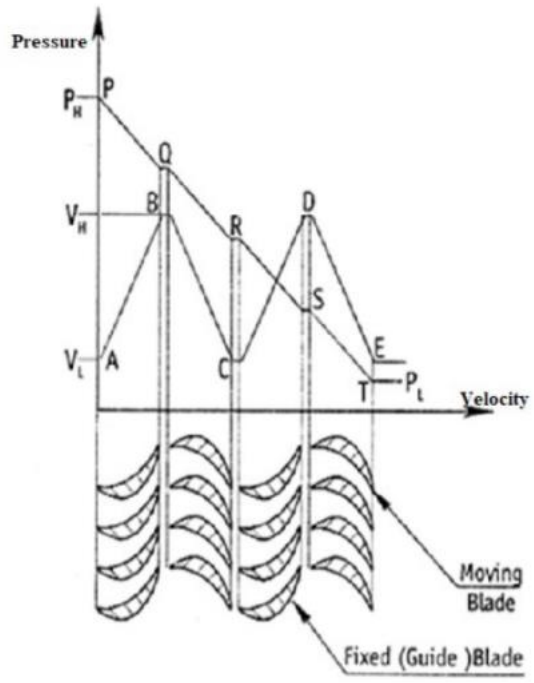
BME PYQ DIAGRAMS :)

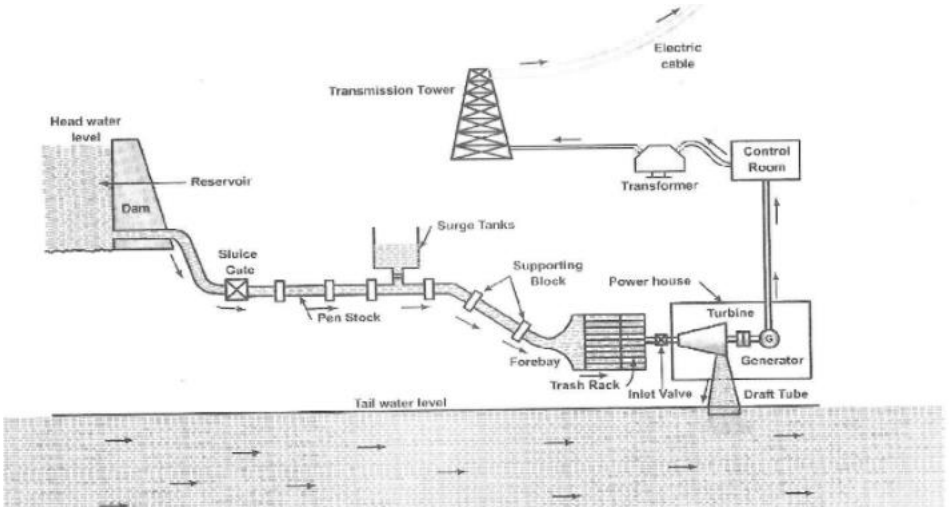
-Megha nair

1. With neat sketches illustrating the propelling forces and pressure velocity changes explain the working of a reaction turbine

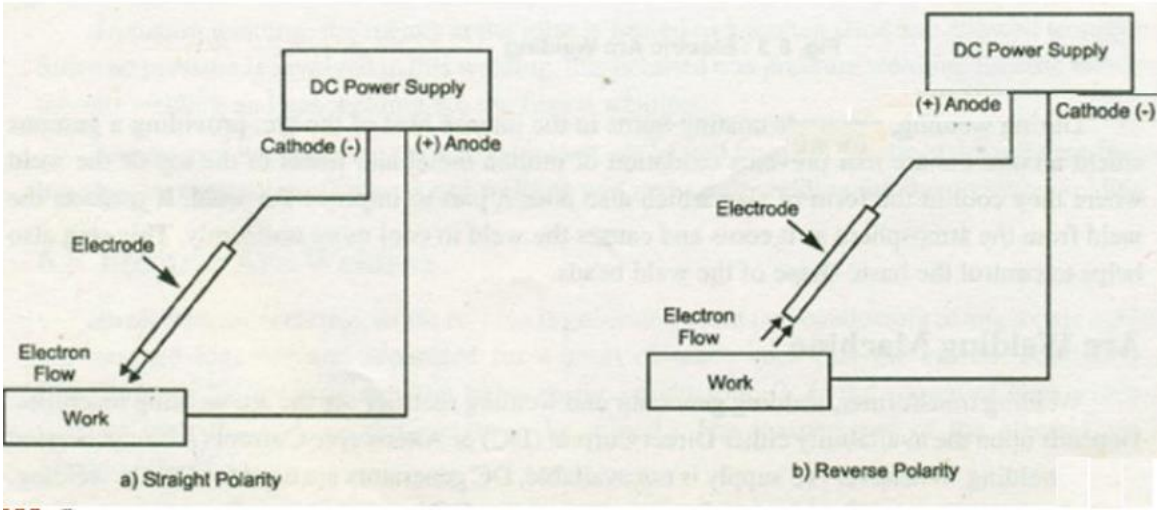


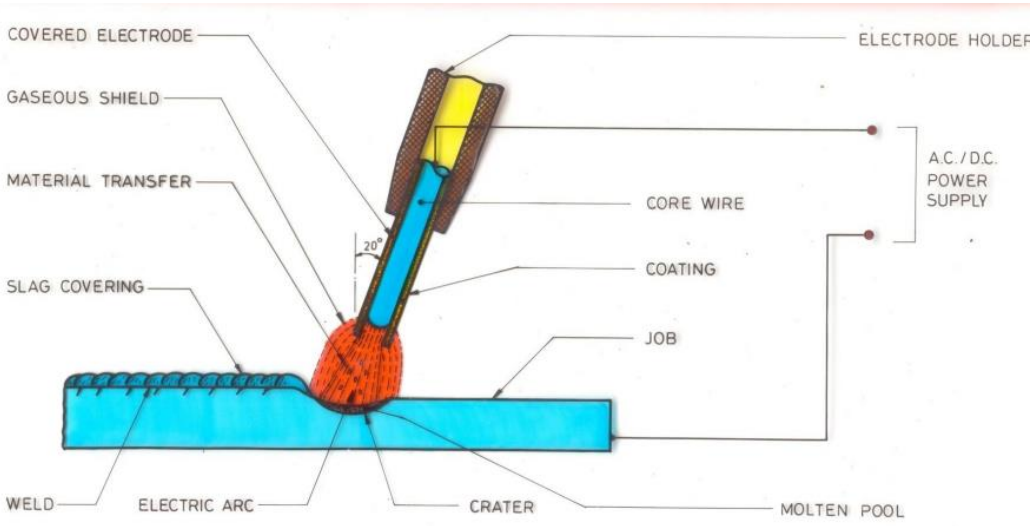
Pressure – Velocity changes in Reaction turbine

