

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS), SRIKAKULAM

DEPARTMENT OF PHYSICS

Paper: HEAT & THERMODYNAMICS

Sem:III

CLASS:II MPCS, MPC & MPWT

MID II EXAM

Total Marks:30

TIME:2H

YEAR 2023-24

SECTION-A

1X8=8M

ANSWER THE FOLLOWING

1. A] Define thermodynamic potentials? And use them to derive Maxwells thermodynamic equations? 2+6 (OR)
B] What is Joule-Thomson effect? Obtain an expression for the joule-Thomson colling?

SECTION-B

3X4=12M

ANSWER THE THREE OF THE FOLLOWING

2. Explain Linde air liquifier?
3. Derive JK effect for vanderwaal's gas?
4. Prove Clausius clapeyron's equation?
5. Distinguish between joul expansion,adiabatic expansion and joul-Thomson expansion?
6. Prove $C_p/C_v=?$

SECTION-C

5X2=10M

ANSWER ALL THE FOLLOWING

7. Define Inversion temperature with formula? 9. Explain the working principle of Adiabatic demagnetisation? 10. Define Latent heat?
11. Write any two applications of low temperature of physics? 12. write 4 maxwell equations?

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DEPARTMENT OF PHYSICS

Paper: SolarEnergy & Applications Sem-V CLASS:III MPCS, MPC & MPWT

MID I EXAM : 18-21st 2023 dec Total Marks:30 TIME:2H YEAR 2023-24

SECTION-A

1X10=10 M

ANSWER THE FOLLOWING

- 1 . A] Define solar constant? And explain construction and working of Angstrom Pyrheliometer to determine solar constant? (OR)
- B] Explain the construction and working of Liquid Flat plate Collector and mention advantages and disadvantages?

SECTION-B

2X5=10 M

ANSWER THE THREE OF THE FOLLOWING

- 2.Explain about types of Radiations?
- 3..Explain Solar Dryer?
- 4..Define Zenith Angle,Solar constant and Declination angle?

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DEPARTMENT OF PHYSICS

Paper: SolarEnergy & Applications Sem-V CLASS:III MPCS, MPC & MPWT

MID II EXAM

Total Marks:15

TIME:1H

YEAR 2023-24,

DATE:JAN 8th,2024

SECTION-A

1X10=10 M

ANSWER THE FOLLOWING

1 . A] Write short note on battery? And explain construction and working of Lead acid battery? (OR)

B] Explain the following:i]Solar cell I-V characteristics and ii]shunt resistance

SECTION-B

2X5=10 M

ANSWER THE THREE OF THE FOLLOWING

2.Explain about types of solar cells?

3..Explain about homo,hetero and schottkey junctions?