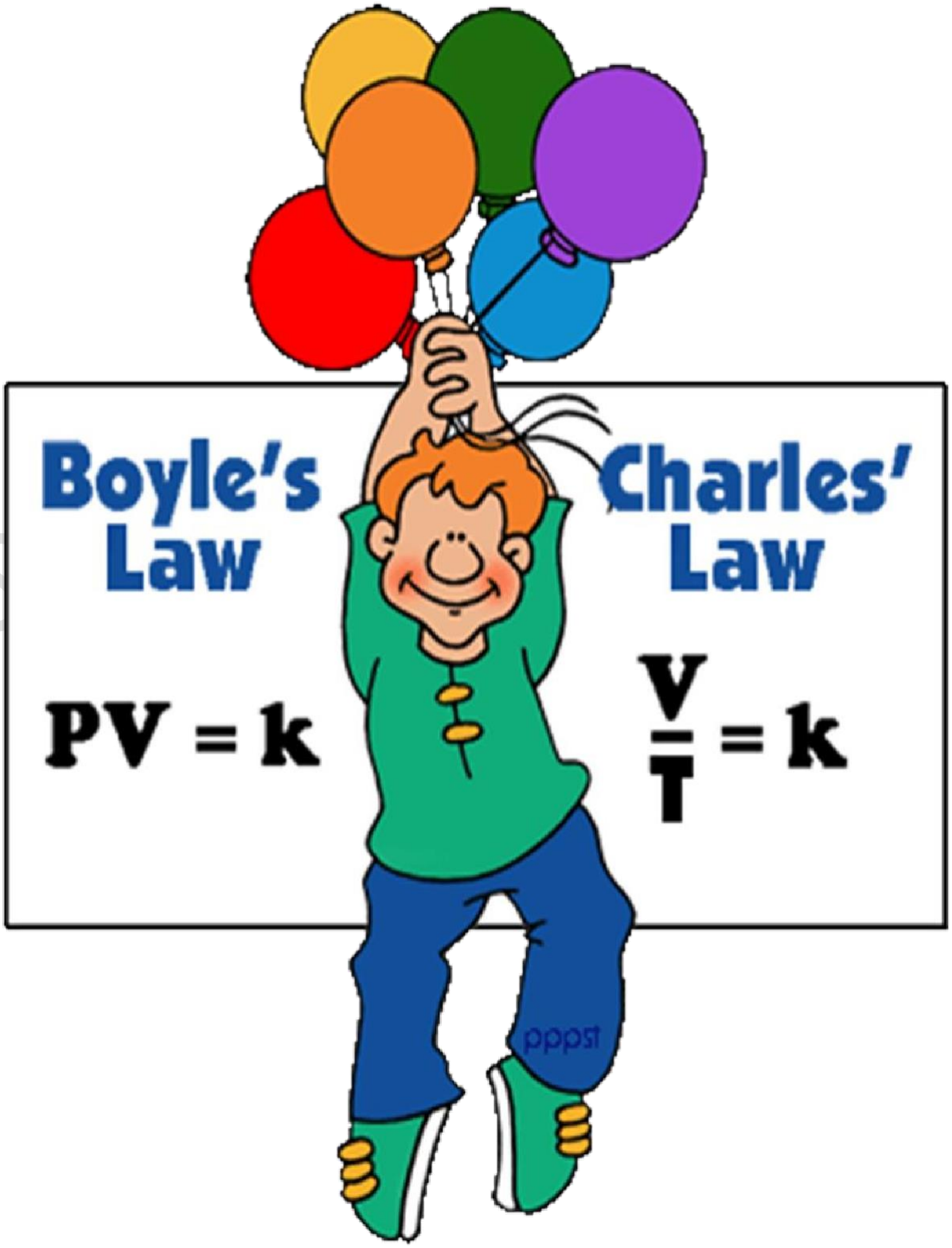
GANDHI SCHOOL OF ENGINEERING,BHABANDHA,BERHAMPUR

TEACHING AND LEARNING MATERIAL

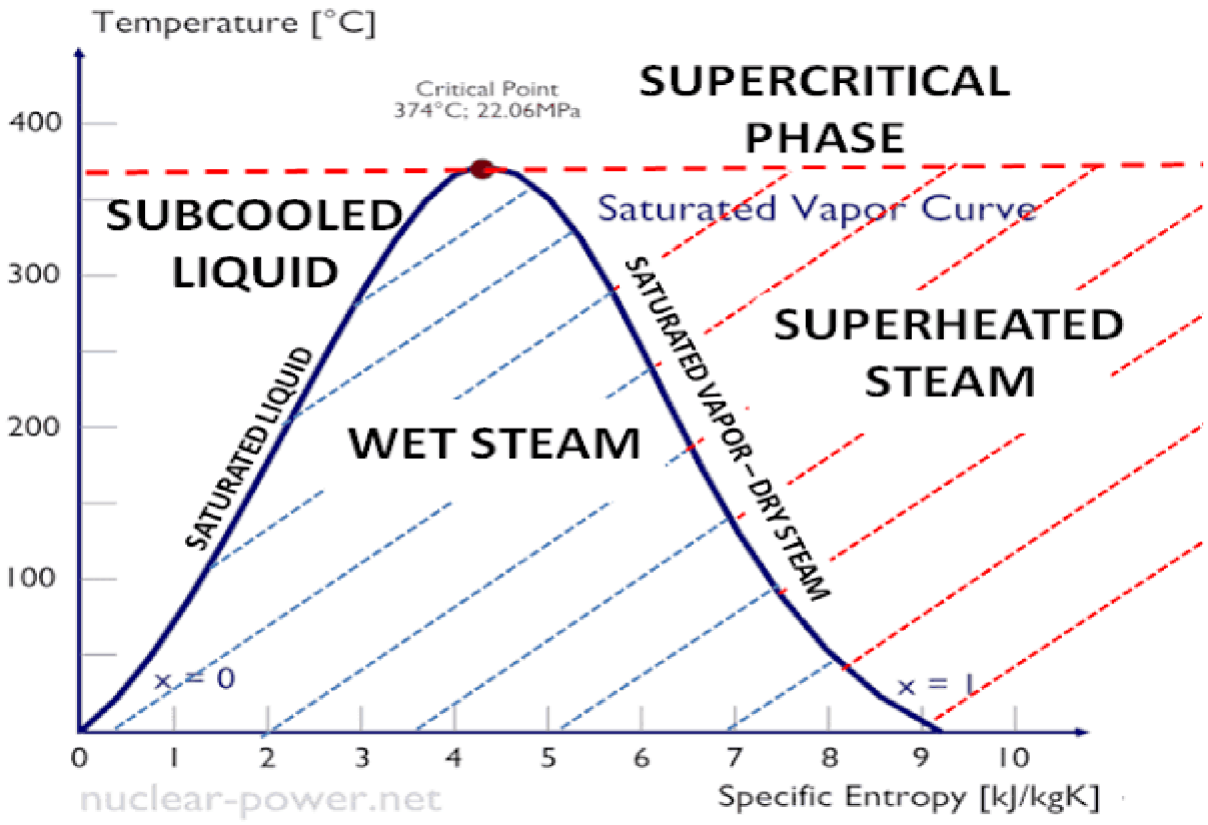