2. Draw the general layout of a Hydel Power Plant and name the various components?

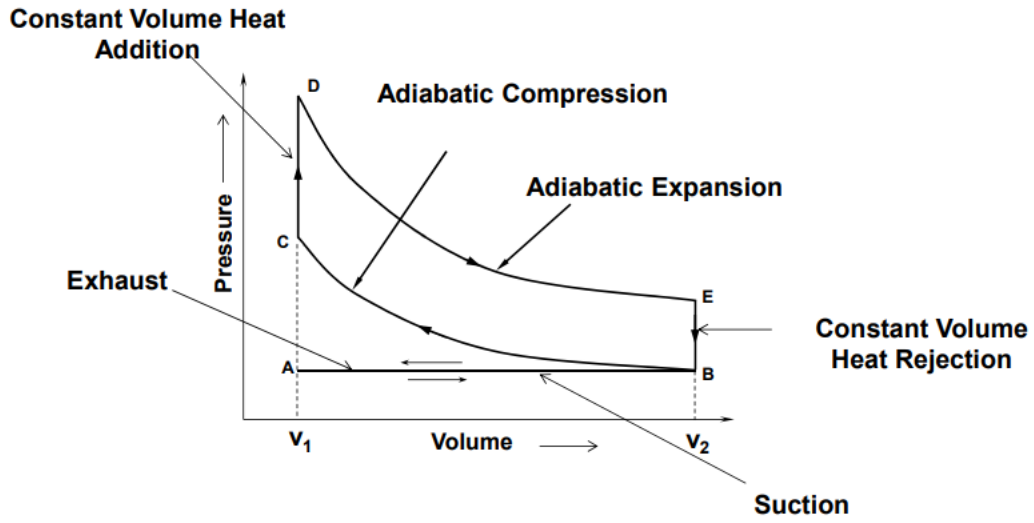


3. With neat sketches explain in detail how arc welding is carried out using a DC power source

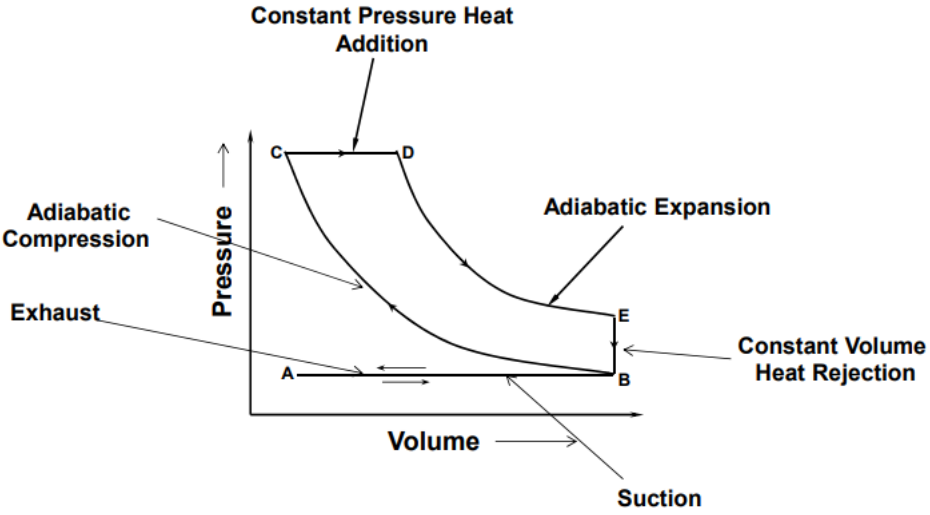




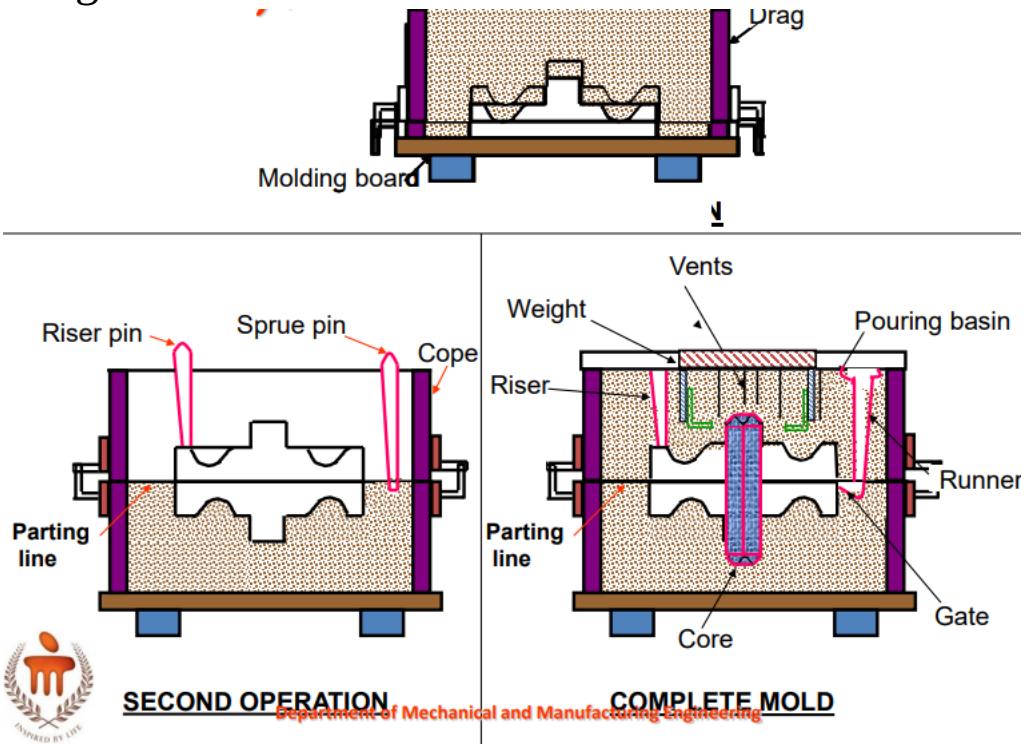
4. With neat sketches and illustrating the pressure volume changes explain the working of a four stroke petrol engine.



