

BHADRAK ENGG.SCHOOL & TECHNOLOGY (BEST),ASURALI, BHADRAK

THERMAL ENGG.-II (Th.-04)

CHAPTER-WISE DISTRIBUTION OF PERIODS & EXPECTED MARKS

Sl. No.	Name of the Chapter	Periods as per Syllabus	Periods actually needed	Expected Marks
01	Performance of I. C Engine	08	09	15
02	Air Compressor	12	11	25
03	Properties of steam	12	13	25
04	Steam Generator	12	15	15
05	Vapor power cycle	08	10	10
06	Heat Transfer	08	08	10
	TOTAL	60	66	100

Sign of Lect.

Sign of HOD.

Sign of AIC

Sign of Vice Principal

LESSON PLAN

Discipline: Mechanical Engg.	Semester: Fourth(4 th)	Name Of The Faculty: Er. Subhrakanta Nayak
Subject: Thermal Engg.-II (Th-04)	No of days/ week class allotted: Six(6)	Semester from date: 14. 02.2023 to Date: 23. 05.2023 No of weeks: 15
WEEK	CLASS DAY	THEORY TOPICS
1 st	1 st	Chapter No.- 01 (Performance of I. C engine) Introduction to I.C engine
	2 nd	Define mechanical efficiency, Indicated thermal efficiency
	3 rd	Relative Efficiency, brake thermal efficiency overall efficiency
	4 th	Mean effective pressure & specific fuel consumption.
	5 th	Define air-fuel ratio & calorific value of fuel
	6 th	Cont...
2 nd	1 st	Work out problems to determine efficiencies
	2 nd	Cont.
	3 rd	Work out problems to determine specific fuel consumption.
	4 th	Possible question answer discussion
	5 th	Chapter No.- 02 (Air Compressor) Introduction to Air Compressor
	6 th	Explain functions of compressor & industrial use of compressor air
3 rd	1 st	Classify air compressor & principle of operation.
	2 nd	Describe the parts of reciprocating Air compressor.
	3 rd	Describe the working principle of reciprocating Air compressor
	4 th	Cont.
	5 th	Explain the terminology of reciprocating compressor such as bore, stroke.
	6 th	Explain the terminology of reciprocating compressor such as pressure ratio free air delivered
4 th	1 st	Explain the terminology of reciprocating compressor such as Volumetric efficiency
	2 nd	Derive the work done of single stage compressor with and without clearance.
	3 rd	Solve simple problems (without clearance only)
	4 th	Monthly test-01
	5 th	Possible question answer discussion
	6 th	Chapter No.-03 (Properties of Steam) Introduction
	1 st	Difference between gas & vapors
	2 nd	Formation of steam
	3 rd	Representation on P-V & T-S, diagram.
	4 th	Representation on H-S & T-H diagram

5 th	5 th	Definition & Properties of Steam.
	6 th	Use of steam table & miller chart for finding unknown properties.
6 th	1 st	Cont..
	2 nd	Non flow & flow process of vapor.
	3 rd	P-V, T-S & H-S, diagram.
	4 th	Determine the changes in properties
	5 th	Solve simple numerical.
	6 th	Solve simple numerical.
7 th	1 st	Possible question answer discussion
	2 nd	Chapter No.-04 (Steam Generator) Introduction to Steam Generator
	3 rd	Classification & types of Boilers.
	4 th	Important terms for Boiler.
	5 th	Cont.
	6 th	Monthly test-02
8 th	1 st	Comparison between fire tube & Water tube Boiler.
	2 nd	Description & working of common boilers (Cochran)
	3 rd	Description & working of common boilers (Lancashire, Babcock)
	4 th	Description & working of common boilers (Wilcox Boiler)
	5 th	Boiler Draught (Forced)
	6 th	Boiler Draught (induced)
9 th	1 st	Boiler Draught (balanced)
	2 nd	Boiler mountings.
	3 rd	Cont...
	4 th	Boiler accessories
	5 th	Possible question answer discussion
	6 th	Chapter No.-05 (Steam Power Cycles) Introduction to Steam Power Cycles
10 th	1 st	Carnot cycle with vapor.
	2 nd	Cont...
	3 rd	Derive work & efficiency of the cycle.
	4 th	Rankin cycle.
	5 th	Representation in P-V, T-S & h-s diagram.
	6 th	Monthly test-03
11 th	1 st	Derive Work & Efficiency.
	2 nd	Effect of Various end conditions in ranking cycle
	3 rd	Reheat cycle & regenerative Cycle
	4 th	Solve simple numerical on Carnot vapor Cycle & Ranking Cycle.
	5 th	Possible question answer discussion
	6 th	Chapter No.-06 (Heat Transfer) Introduction to Heat Transfer

12 th	1 st	Modes of Heat Transfer (Conduction, Convection, Radiation).
	2 nd	Continue....
	3 rd	Fourier law of heat conduction and thermal conductivity (k).
	4 th	Continue...
	5 th	Fourier laws of thermal conductivity
	6 th	Newton's laws of cooling.
13 th	1 st	Continue....
	2 nd	Radiation heat transfer (Stefan, Boltzmann law) only statement, no derivation & no numerical problem
	3 rd	Continue....
	4 th	Radiation heat transfer (Kirchhoff's law) only statement, no derivation & no numerical problem
	5 th	Radiation heat transfer (Kirchhoff's law) only statement, no derivation & no numerical problem
	6 th	Monthly test-04
14 th	1 st	Black body Radiation,.
	2 nd	Definition of Emissivity, absorptivity, &
	3 rd	transmissibility
	4 th	Possible question answer discussion
	5 th	Previous Yr question Answer discussion
	6 th	Revision class
15 th	1 st	Revision class
	2 nd	Revision class
	3 rd	Selective questions practice
	4 th	Revision class
	5 th	Revision class
	6 th	Previous Year question Answer discussion