SUBJECT: EME

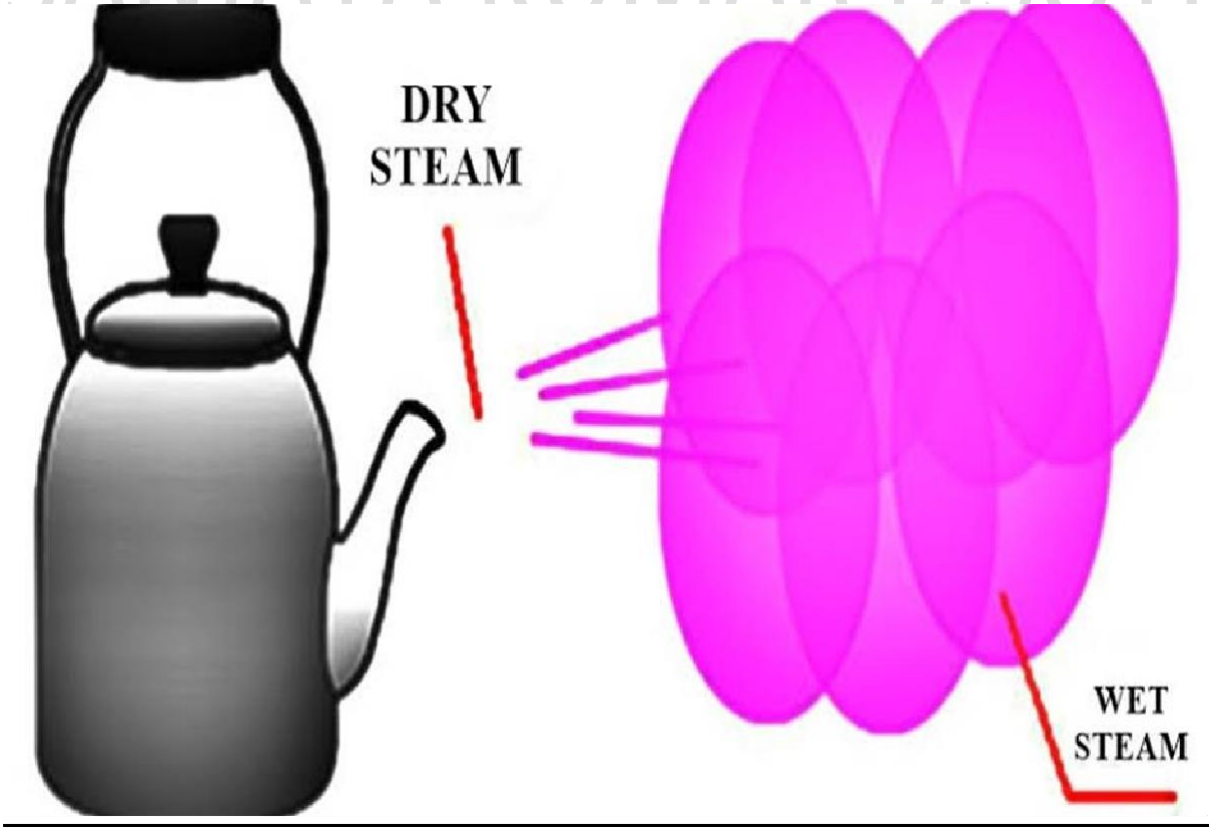
SEMESTER:3RD

LAWS OF PERFECT GAS

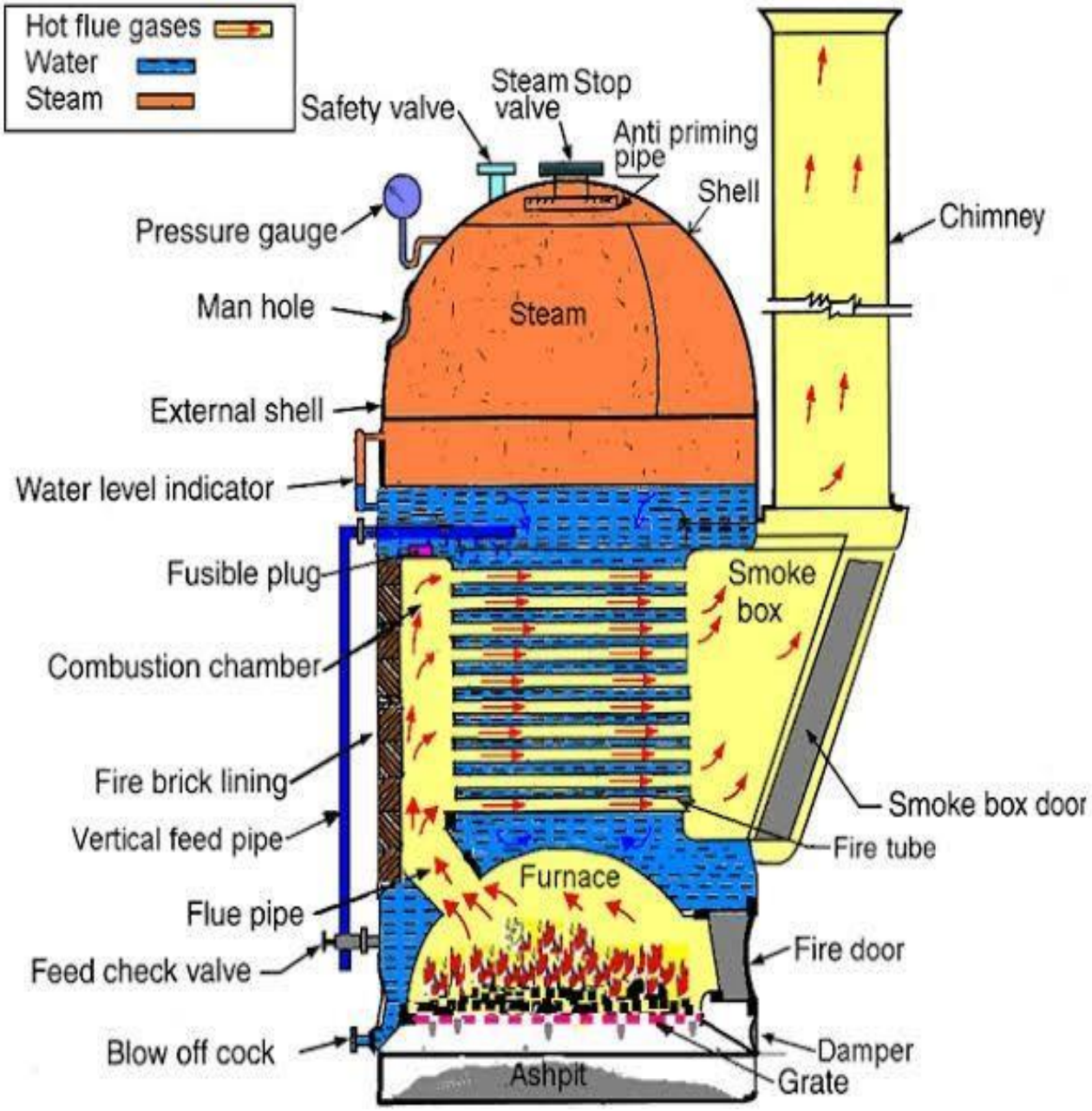


PROPERTIES OF STEAM

