

STUDY PLAN

RAC		THEORY OF MACHINES		IC ENGINE	
Title	Timing	Title	Timing	Title	Timing
Basic Introduction	Recording-1	Basic Introduction	Recording-1	Basic Introduction & Terminology	Recording-1
VCRS Intro + Ideal Refrigeration Cycle	Recording-2	Kinematic Pair & Classification-1	Recording-2	Air Standard Cycle + Otto Cycle Intro	Recording-2
VCRS Cycle Analysis (COP etc.)	Recording-3	Kinematic Pair & Classification-2	Recording-3	Otto Cycle Detailed	Recording-3
VCRS Performance Analysis	Recording-4	Degree of Freedom (DOF)	Recording-4	Diesel Cycle	Recording-4
Reverse Brayton (Bell-Coleman) Cycle	Recording-5	DOF Numericals-1	Recording-5	Dual Cycle + Numericals	Recording-5
Cascade Refrigeration System	Recording-6	DOF Numericals-2	Recording-6	Efficiency Comparison of Cycles-1	Recording-6
Refrigerants Definition	Recording-7	Grashof's Law	Recording-7	Efficiency Comparison of Cycles-2	Recording-7
Properties of Refrigerants	Recording-8	Inversions (Four Bar & Slider)-1	Recording-8	Performance Analysis-1	Recording-8
Psychrometry Introduction	Recording-9	Inversions (Four Bar & Slider)-2	Recording-9	Performance Analysis-1	Recording-9
Psychrometric Chart Processes	Recording-10	Instantaneous Center	Recording-10	SI Engine Combustion-1	Recording-10
Psychrometric Chart Numericals	Recording-11	Flywheel-1	Recording-11	SI Engine Combustion-2	Recording-11
Refrigeration Devices (Working & Material)	Recording-12	Flywheel-2	Recording-12	CI Engine Combustion-1	Recording-12
		Governor Intro	Recording-13	CI Engine Combustion-2	Recording-13
		Governor Classification	Recording-14	Carburetor	Recording-14
		Governor Performance	Recording-15	Fuel Quality & A/F Ratio	Recording-15
		Gears Intro & Classification-1	Recording-16	Octane & Cetane Number	Recording-16
		Gears Intro & Classification-2	Recording-17	Cooling System	Recording-17
		Gear Terminology	Recording-18	Lubrication System	Recording-18
		Gear Analysis	Recording-19		

		Gear Interference	Recording-20		
		Balancing-1	Recording-21		
		Balancing-2	Recording-22		
		Vibrations-1	Recording-23		
		Vibrations-2	Recording-24		
		Vibrations-3	Recording-25		
		Cam & Follower-1	Recording-26		
		Cam & Follower-2	Recording-27		

SOM		MATERIAL SCIENCE		HEAT AND MASS TRANSFER	
		Title	Timing	Title	Timing
		Introduction-1	Recording-1	Basic Introduction (Heat Transfer)	Recording-1
Bending in Beam-1	Recording-1	Crystalline Materials-1	Recording-2	Conduction-1	Recording-2
Bending in Beam-2	Recording-2	Crystalline Materials-2	Recording-3	Conduction-2	Recording-3
Bending in Beam-3	Recording-3	Steel-1	Recording-4	Conduction-3	Recording-4
Torsion in Shaft-1	Recording-4	Heat treatment of steel-1	Recording-5	Fins	Recording-5
Torsion in Shaft-2	Recording-5	Cast Iron	Recording-6	Convection-1	Recording-6
Combined Stresses-1	Recording-6			Convection-2	Recording-7
Combined Stresses-2	Recording-7			Convection-3	Recording-8
Combined Stresses-3	Recording-8			Radiation-1	Recording-9
Mohr Circle-1	Recording-9			Radiation-2	Recording-10
Mohr Circle-2	Recording-10			Radiation-3	Recording-11
SFD & BMD-1	Recording-11				

SFD & BMD-2	Recording-12				
SFD & BMD-3	Recording-13				
SFD & BMD-4	Recording-14				
Slope & Deflection-1	Recording-15				
Slope & Deflection-2	Recording-16				
Columns & Struts	Recording-17				
Thin & Thick Cylinder	Recording-18				
Theory of Failure-1	Recording-19				
Theory of Failure-2	Recording-20				
Springs	Recording-21				
Basic Introduction	Recording-22				
Types of Loads & Classification-1	Recording-23				
Types of Loads & Classification-2	Recording-24				
Stress & Strain (Basics)-1	Recording-25				
Stress & Strain (Basics)-2	Recording-26				
Stress & Strain (Basics)-3	Recording-27				
Stress-Strain Curve	Recording-28				
Failure under Different Loading	Recording-29				
Elastic Constants	Recording-30				
Deformation (Series & Parallel)-1	Recording-31				
Deformation (Series & Parallel)-2	Recording-32				
Strain Energy due to Self Weight	Recording-33				
Strain Energy-1	Recording-34				

Strain Energy-2	Recording-35				
Moment of Inertia-1	Recording-36				
Moment of Inertia-2	Recording-37				
Thermal Stress-1	Recording-38				
Thermal Stress-2	Recording-39				
Beams (CRM)-1	Recording-40				
Beams (CRM)-2	Recording-41				
Beams (CRM)-3	Recording-42				