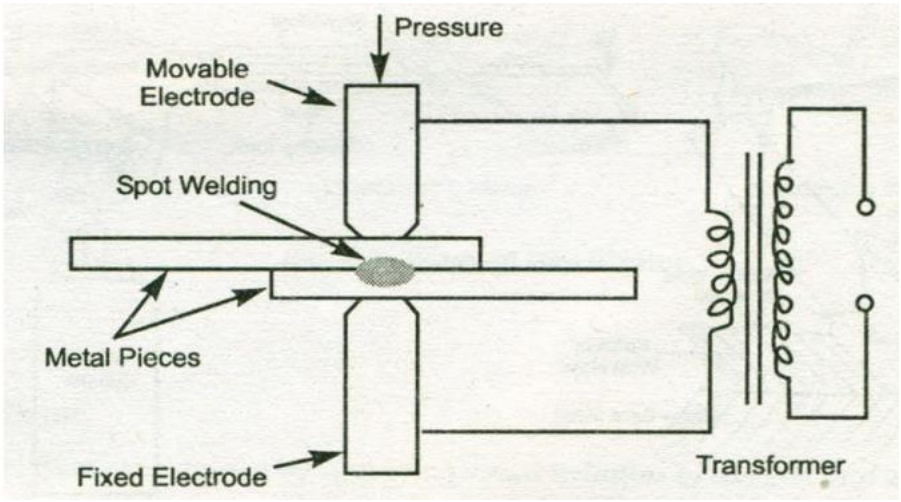
5. With neat sketches and illustrating the pressure volume changes explain the working of a four stroke diesel engine.



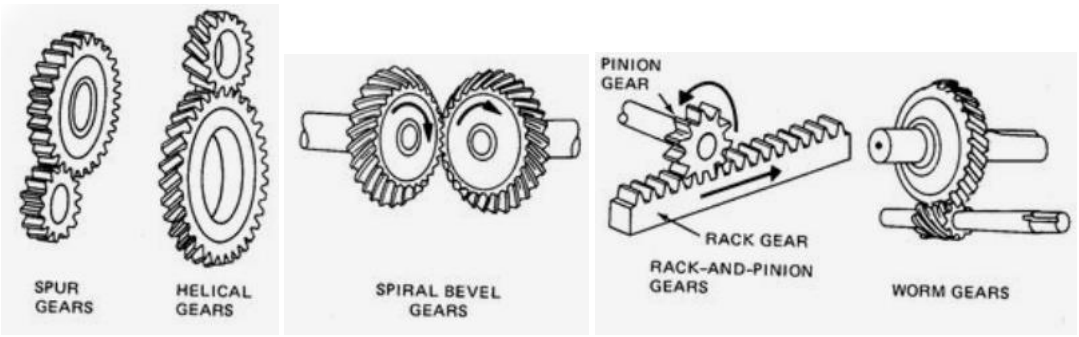
6. With a neat sketch explain the green sand molding procedure for a three step cone pulley and highlight the negative pattern making allowances.



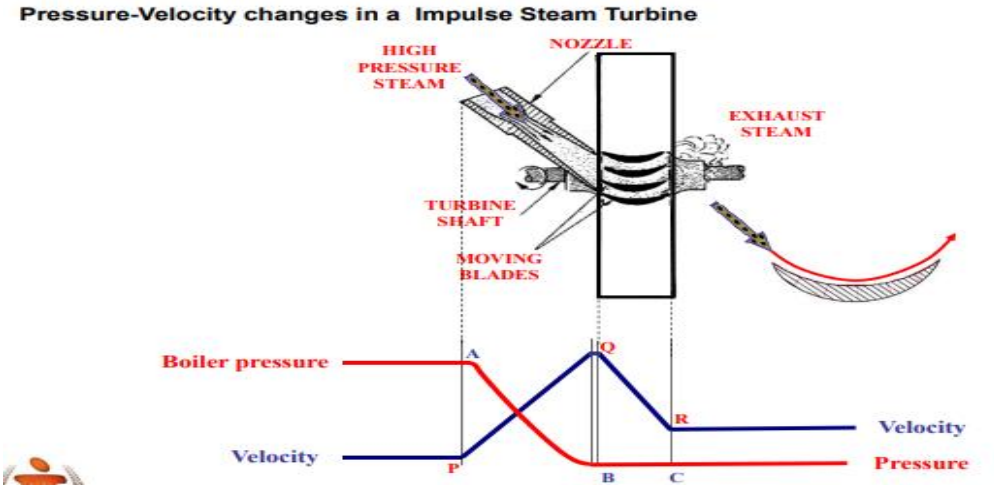
7. With a neat sketch explain the electric resistance spot welding process.



8. With line diagrams explain the various gear systems used in mechanical power transmission.

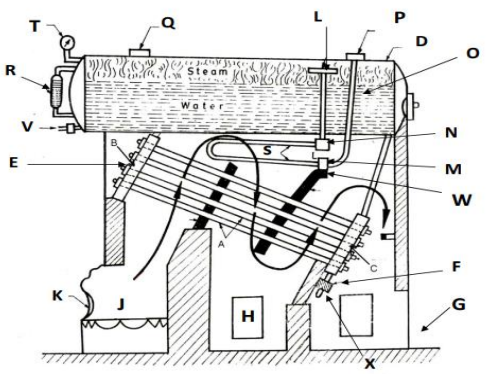


9. With neat sketches illustrating the propelling force and pressure velocity changes explain the working of a single stage impulse turbine.



10. Draw the neat sketch of a Babcock Wilcox boiler, label the parts and give the classification of boilers, also indicate the path of flue gases & water on it

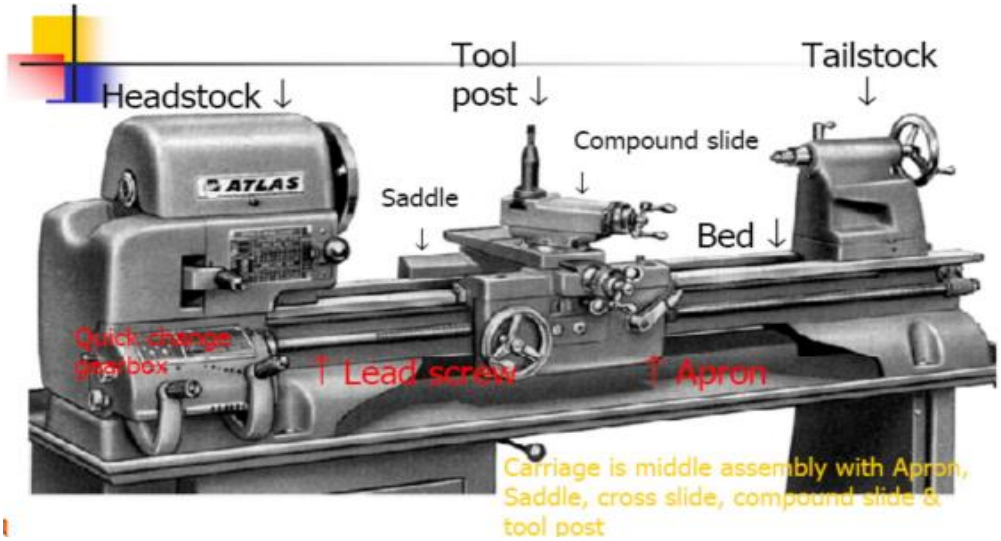
(BABCOCK AND WILCOX BOILER/WATER TUBE BOILER)