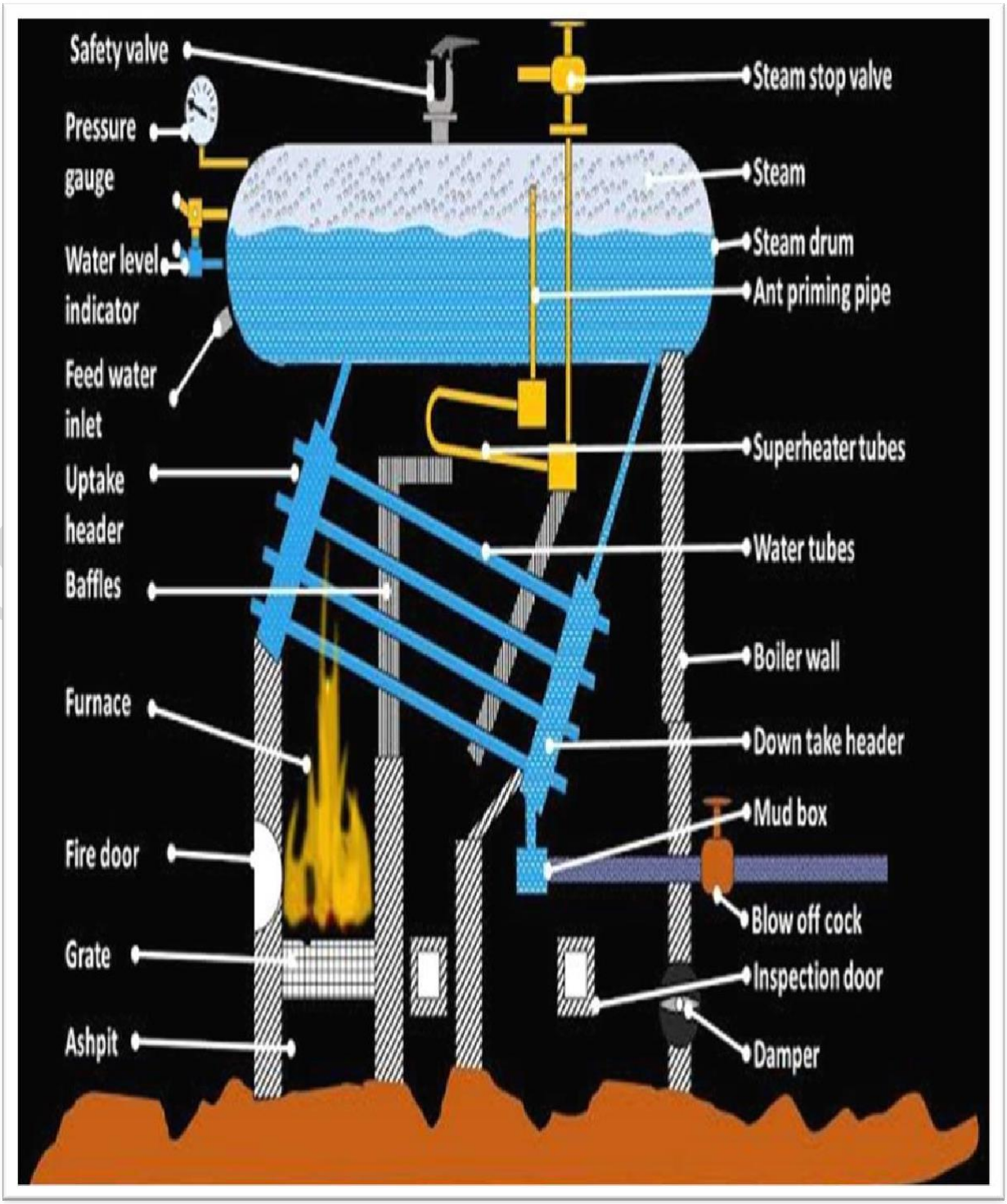




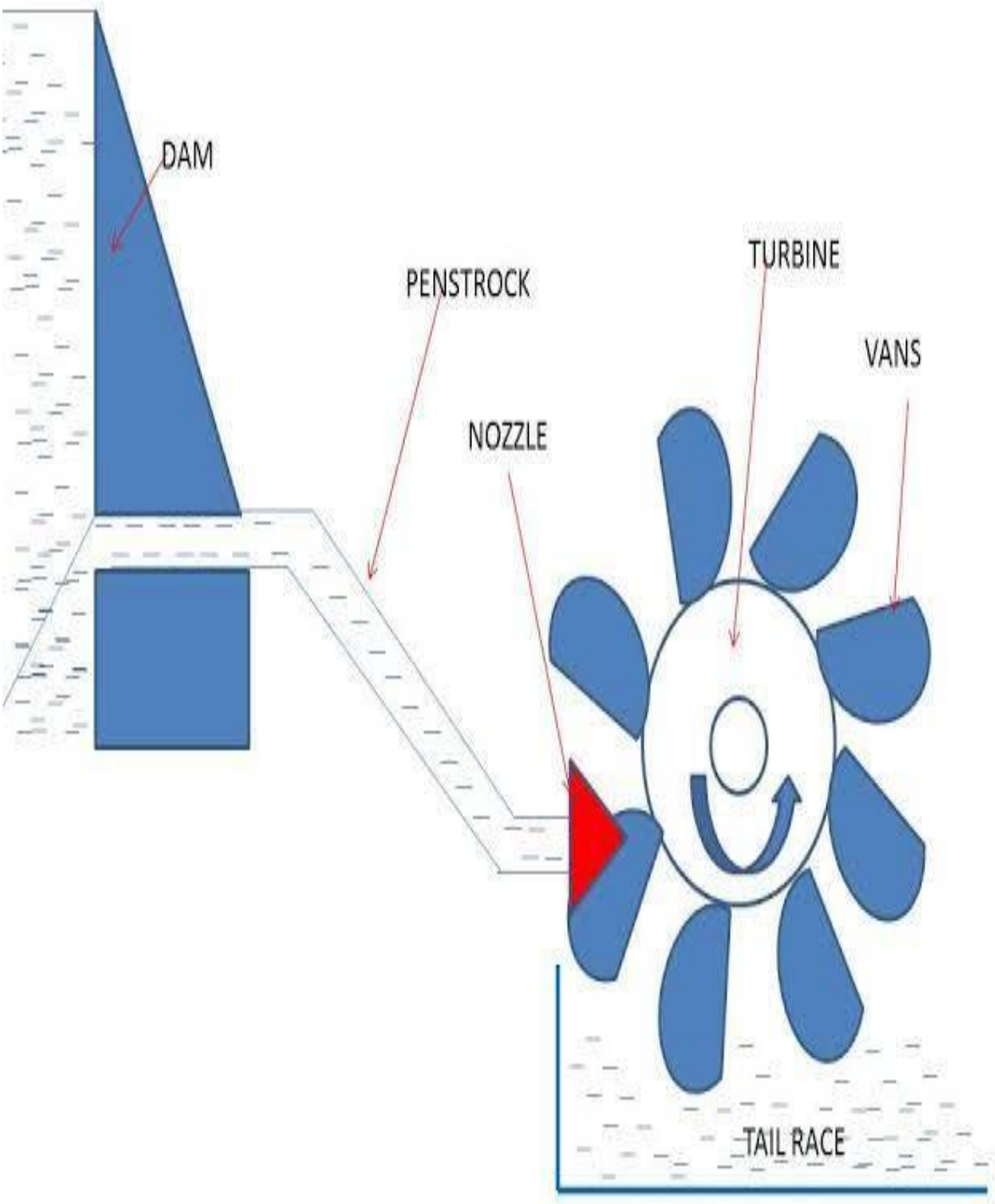
COCHRAN BOILER

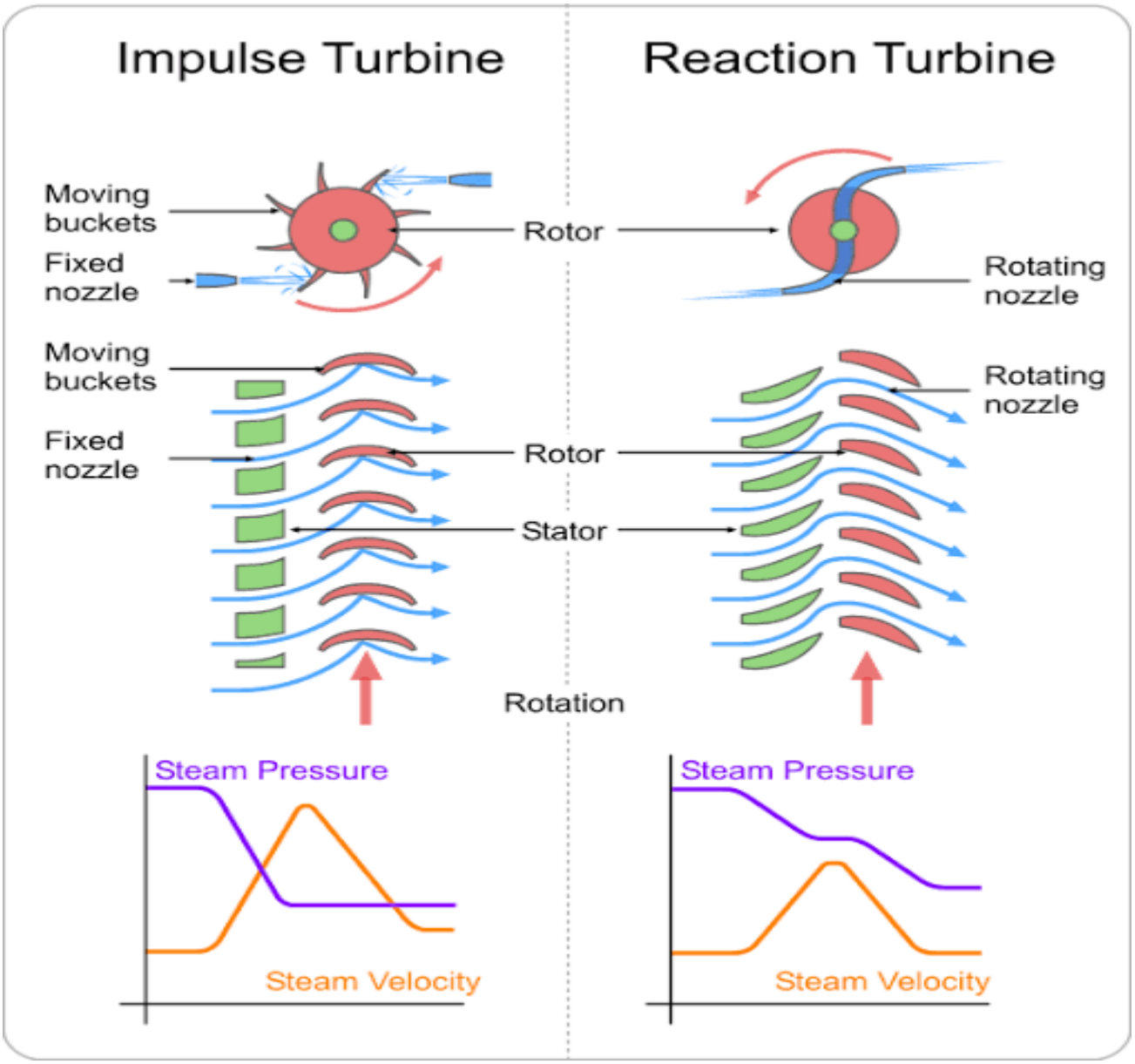


BABCOCK AND WILCOX BOILER

