

PANIPAT INSTITUTE OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF MECHANICAL ENGINEERING

Lecture Plan

B.Tech (Third Semester)

L	T	P/D	Total
3	0	0	3

Theory: 75 marks
 Sessional: 25 marks

Subject: ENERGY STUDIES, (COURSE CODE: MC-904A)

Lectures	Contents	Date	Class Strength
Unit –1			
Lecture 1	Types of energy,		
Lecture 2	Conversion of various forms of energy,		
Lecture 3	Conventional and Non-conventional sources,		
Lecture 4	Need for Non-Conventional Energy based power generation.		
Lecture 5	Energy Management: General Principles of Energy Management,		
Lecture 6	Energy Management Strategy.		
Lecture 7	Energy Audit: Need, Types, Methodology and Approach		
Unit 2			
Lecture 8	Conventional Energy sources: Selection of site, working of Thermal Power Plant in detail		
Lecture 9	Selection of site, working of Hydro Power Plant in detail		
Lecture 10	Selection of site, working of Nuclear power Plant in detail		

Lecture 11	Selection of site, working of Diesel power plants in detail.		
Unit 3			
Lecture 12	Non-Conventional Energy sources: Basic principle, site selection of Solar energy power plant, , and.		
Lecture 13	Photovoltaic technologies,		
Lecture 14	PV Systems and their components,		
Lecture 15	Wind energy power plant ,		
Lecture 16	Bio energy plants		
Lecture 17	Geothermal energy plants		
Lecture 18	Tidal energy plants,		
Lecture 19	MHD		
Unit 4			
Lecture 20	Energy Scenario: Lay out of power system, ,		
Lecture 21	Role of Energy in Economic development,		
Lecture 22	Energy demand,		
Lecture 23	Availability and consumption,		
Lecture 24	Commercial energy		
Lecture 25	Non-commercial energy,		
Lecture 26	Indian energy scenario,		
Lecture 27	Long term energy scenario,		

Lecture 28	Energy pricing,		
Lecture 29	Energy sector reforms in India		
Lecture 30	Energy strategy for the future		

Signature