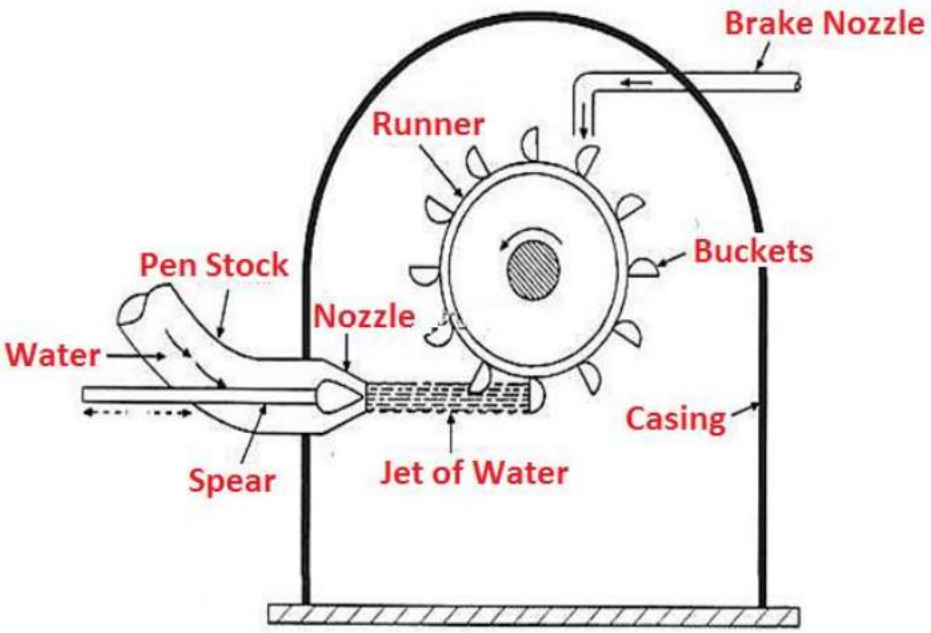
A: Water tubes
B: Uptake header
C: Down take header
D: Boiler drum
E: Steel Caps
F: Mud Box
G: Dampers
H: Doors
J: Chain grate stoker
K: Furnace door
L: 'T' tube
M: Lower junction box
N: Upper junction box.
O: Stop valve connection

P: Stop valve, Q: Safety valve, R: Water-level indicator, S: Super heater,
T: Pressure gauge, V: Feed check valve, W: Baffles, X: Blow off valve

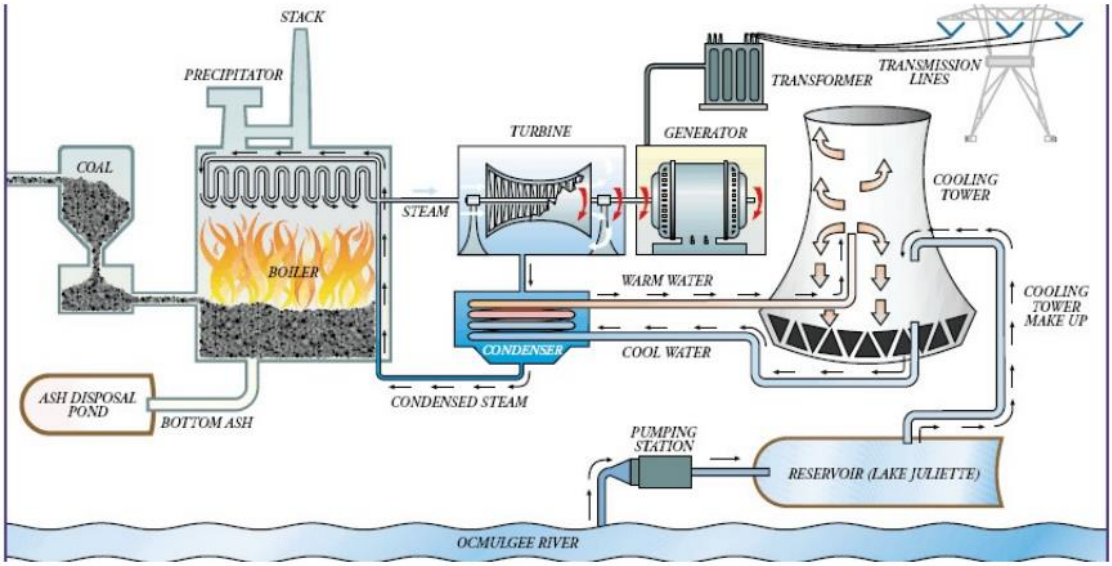
11. Draw the neat sketch of an engine lathe, label the parts and explain the functions of the parts of carriage assembly



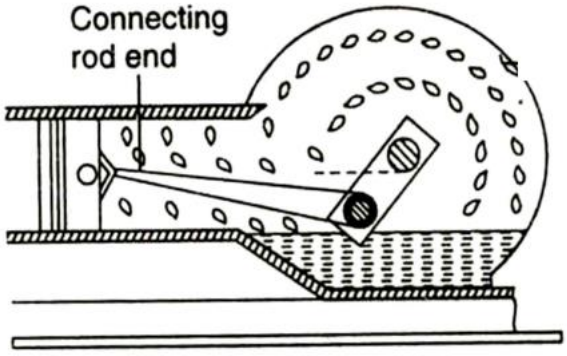
12. With a neat sketch explain the working of a Pelton Wheel and discuss the propelling force in an impulse turbine.



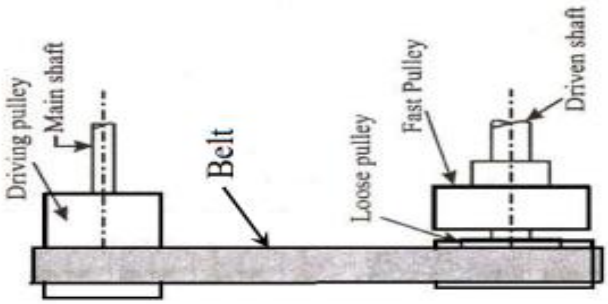
13. Draw the general layout of a Thermal Power Plant and name the various components?



