

[illegible]

- What is heat engine?
- Discuss the valve timing diagram of 4-stroke petrol engine.
- Discuss the role of composition of cylinder gases in fuel air cycles.
- Explain various types of IC engines fuels.
- What do you mean by petrol injection system for C.I?
- Discuss the significance of fuel injector system in engines.
- Why ratings of S.I engine fuels is done?
- Explain what is governing of I.C engines.
- Give the purpose of supercharging.
- How performance of S.I engine is checked?

SECTION-B

- Q2 Discuss with suitable diagram working of 2-stroke petrol engine and its valve timing diagram.
- Q3 Discuss the differences between Actual and fuel air cycle for S.I engines.
- Q4 Discuss the important qualities of S.I Engine fuels.
- Q5 Discuss the actual air fuel ratio of single jet carburetor and also discuss the idea requirements from a carburetor.
- Q6 Calculate the diameter and length of the stroke of a diesel engine working on four-stroke constant pressure cycle from the given data : I.P =18.75 kW. R.P.M= 220. Compression ratio = 14 Fuel cut-off = $1/20^{\text{th}}$ of the stroke. $L/d=1.5$. Index of expansion= 1.3, Index of compression = 1.35, Assume the pressure and temperature of the air at the inlet are 1 bar and 40°C .

SECTION-C

- Q7 Explain various type of supercharger and discuss the arrangement and installation of supercharger for S.I engines?
- Q8 A Carnot cycle works between the temperature limits of 900k and 400k and the pressure limits of 60 bar and 1 bar. Find the following
- Pressure and temperature at all salient points.
 - Work done per kg of air.
 - Heat supplied and rejected per kg of air.
 - Thermal efficiency of the cycle.
 - Mean effective pressure of the cycle
- Q9 Discuss the important qualities of C.I Engine fuels.

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