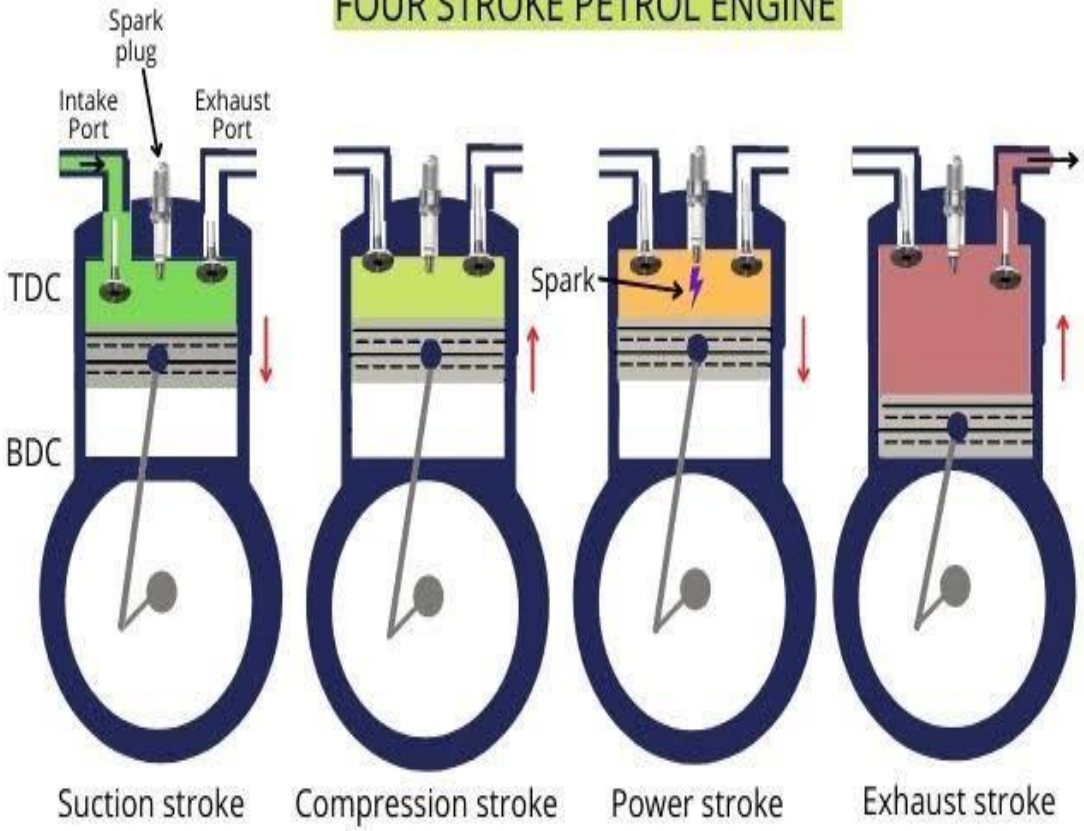


IMPULSE TURBINE

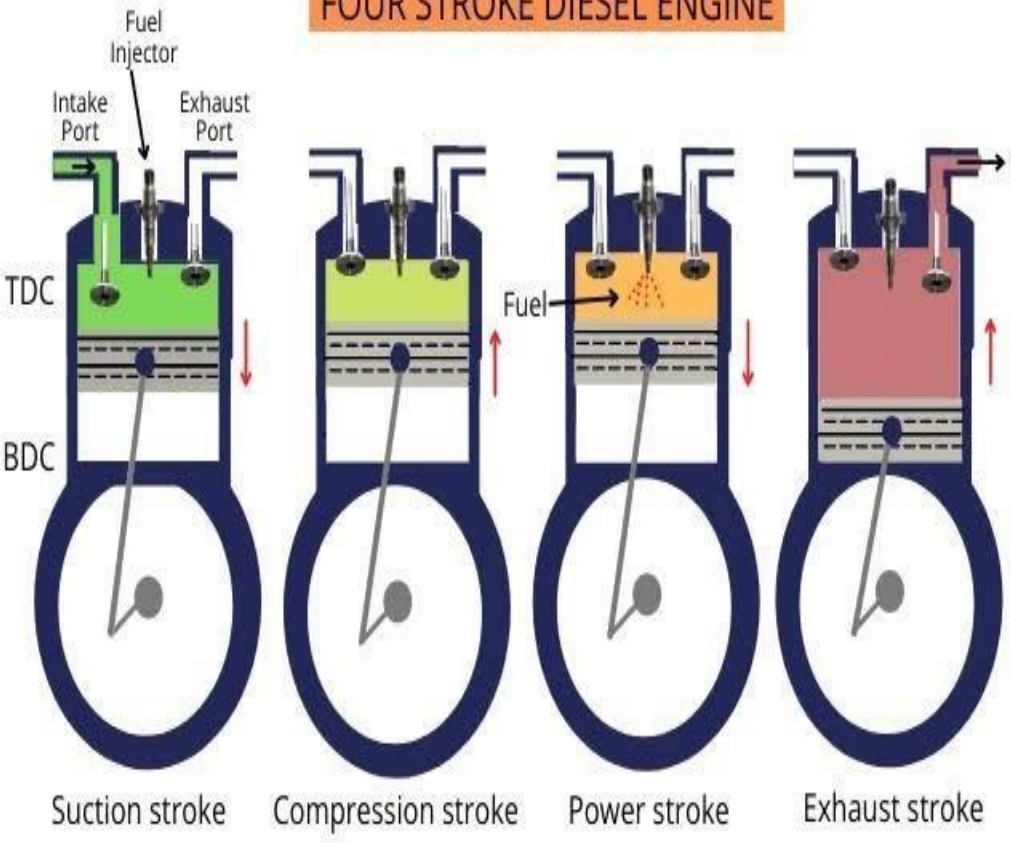



Impulse Turbine
Reaction Turbine
Moving buckets
Fixed nozzle
Rotor
Rotating nozzle
Moving buckets
Fixed nozzle
Rotor
Stator
Rotating nozzle
Rotation
Steam Pressure
Steam Velocity
Steam Pressure
Steam Velocity

