# 2 marks question & Answer

**1. Define the term Thermodynamics.**

**Answer: Refers set 01 of 1st sessional exam**

**2. Define heat and work.**

**Answer: Refers set 01 of 1st sessional exam**

**3. State Zeroth law of thermodynamics.**

**Answer: Refers set 01 of 1st sessional exam**

**4. Differentiate between four stroke engine and two stroke engine.**
**5. Define the term indicated power, brake power and mechanical efficiency.**

(4.) Answer                                    (02)

| Two-Stroke Engine | Four-Stroke Engine. |
|---|---|
| (i) A two-Stroke Engine gives one working Stroke for each revolution of the crank-shaft. | (i) the 4-stroke engine gives one working Stroke for each every two revolution of the crank shaft. |
| (ii) for Same Engine speed & Cylinder volume, two-Stroke engine develop more power than 4-stroke engine. | (ii) for Same Engine speed & Cylinder volume 4-Stroke engine develop less power than 2-Stroke engine. |
| (iii) It needs, lighter flywheel | (iii) It needs, heavier flywheel. |
| (iv) less friction loss due to less no. of Stroke. | (iv) more friction loss due to more no. of Stroke |
| (v) Initial Cost of 2-Stroke engine is less due to light weight and absence of value mechanism | (v) more initial cost compare to 2-Stroke engine. |

(5) Answer.

Indicated power (I.P): the power developed inside the engine cylinder due to Combution of fuel is Called Indicated power.

Brake power (B.P): The net power available at output Shaft is Called brake power.

mechanical Efficiency ($\eta_m$): It is the ratio of brake power to Indicated power.

$$\eta_m = \frac{B.P}{I.P}$$

**6. Write the causes of irreversibility.**

Answer: Refers set 01 of 1$^{st}$ sessional exam

**7. Define Internal energy. Is it a function of state or process?**

Answer: Refers class notes & set 01 of 1$^{st}$ sessional exam

**8. What is the concept of continuum in the study of thermodynaics?**

Answer: Refers class notes & set 02 of 1$^{st}$ sessional exam

**9. Write equivalence amongst different temperature scales.**

Answer: Refers class notes & set 02 of 1$^{st}$ sessional exam

**10. What are the assumptions for a steady flow?**

Answer: Refers class notes & set 02 of 1$^{st}$ sessional exam

**11. What are the limitations of 1$^{st}$ law of thermodynamics?**

Answer: Refers class notes & set 02 of 1$^{st}$ sessional exam

**12. State Joule's law.**

Answer: Refers class notes & set 02 of 1$^{st}$ sessional exam

**13. Draw the P-V and T-S diagram for carnot cycle.**
Answer: Refers class notes & set 01 of 2$^{nd}$ sessional exam

**14. What is entropy?**
Answer: Refers class notes & set 01 of 2$^{nd}$ sessional exam

**15. What is second law efficiency?**
Answer: Refers class notes & set 01 of 2$^{nd}$ sessional exam

**16. Define the terms helmoltz function and Gibbs function**
Answer: Refers class notes & set 01 of 2$^{nd}$ sessional exam

**17. Why the second law is called the law of degradation of energy.**
Answer: Refers class notes & set 01 of 2$^{nd}$ sessional exam

**18. Why $C_p > C_v$?**
Answer: Refers class notes & set 02 of 2$^{nd}$ sessional exam

**19. Define the term thermal reservoir.**
Answer: Refers class notes & set 02 of 2$^{nd}$ sessional exam

**20. What is the calusius theorem?**
Answer: Refers class notes & set 02 of 2$^{nd}$ sessional exam

**21. What is Kelvin plank statement of second law of thermodynamics?**
Answer: Refers class notes & set 02 of 2$^{nd}$ sessional exam

**22. What is pure substance?**
Answer: Refers class notes & set 02 of 2$^{nd}$ sessional exam

**23. What is the statement of 1$^{st}$ law of thermodynamics?**

Answer: Refers class notes

**24. What is the quality of steam or dryness fraction?**

Answer: Refers class notes

**25. What is Amagat's law?**
Answer: Refers class notes

**26. What do you understand by flow work? Is it different from displacement work?**
Answer: Refers class notes

**27. What is thermodynamic equilibrium?**
Answer: Refers class notes

**28. Distinguish between flow work and non-flow work.**
Answer: Refers class notes

**29. Distinguish between a heat pump and heat engine.**
Answer: Refers class notes

**30. Distinguish between microscopic and macroscopic approach of thermodynamics.**
Answer: Refers class notes

**31. Write the limitations of 1$^{st}$ law of thermodynamics.**
Answer: Refers class notes

**32. Explain PMM-I and PMM-II.**
Answer: Refers class notes

**33. Explain triple point and critical point.**
Answer: Refers class notes

**34. Explain reversible process with examples.**
Answer: Refers class notes

**35.**

In van der Waals' Equation $\left( P + \dfrac{a}{v^2} \right)(v - b) = RT$.

Explain the term $\dfrac{'a'}{v^2}$ and 'b'.

Answer: Refers class notes

**36. Write the statement of the third law of thermodynamics.**

Answer: Refers class notes