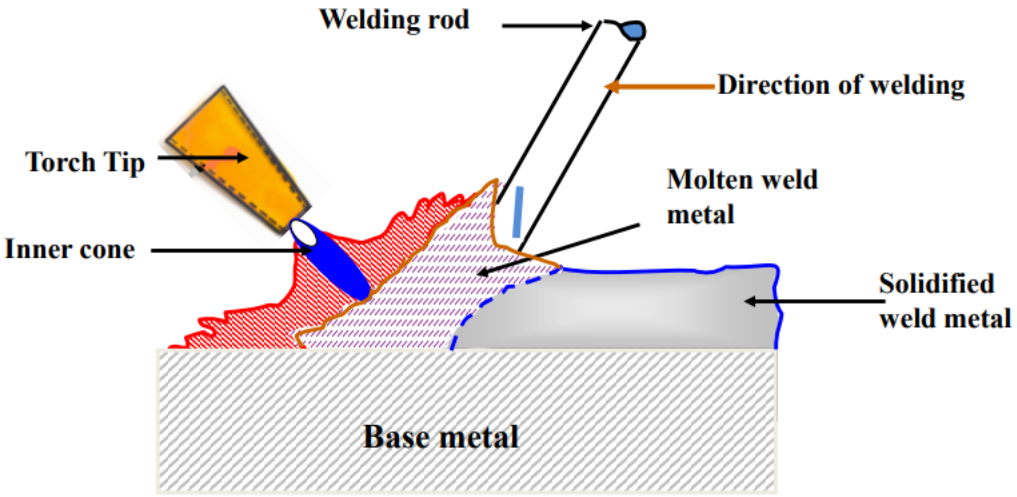
14. With a neat sketch explain the splash lubrication system.



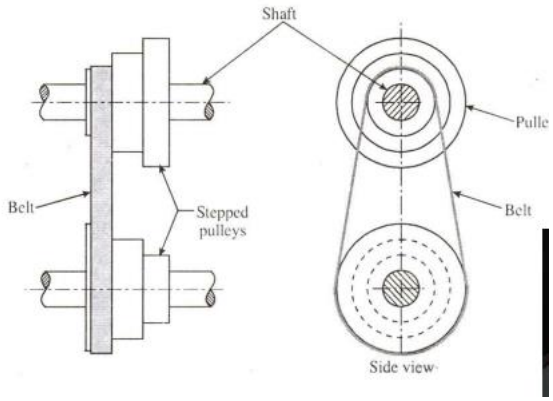
15. With a neat sketch explain the working of a Fast & Loose pulley



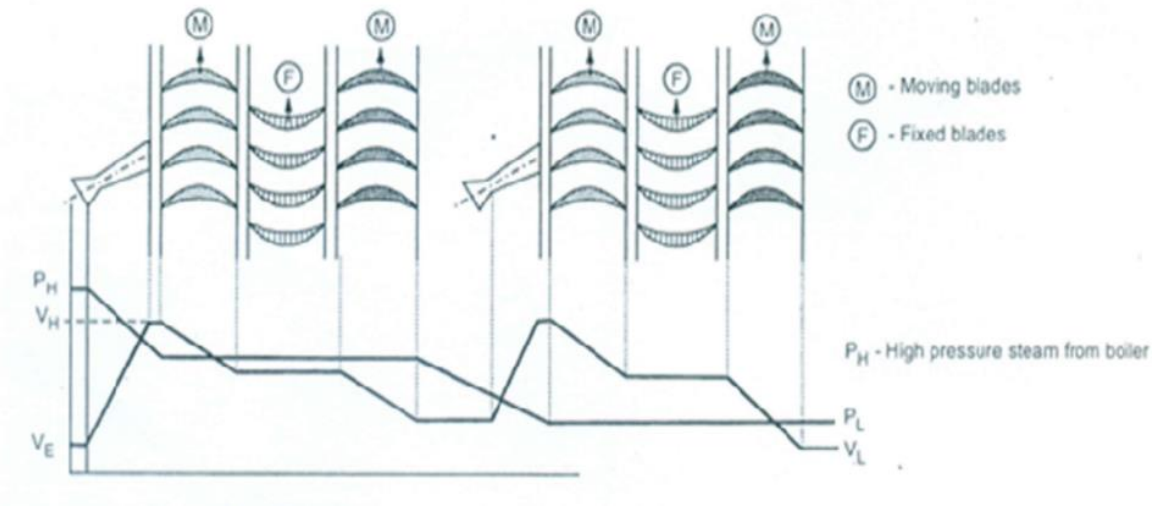
16. With a neat sketch explain the oxy acetylene gas welding process



17. With a neat sketch (two views) explain the working of a stepped cone pulley.

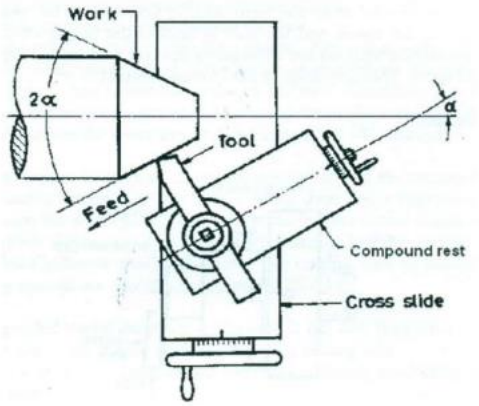


18. Explain the need for compounding an impulse turbine and with a neat sketch illustrating the pressure velocity changes explain the working of a pressure velocity compounded impulse turbine.

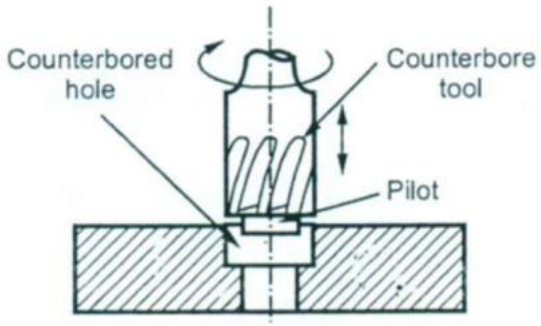


19. With neat sketches explain taper turning by swiveling the compound rest, counter boring and countersinking operations