FOUR STROKE PETROL ENGINE

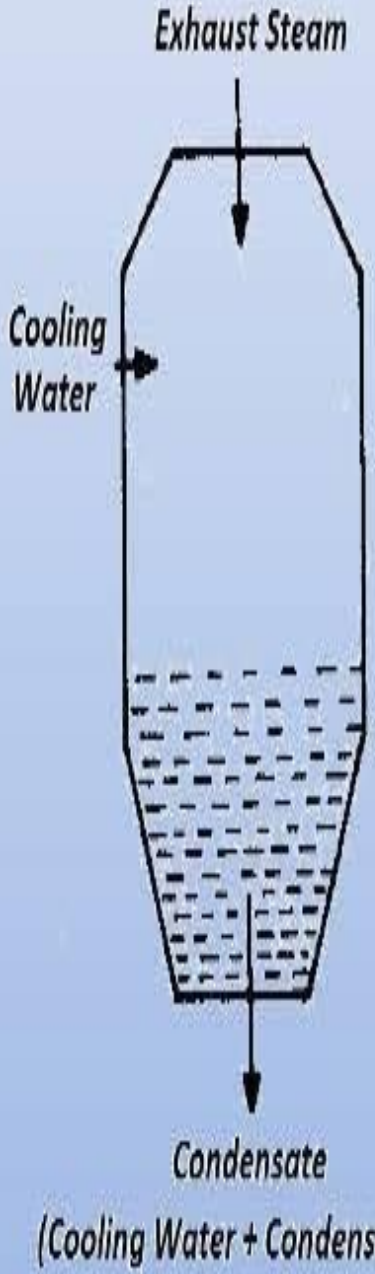


FOUR STROKE DIESEL ENGINE

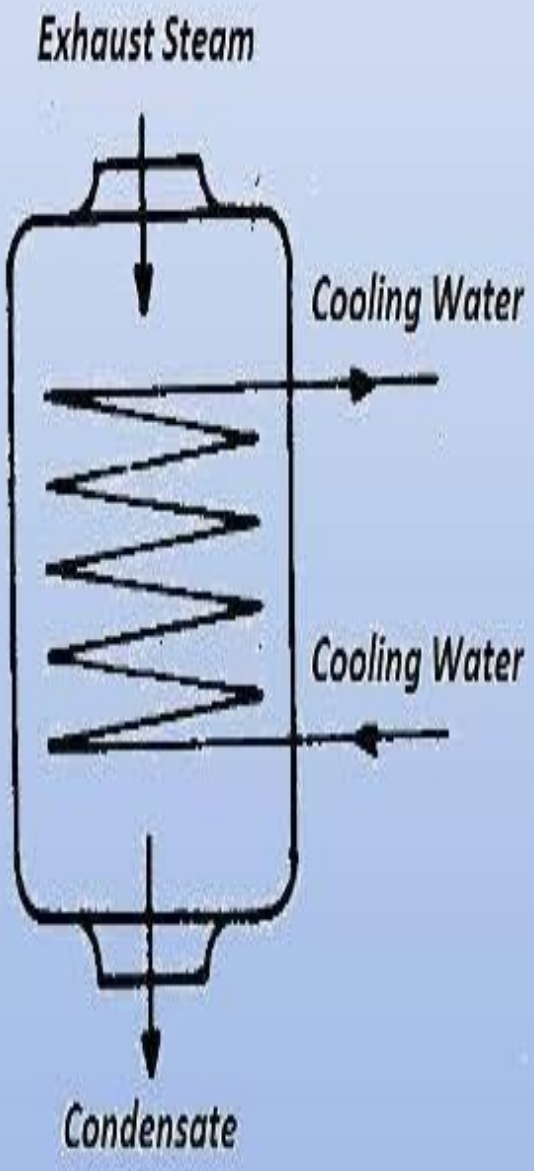


Jet Condenser Vs Surface Condenser

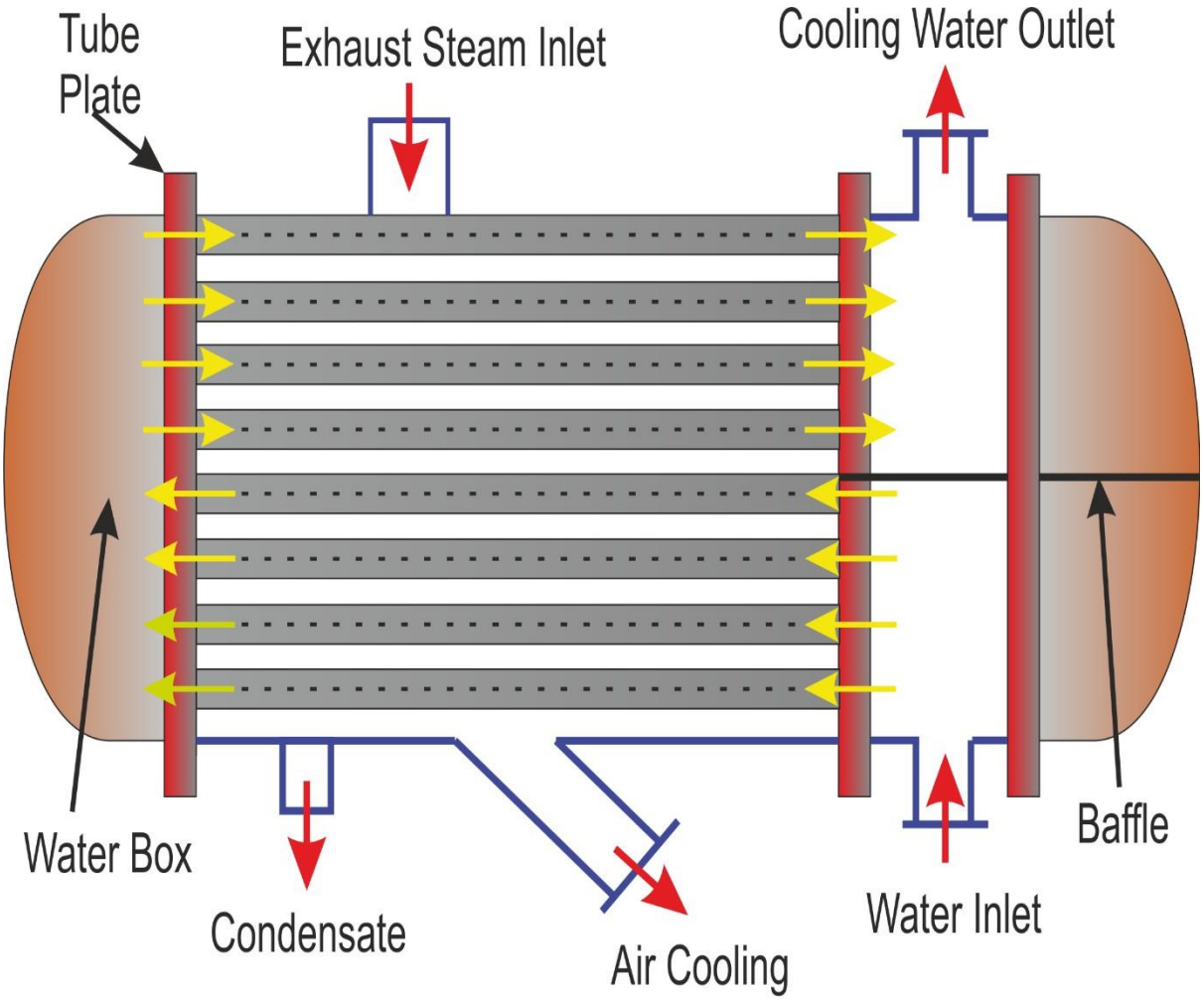
Jet Condensers
(Direct Contact type/Mixed type)

