

## Important Questions

Questions are given in all sets for sessional exam and additional questions are given below

1. Write the short notes on the following

Thermodynamic properties, state, path, process, closed system, isolated system, extensive and intensive properties

Answer: Refers class notes

2. Write statement & explain briefly

a) Zeroth's law of thermodynamics

b) 1<sup>st</sup> law of thermodynamics

c) State the second law of thermodynamics as per Kelvin-Planck and Clausius Statement.

Answer: Refers class notes & Sets for sessional Exam

3. Explain the Carnot cycle with p-v and T-s diagram and derive an expression for its thermal efficiency and its limitations.

Answer: Refers class notes

4. Explain the Rankine cycle with p-v & T-s diagram.

Answer: Refers class notes

5. Differentiate between four stroke engine and two stroke engine for

a) SI (petrol) engine

b) CI (diesel) engine

Answer: Refers Lab Manual & Book

6. With the help of a neat sketch explain Joule's experiment.

Answer: Refers class notes & books

7. Show graphical representation of p-v-T diagram for pure substance and explain.

Answer: Refers class notes & books

8. Derive the expression for steady flow energy equation.

Answer: Refers class notes

9. Make steady flow energy analysis for

a) Turbine

b) condenser

c) throttling process

d) boiler

e) pump

Answer: Refers class notes

**10. Define the term COP and Show that coefficient of performance relationship between heat pump and refrigerator.**

**Answer: Refers class notes**

**11. Define sensible heating, latent heating, critical point, triple point and dryness fraction.**

**Answer: Refers class notes**

**12. Explain any one method of dryness fraction measurement.**

**Answer: class notes and photo-copy provided during class**

**13. State and prove the principle of increase in entropy.**

**Answer: Refers class notes**

**14.**

**Define thermal efficiency, mechanical efficiency, volumetric efficiency, Brake power, Indicated power of and IC engine and explain the working of the stroke SI engine with neat sketch and differentiate between two stroke and four stroke SI engine.**

**Answer: Refers class notes and Lab Manual**

## **Numerical Questions**

**Refers all numerical solved during class & all sets of question paper for sessional exams**