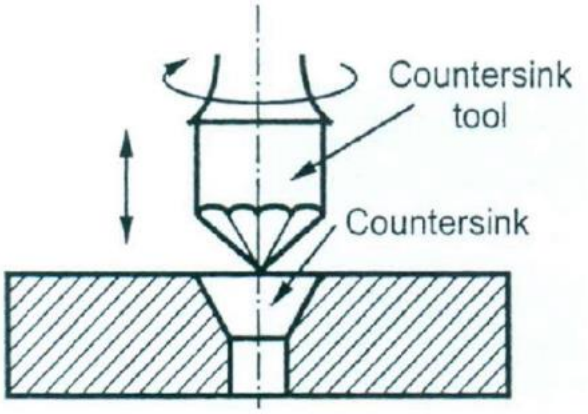
SWIVELING COMPOUND REST



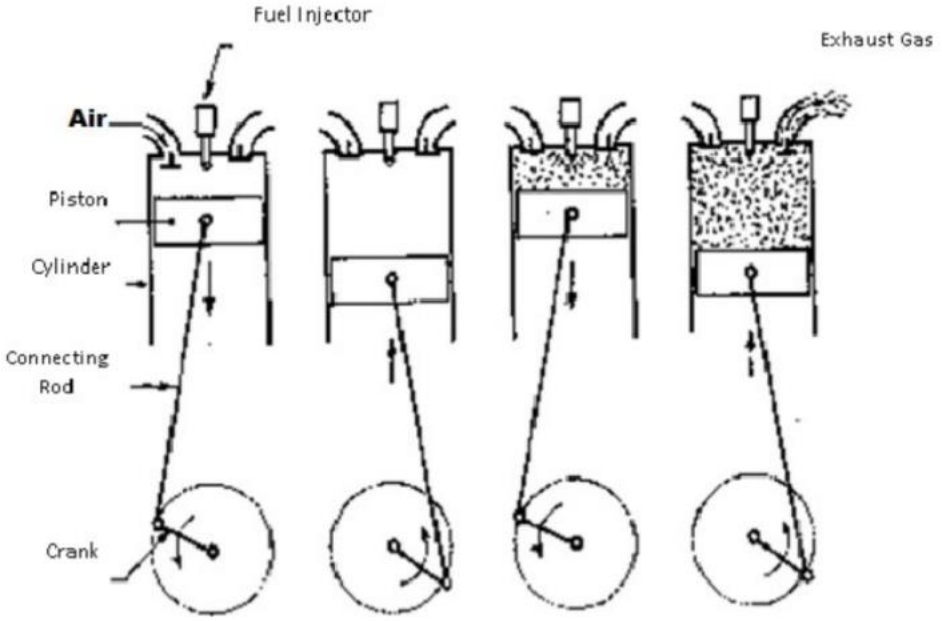
COUNTERBORING



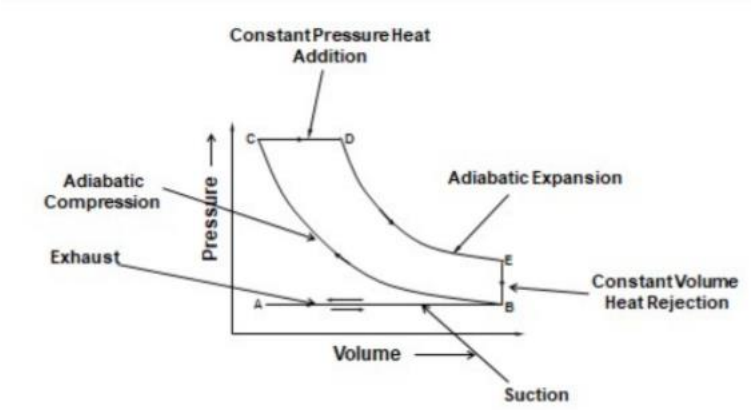
COUNTERSINKING



20. With neat sketches explain the working of a four-stroke C.I engine. Also show the theoretical P-V diagram.

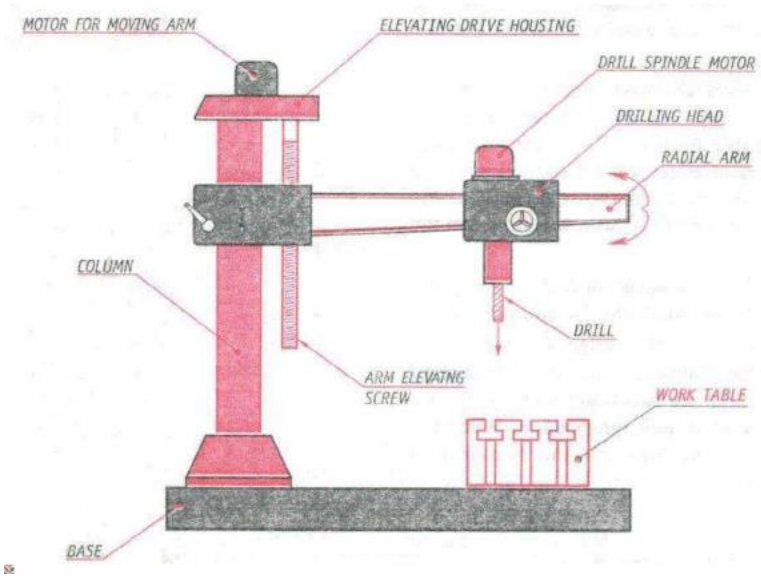


(a) Suction (b) Compression (c) Working (d) Exhaust

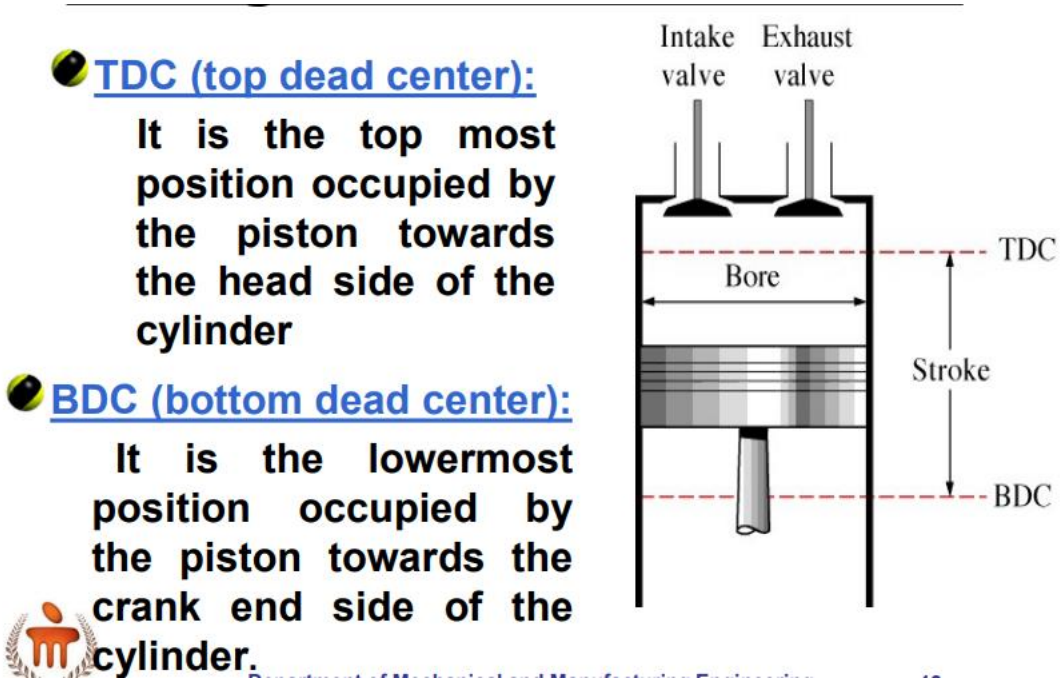


Theoretical Diesel cycle

21. With a labeled sketch explain Radial drilling machine and draw the specifications of lathe machine tool.



22. With a schematic diagram define the various IC engine terms.

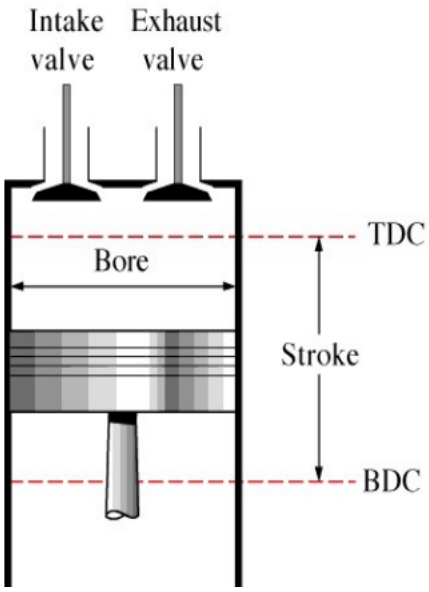


Stroke:

It is the linear distance travelled by the piston when it moves from TDC to BDC

Bore:

It is the inner diameter of the engine cylinder.