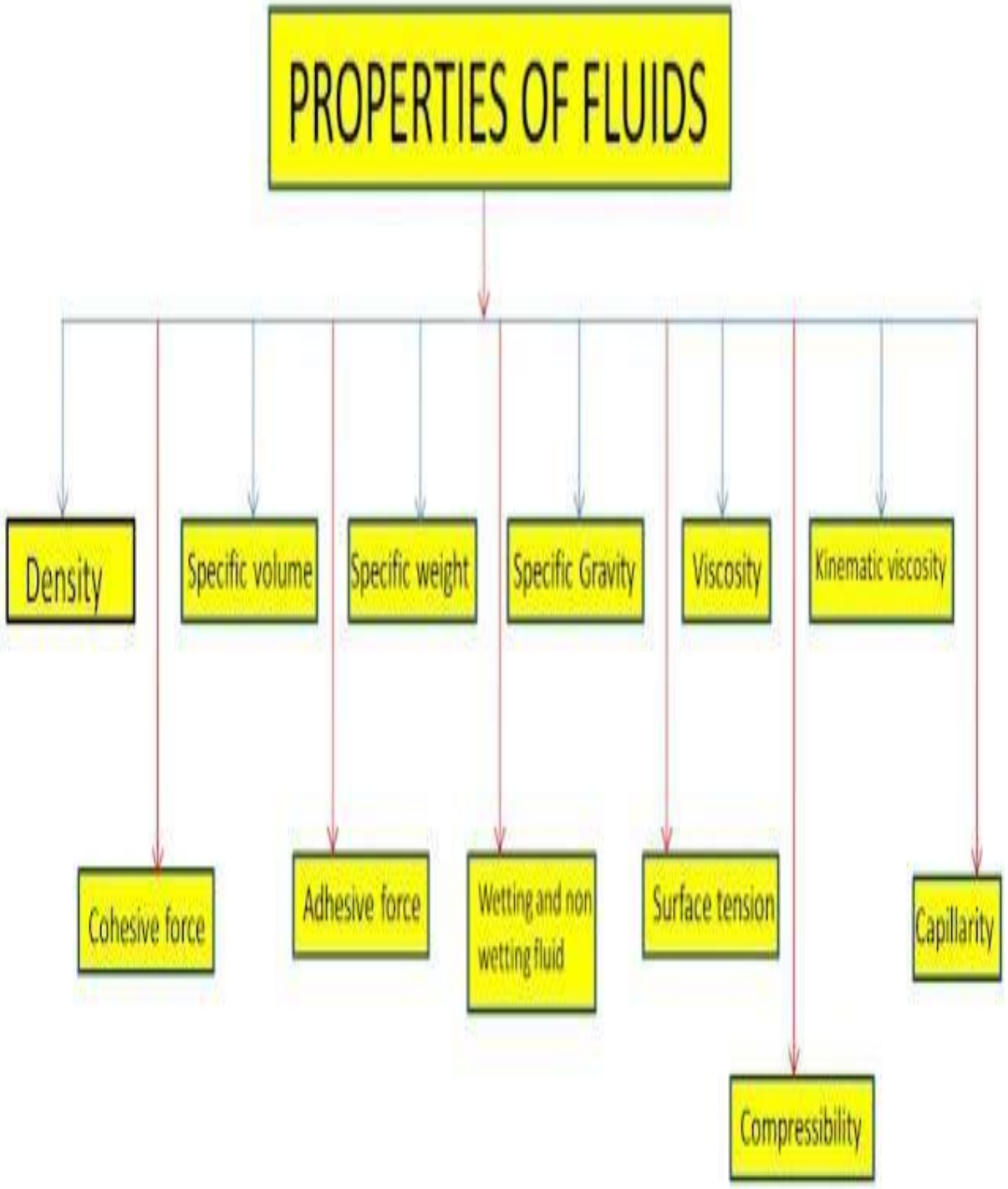


Surface Condensers
(Indirect Contact type/Non-Mixed type)

