



Regn Tm: 2607298

(EC-II)

LESSON PLAN REGISTER

DEPARTMENT OF ELECTRICAL ENGG.

BDSE, BRAJRAJNAGAR

SEMESTER: 5TH SEMESTER

SESSION-2018-19 *Onwards*

NAME OF FACULTY:

Poojita Samal
Legendra Dutta

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Executive

LONG BOUND EXERCISE BOOK

DISCIPLINE	ELECTRICAL	SEMESTER	5th.	NAME OF THE TEACHING STAFF	J.R. DUTTA	4th.	1st.	2nd.	3rd.	4th.	5th.	6th.
SUBJECT	EC-II	No. of days class per week allotted	sec. from Dkt. No. 2020-2021 (w)	No. of hours.		(21-26)	1st.	2nd.	3rd.	4th.	5th.	6th.
week	chrs/day	Theory										
1st	1st.	Alternator, types, construction.	5th.	1st.	Effect of varying load with excitation,							
2nd.	2nd.	Working principle of Alternator & Relation b/w speed & frequency.	2nd.	2nd.	Effect of varying excitation with const. load.							
3rd.	3rd.		3rd.	3rd.								
4th.	4th.	Armature winding	4th.	4th.	Power angle characteristics of cylindrical rotor motor.							
5th.	5th.	Excitation factor, pitch factor, Distribution factor.	5th.	5th.								
6th.	6th.		6th.	6th.								
1st.	1st.		1st.	1st.	Effect of excitation on armature current and power factor.							
2nd.	2nd.	Load on alternator, (numerical problems)	2nd.	2nd.	Function of Dampers bars in synchronous motor and generator.							
3rd.	3rd.	Armature reaction.	3rd.	3rd.	Method of starting of synchronous motor.							
4th.	4th.		4th.	4th.								
5th.	5th.	Testing of alternator (problems)	5th.	5th.	Application, related problems.							
6th.	6th.	Voltage regulation of alternator by direct loading & synchronous impedance method.	6th.	6th.								
1st.	1st.		1st.	1st.								
2nd.	2nd.	Parallel operation of alternator using synchro-scope method.	2nd.	2nd.	Synchronous motor related problems.							
3rd.	3rd.	Bright lamp method.	3rd.	3rd.	-do-							
4th.	4th.		4th.	4th.								
5th.	5th.	Distribution of load by parallel connection of alternator.	5th.	5th.	Three phase induction motor							
6th.	6th.	Alternate related solve problems.	6th.	6th.	Production of rotating magnetic field.							

Week	class/day	Theory
8th.	1st -	
Oct.	2nd -	Construction of squirrel cage IM.
(19-24)	3rd -	Slip ring IM.
	4th -	
	5th -	Working principle of 3- ϕ IM.
	6th -	Slip speed, slip & establish the relation of slip with rotor quantities.
9th.		
Oct.	1st -	
(26-31)	2nd -	Derive expression for torque during starting.
	3rd -	Running conditions.
	4th -	
	5th -	
	6th -	
10th.		
Nov.	1st -	
(2-7)	2nd -	Code for main Torque. (problems)
	3rd -	Torque-slip characteristics.
	4th -	
	5th -	Relation bet ⁿ full load torque & starting torque.
	6th -	(solve problems)
11th.	1st -	
Nov.	2nd -	Relations bet ⁿ rotor copper loss,
(9-14)		rotor o/p & gross Torque.
	3rd -	Relationship of slip with rotor cu loss.
	4th -	Related solve problems
	5th -	
	6th -	Method of starting & different types of starters used of 3- ϕ IM.

12th.	1st -	
Nov.	2nd -	Speed control by voltage control rotor resistance control, pole changing.
(14-21)	3rd -	Frequency control methods.
	4th -	Different types of motor enclosures.
	5th -	
	6th -	Principle of induction generator & its applications.
13th.		
Nov.	1st -	
(23-28)	2nd -	1- ϕ IM,
	3rd -	Ferraris's principle.
	4th -	Explain double revolving field theory
	5th -	Cross-Field theory to analyze starting torque of 1- ϕ IM.
	6th -	
14th.		
(Nov-Dec)	1st -	
(30-5)	2nd -	Working principle 1- ϕ IM.
	3rd -	Torque speed characteristics.
	4th -	
	5th -	Applications of 1- ϕ motor.
	6th -	Solid phase motor.
15th.	1st -	
Dec.	2nd -	capacitor start motor.
(7-18)	3rd -	capacitor start, run motor.
	4th -	
	5th -	Permanent capacitor type motor.
	6th -	Shaded pole motor.

Week

Class/day

Theory.
 (Revision + alternator)

25th.

1st

Feb

2nd -

(15-20)

3rd -

- do -

4th -

5th -

6th -

26th.

1st -

Feb.

2nd -

22-27)

3rd -

4th -

5th -

6th -

27th.

1st -

Feb-Mar

2nd -

1-6-

3rd -

4th -

5th -

6th -

Veteran -

