GURU NANAK DEV ENGINEERING COLLEGE LUDHIANA

DEPARTMENT OF ELECTRICAL ENGINEERING

Syllabus of MSE-2

Branch EE (D2EE) 4th Sem.

S. No.	Subject Name	Syllabus
1.	Digital Electronics	Module 2- Multiplexers, Demultiplexer, Adders, subtractors, Digital Comparator, Priority Encoder, Carry look ahead adder Module 3- A 1-bit bistable latch, clocked SR flip-flop, J-K-T and D flip-flops, Shift Register, Ring counters, Asynchronous and Synchronous counters. Module 4- D/A converters-weighted resister, R-2R ladder converters, A/D Converters - Successive Approximation, Dual Slope, voltage to frequency and voltage to time conversion.
2.	Environmental science	1. General questions from Power System-2 2. Chapter 4,5,6,7
3	Power Electronics	CHAPTER 3, 4, 5 (CHOPPERS, CYCLOCONVERTERS, INVERTERS)
4	Electrical Machines-II	Ch-3 INDUCTION GENERATOR AND SINGLE PHASE INDUCTION MOTOR Ch-4 SYNCHRONOUS MACHINES Ch-5 PARALLEL OPERATION OF ALTERNATORS
5	Signals and Systems	Unit : ,3,4,(Unit: 2 Syllabus after MST -1)

Branch EE (D3EE) 6th Sem.

S. No.	Subject Name	Syllabus
1	M & PLC	Chapter 3:8051 PROGRAMMING AND C Chapter 4:8051 TIMER AND SERIAL PORT PROGRAMMING Chapter 5.8051 INTERRUPT PROGRAMMING Chapter 6. MICROCONTROLLER APPLICATIONS
2	Electrical Drives & Utilization	1.Electric Traction 2 Illumination 3.Refrigeration and Air-conditioning 4.Electrolysis
3	Electrical Generation &Economics	Unit 3 : Load and Load Curves Unit:4 Economics of Electric Energy Generation
4	Power System-II	3. General questions from Power System-2 4. Chapter 4,5,6,7
5	CAMED	CAMED :UNIT-3 (Design of Transformer) UNIT-4 (Design of 3-phase induction motors)
6	PSOC	Unit 3: Optimal Power Flow and Unit 5: Generation Control
7	Open Elective (NCES)	Chapter 2: MHD Generator Chapter 3: Solar Energy and photovoltaic effect Chapter 5: Miscellaneous sources
8	Open Elective (Energy Audit and Management)	Chapters 3,4 &5

Branch EE (D4EE) 8th Sem.

S. No.	Subject Name	Syllabus
1	Computer Aided Power system Analysis	Chapter-2(Load flow studies) Topics. - from "iterative solutions by GS and NR" to "introduction to decoupled and fast decoupled method" (last four topics of syllabus) Chapter- 3 (Fault analysis) Chapter- 4 (Power System Stability
2	FACTS	Unit 3 : SSC AND THEIR APPLICATION Unit4:SPS AND EMERGING FACTS CONTROLLER
3	EEM	CH - 3 Energy Efficient Motors and Drives CH - 4 Economics of energy efficient motors and systems
4	High Voltage Engineering	1. Generation of High Voltages 2. EHV AC Transmission
5	SER	UNIT-3 (System Reliability Models- **After MSE First**) UNIT-4 (Maintainability and Availability Concepts) UNIT-5 (Reliability Management)
6	PSPln	Chapters 3& 4 of syllabus
7	Digital Control System	chapter 2 and chapter 3

Branch EE (M1) 2nd Sem. Full Time

S. No.	Subject Name	Syllabus
1	Digital Protection of Power System	Chapter 1 Basic electromechanical relays. chapter second Basic elements of digital protection.Signal conditioning, transducers,analog filtering,analog multiplexers. Chapter 3 Sampling theorm,Aliasing,Error, Sample and Hold circuits,multiplexer,A/D converters. Chapter 4 Digital differential protection of line and transformers.(differential protection basic concepts along with digital). Recent Advancements in digital protection of power system.
2	Restructured Power systems	Unit 2 and Unit 3 of Syllabus
3	Wind and Solar Systems	1. UNIT 2 - Generators and power electronics for wind turbines, power quality standards for wind turbines, Technical regulations for interconnections of wind farm with power systems. 2. UNIT 4 - Introduction of solar systems, merits and demerits, Solar thermal power generation, PV power generation, Energy Storage device.
4	Power System Dynamics-II	Chapter 2,3,4
5	*Audit Course (Pedagogy Studies)	---

*Students are required to refer respective department website

Branch EE (M1) 2nd Sem. Part-Time

S. No.	Subject Name	Syllabus
1	Power System Dynamics-I	Chapter 1- synchronous machine modeling Chapter 3- synchronous machine stability Chapter 4- synchronous machine excitation system
2	ERPW	Chapters 3,4 &5 of the syllabus
3	Electric and Hybrid Vehicles	UNIT-3, UNIT-4

Branch EE (M1) 4th Sem. Part- Time

S. No.	Subject Name	Syllabus
1	Energy Efficient Machines	Chapters 1, 2 and 3.
2	Advance Electrical Machines	Ch:1,2,3,4