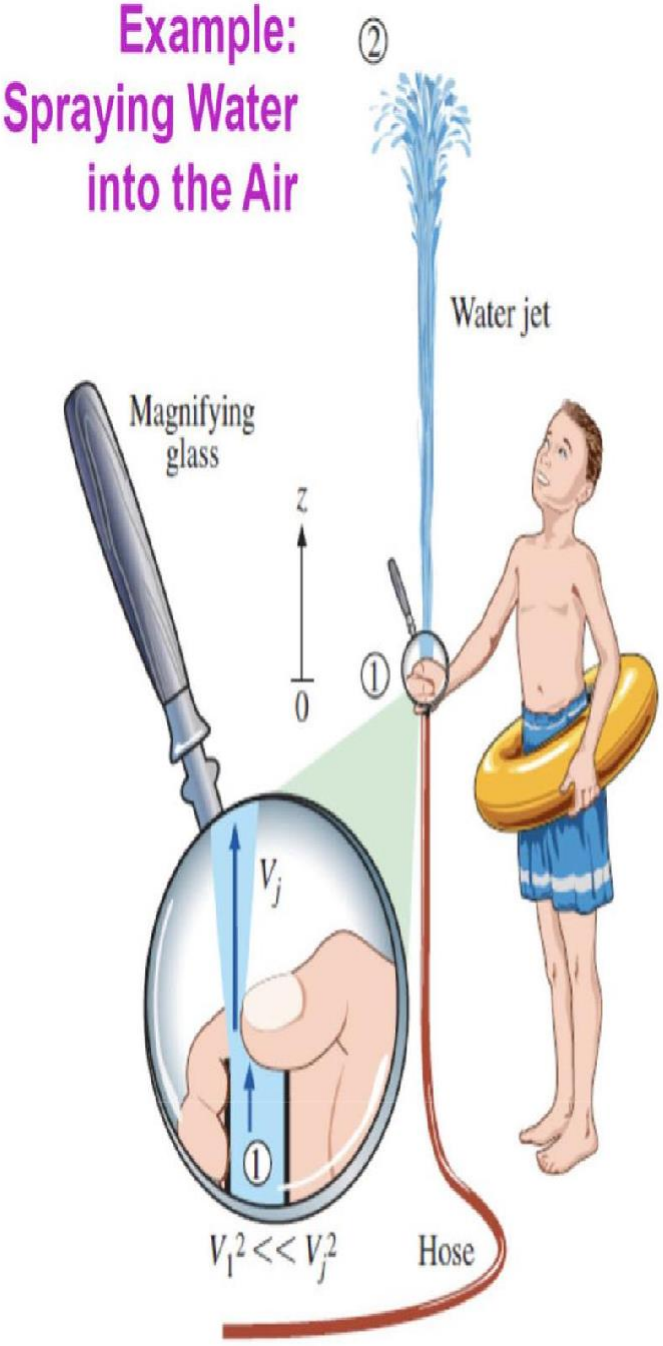


SURFACE CONDENSER



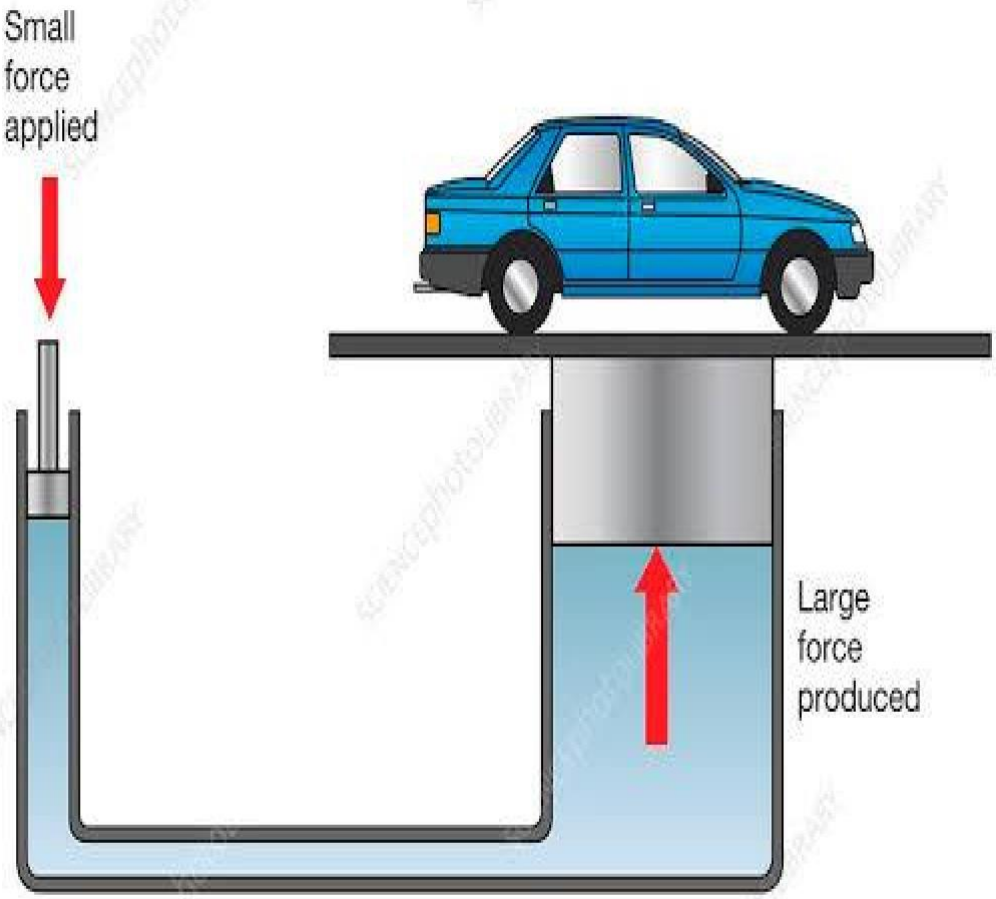

PROPERTIES OF FLUIDS
Density
Specific volume
Specific weight
Specific Gravity
Viscosity
Kinematic viscosity
Cohesive force
Adhesive force
Wetting and non wetting fluid
Surface tension
Capillarity
Compressibility

BERNOULLI'S EQUATION

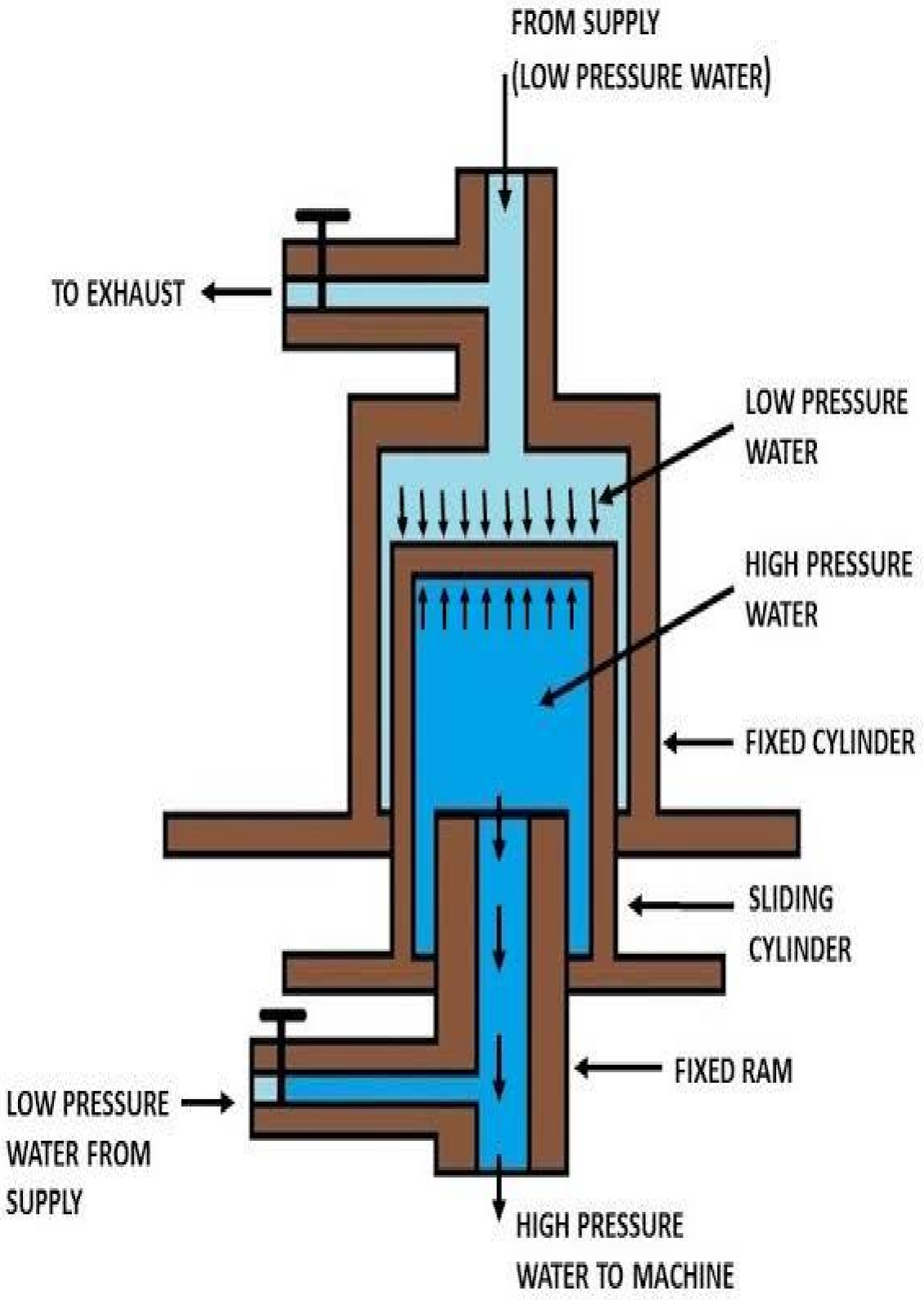


$$\frac{P_1}{\rho g} + \frac{V_1^2}{2g}^{\approx 0} + z_1^{\,0} = \frac{P_2}{\rho g} + \frac{V_2^2}{2g}^{\,0} + z_2 \quad \rightarrow \quad \frac{P_1}{\rho g} = \frac{P_{atm}}{\rho g} + z_2$$

HYDRAULIC LIFT



HYDRAULIC INTENSIFIER



HYDRAULIC RAM