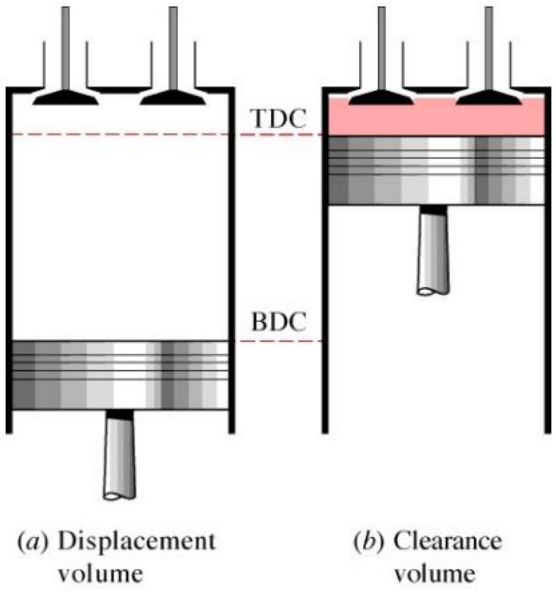


Swept volume or (Displacement volume)

It is the volume swept by the piston while moving from TDC and BDC

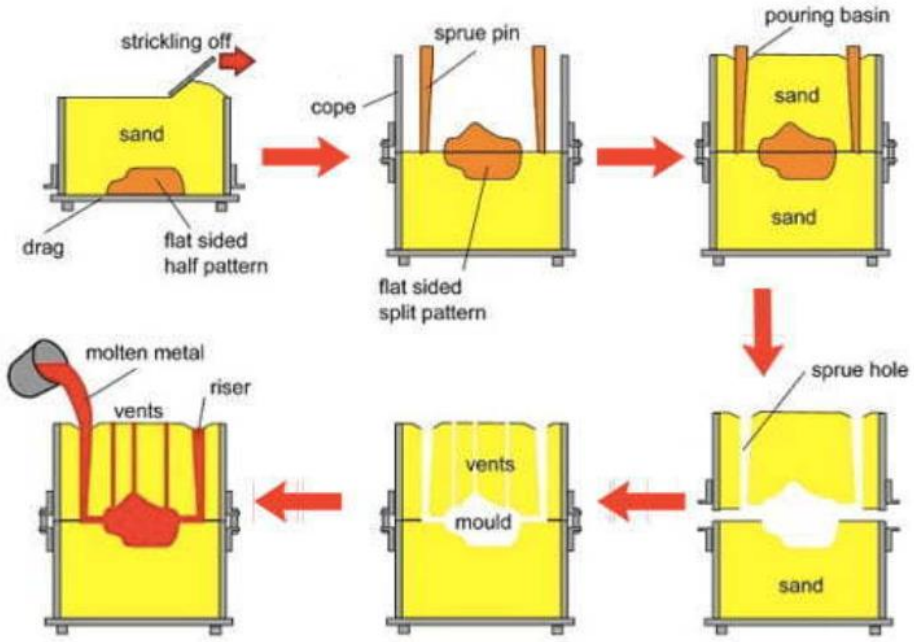
Clearance volume:

It is the volume contained in the cylinder above the top of the piston, when the piston is at TDC.



23. With a neat sketch explain the green sand molding procedure for a dumb-bell using two box method and

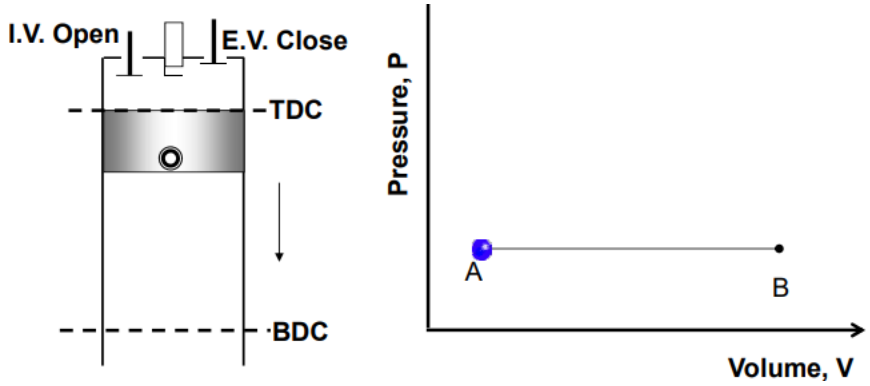
highlight the negative pattern making allowances.



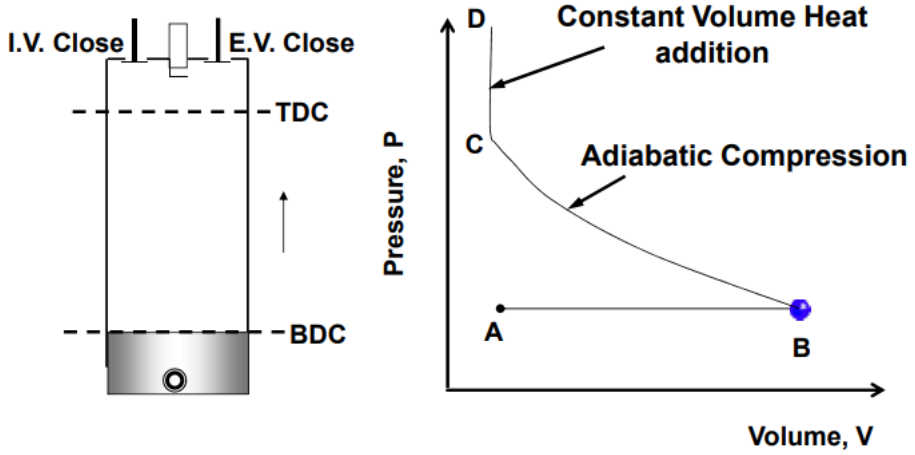
(Draw the shape of the mold as the question desires)

