1. The expression to find out enthalpy is ----------
2. Properties that depend on the mass of the substance is called
3. Stochiometric air fuel ratio of petrol engine is
4. The cycle which contain two constant volume processes and two isentropic processes is ------
5. The unit of temperature measured at absolute scale is
6. System's internal energy plus the product of volume and pressure is known as
7. Specify the name of boiler mounting which is used to drain out the water from the boiler periodically.
8. Give an example of positive displacement type compressor
9. What is compression ratio of an IC engine
10. If ΔT_1 is 249 K and ΔT_2 is 173.5K , find LMTD of heat exchanger
11. If the temperature potential is 80K and total thermal resistance is 0.01825K/W. Find rate of heat transfer Q.
12. Make a statement for the following laws

a) Charles's law b) Joule's law c) Avogadro's law

13. What is thermodynamic equilibrium
14. With the help of PV diagram explain about isothermal process
15. Explain about Zeroth law of thermodynamics
16. What is universal gas constant
17. Give the expression for the work done in isobaric process
18. Calculate the radiant flux density from a black body at 400^{o}C?
19. Explain about throttling process
20. Explain heat balance sheet, give an account of approximate distribution of heat loss of an IC engine
21. What is isothermal process, derive the expression to find the work done of an isothermal process
22. Explain second law of thermodynamics
23. Draw and explain the valve timing diagram of 4 stroke diesel engine
24. In an ideal engine operating on the Carnot cycle, the ratio of isentropic compression is 6 and isothermal expansion is 1.5. If the maximum pressure and temperature are limited to 20 bar and 700K, make calculations for the following parameters.

(a) Temperature and pressure at main points of the cycle.

(b) Change in entropy during isothermal expansion

25. With neat diagram explain the working of a two stoke petrol engine
26. Explain about Morse test on an IC engine
27. A system contains 2kg of gas at 37^{o}C is heated in a reversible non-flow constant volume process, till the pressure is doubled. Find the final temperature, work done, heat transferred and the change in internal energy, Take c_v =0.72 kJ/kgK
28. With neat diagram explain the working of a four stoke diesel engine
29. It is desired to cool oil from 120^{o}C to 50^{o}C using a double pipe heat exchanger. The cooling water enters the heat exchanger at 20^{o}C and leaves it at 40^{o}C. Calculate the LMTD for (i) a parallel flow heat exchanger, and (ii) for a counter flow heat exchanger.
30. With neat line diagram explain about shell and tube type heat exchanger.
31. With neat sketch explain the working of water level indicator of a boiler
32. With neat sketch explain the working of economizer of a boiler
33. With the help of a neat diagram explain the principle of reaction turbine
34. Draw a neat diagram of -Babcock and Wilcox boiler and mark all parts