

2023-(W)

3rd semester.

Mechanical

Discipline	Semester	Name of the faculty
Mechanical	(3rd)	Byomakesh Mishra
Subject	No. of Class/ Session	from 01/8/23 to 09/12/23
Thermal Engineering - I	Week (4)	
		Number of Weeks (17)

Week	Days	
	Tue	Introduction to thermodynamics.
1st	Fri	Thermodynamic systems: closed, open, isolated
	Fri	Thermodynamic properties
	Sat	Internal Energy, Enthalpy, Abs. temperature
2nd	Mon	Thermodynamic processes,
	Tue	Path function, Point function
	Fri	Cont -
	Sat	Thermodynamic Equilibrium
	Mon	Quasi static process
	Tue	XX
3rd	Fri	Energy types of energy
	Sat	Heat and work

	Mon	Comparison between Heat and work
	Tue	Mechanical Equivalent of heat
4th	Fri	Zeroth Law, First Law
	Sat	x
	Mon	Cont - -
	Tue	Limitations of First Law
5th	Fri	Applications of First Law
	Sat	Steady flow, Non-flow
	Mon	Deficiency of heat engine, refrigerator - -
	Tue	Efficiency and limitations C.O.P.
6th	Fri	Second Law of Thermodynamics
	Sat	Cont - -
	Mon	Gas & vapour, difference between them.
	Tue	Laws of perfect gas, Boyle's Law, Charles's Law, Avogadro's law,
7th	Fri	cont - -
	Sat	specific heats Relation between C_p & C_v

Signature..... Basu

	Mon	Cont - -
	Tue	X
8th	Fri	Enthalpy of a gas.
	Sat	Work done during non-flow process.
	Mon	Thermodynamic processes
9th	Tue	Cont - -
	Fri	X
	Sat	Cont - Numerical Problems
	Mon	X
10th	Tue	Free expansion and throttling processes
	Fri	Introduction to I.C. engine classification of I.C. engine
	Sat	Dead centre, stroke, piston speed
	Mon	Working principle of 2-stroke engines
11th	Tue	Working principle of 4-stroke engines
	Fri	Cont.
	Sat	X

12th

Mon Difference between 2-stroke and 4-stroke engines.

Tue Difference between C.I and S.I. engine

Fri Gas power cycles
Carnot cycle

Sat X

Mon X

13th

Tue X
Puja holiday

Fri X

Sat X

Mon Otto cycle
ASE

14th

Tue Diesel cycle
ASE

Fri Dual Combustion cycle
ASE

Sat Numerical Problems.

Mon Cont-

Tue Definition of fuel
Types of fuel

15th

Fri Comparison between solid, liquid and gas

Sat Application of different types of fuel.

	Mon Tue	Heating value of fuel LCV and HCV
16th	Fri	Quality of I.C. engine fuel
	Sat	Octane value
	Mon	Cetane value of I.C. engine fuel
17th	Tue	
	Fri	
	Sat	
	Mon	