24. With neat sketches and illustrating the pressure volume changes explain the working of a four stroke petrol engine

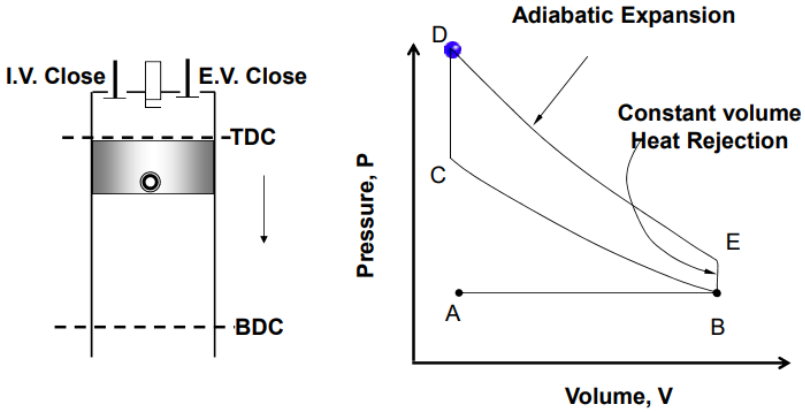
SUCTION STROKE



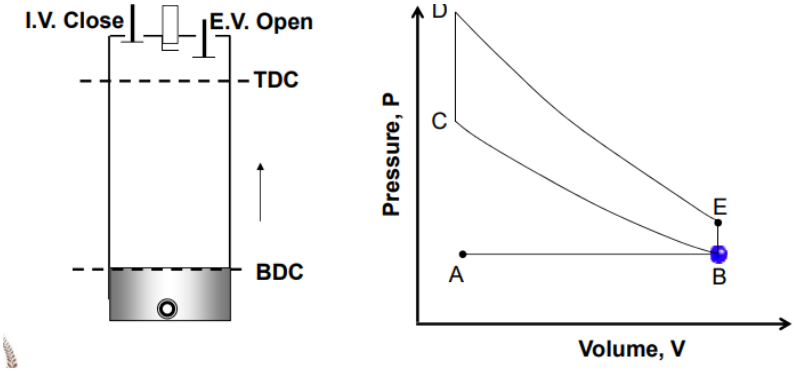
COMPRESSION STROKE



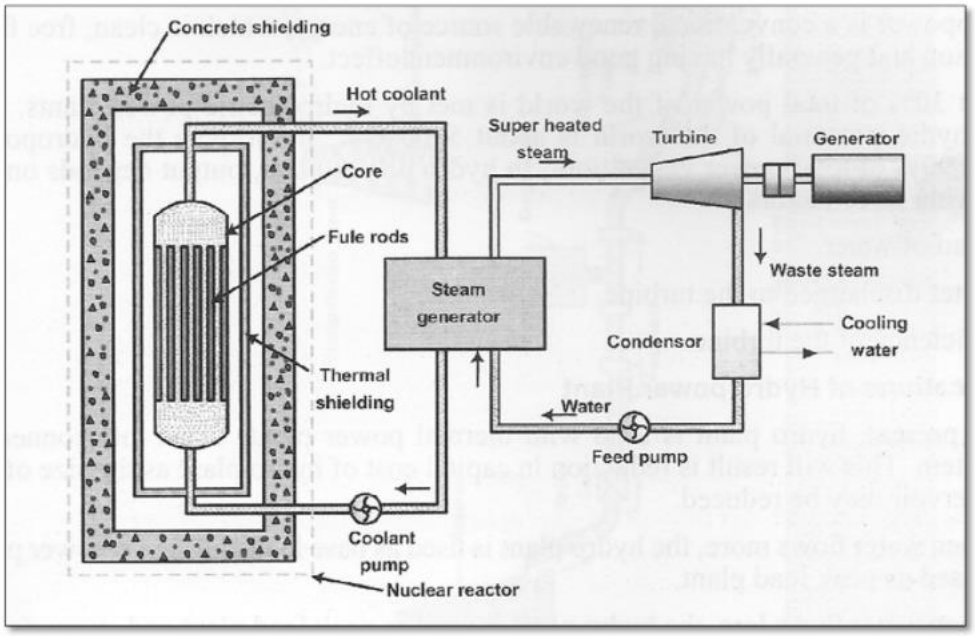
WORKING STROKE



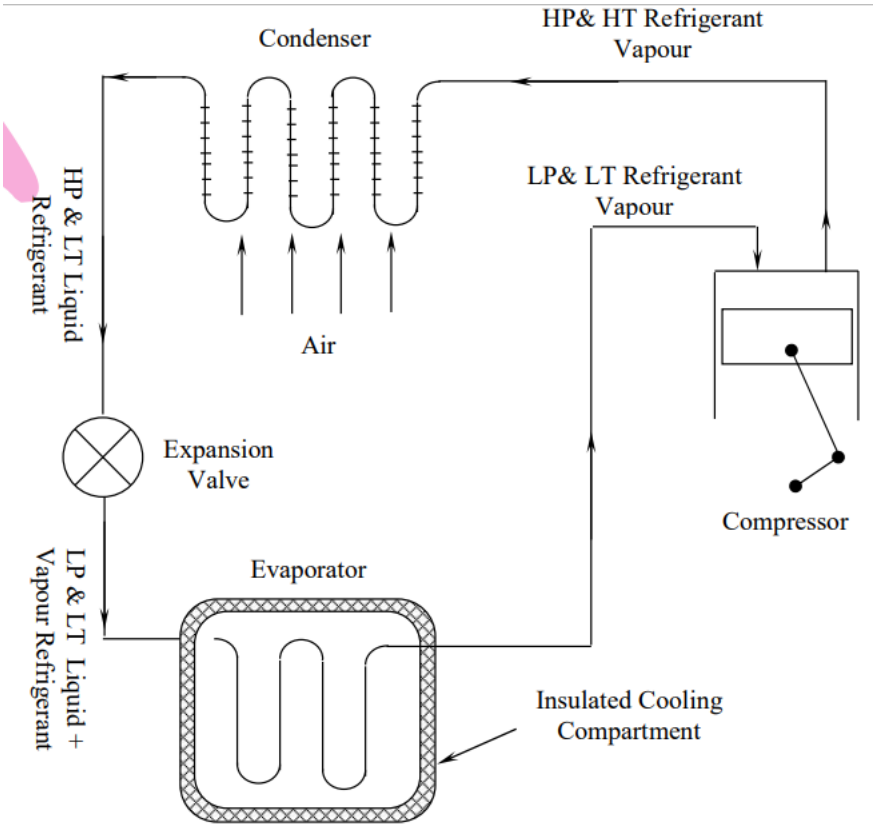
EXHAUST STROKE



25. Draw the general layout of a Thermal Power Plant and name the various components?



26. Sketch the vapour compression refrigeration system



Vapour Compression Refrigeration System