Academic lesson plan for summer semester-2025

Name of the teaching faculty: **Sri Arabinda Pradhan**

Semester:**4th**
No.ofperiodsperweek:**5**
semesterExam:**80**
TotalMarks:**100**

Discipline / Dept.:**EE**
Subject(Theory): **EC-I**
Total Periods: **75**
ClassTest:**20**

Week	Period	Unit/chapter	Topic to be covered
1ST	1st	DC GENERATORS	Introduction to EM. Operating principle of generator
	2nd	DC GENERATORS	Constructional features of DC machine.
	3rd	DC GENERATORS	Constructional features of DC machine.
	4th	DC GENERATORS	Different types of D.C .machines
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Objective Questions related to Basics of DC generator.
2ND	1st	DC GENERATORS	Derivation of EMF equation
	2nd	DC GENERATORS	Losses and efficiency. Condition for max efficiency
	3rd	DC GENERATORS	Armature reaction in D.C. machine
	4th	DC GENERATORS	Commutation and methods of improving commutation
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Problems Discussion on emf equation
3RD	1st	DC GENERATORS	Inter poles and compensating winding
	2nd	DC GENERATORS	Characteristics of D.C. Generators
	3rd	DC GENERATORS	Characteristics. Problem Discussion on losses Efficiency
	4th	DC GENERATORS	Application of different types of D.C. Generators.
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Problems Discussion on losses efficiency
4TH	1st	DC GENERATORS	Concept of critical resistance and critical speed
	2nd	DC GENERATORS	Conditions of Build-up of emf of DC generator
	3rd	DC GENERATORS	Parallel operation of D.C. Generators.
	4th	DC GENERATORS	Numerical problems on DC Generator
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Doubt clear class related to DC generator.
5TH	1st	DC GENERATORS	Doubt clear class related to DC generator.
	2nd	DCMOTORS	Basic working principle of DC motor
	3rd	DCMOTORS	Significance of back emf in D.C. Motor.
	4th	DCMOTORS	Voltage equation of D.C.Motor.
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Problems Discussion on Back EMF.
6TH	1st	DCMOTORS	Condition for maximum power output
	2nd	DCMOTORS	Torque Equation and Problems.
	3rd	DCMOTORS	Characteristics of shunt ,series and compound motors
	4th	DCMOTORS	Application and Problems on output power.
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Objective Questions related to Basics of DC Motor.
7TH	1st	DCMOTORS	Starting method of shunt, series and compound
	2nd	DCMOTORS	Speed control of D.C shunt motors
	3rd	DCMOTORS	Speed control of D.C shunt motors and problems.
	4th	DCMOTORS	Speed control of D.C. series motors
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Numerical problems on DC Motor.
8TH	1st	DCMOTORS	Determination of efficiency of D.C. Series Machine
	2nd	DCMOTORS	Determination of efficiency of D.C. shunt Machine
	3rd	DCMOTORS	Losses, efficiency and power stages of D.C. motor
	4th	DCMOTORS	Uses of D.C. motors, Problems Discussion.
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Doubt clear class related to DC Motor.
9TH	1st	SINGLE PHASE TRANSFORMER	Working principle of transformer.
	2nd	SINGLE PHASE TRANSFORMER	Constructional feature of Transformer
	3rd	SINGLE PHASE TRANSFORMER	Constructional feature of Transformer
	4th	SINGLE PHASE TRANSFORMER	Constructional feature ofTransformer
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Objective and Doubt discussion
10TH	1st	SINGLE PHASE TRANSFORMER	Procedures for Care and maintenance
	2nd	SINGLE PHASE TRANSFORMER	EMF equation of transformer
	3rd	SINGLE PHASE TRANSFORMER	Ideal transformer voltage transformation ratio
	4th	SINGLE PHASE TRANSFORMER	Operation of Transformer at no load with ph diagrams
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Objective Question discussion on Basics of Transformer.

11TH	1st	SINGLE PHASE TRANSFORMER	Operation on load with phasor diagrams
	2nd	SINGLE PHASE TRANSFORMER	Equivalent R, Leakage X and Z of transformer.
	3rd	SINGLE PHASE TRANSFORMER	Phasor diagram of transformer on with using up load
	4th	SINGLE PHASE TRANSFORMER	Ph dig. Of transformer on with leading pf and lagging pf.
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Problems Discussion on Phesor diagram
12TH	1st	SINGLE PHASE TRANSFORMER	Equivalent circuit and numerical problems Discussion
	2nd	SINGLE PHASE TRANSFORMER	Approximate & exact voltage drop.
	3rd	SINGLE PHASE TRANSFORMER	Voltage Regulation of transformer.
	4th	SINGLE PHASE TRANSFORMER	Different types of losses in a Transformer
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Open circuit and Short Circuit test
13TH	1st	SINGLE PHASE TRANSFORMER	Efficiency ,efficiency at different loads and pf
	2nd	SINGLE PHASE TRANSFORMER	Condition for max efficiency. Problems Discussion
	3rd	SINGLE PHASE TRANSFORMER	All Day Efficiency & Problems Discussion.
	4th	SINGLE PHASE TRANSFORMER	Load corresponding to Maximum efficiency
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Parallel operation of single phase transformer.
14TH	1st	AUTO TRANSFORMER	Constructional features & working of AUTO TRANSFORMER
	2nd	AUTO TRANSFORMER	Comparison of A.T. with two winding transformer
	3rd	AUTO TRANSFORMER	Uses of Auto transformer .Tap changing.
	4th	INSTRUMENT TRANSFORMER	Current Transformer and Potential Transformer
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Doubt clear class related to Auto Transformer.
15TH	1st	INSTRUMENT TRANSFORMER	Ratio error, Phase angle error.
	2nd	INSTRUMENT TRANSFORMER	Uses of C.T. and P.T.
	3rd	INSTRUMENT TRANSFORMER	Objective Question discussion on C.T.,P.T.,A.T.
	4th	INSTRUMENT TRANSFORMER	Doubt clear class related to Instrument Transformer.
	5th	TUTORIAL CUM DOUBT CLEAR CLASS	Objective Question discussion on Electrical Machine.

The lesson plan prepared by the concerned faculty.

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