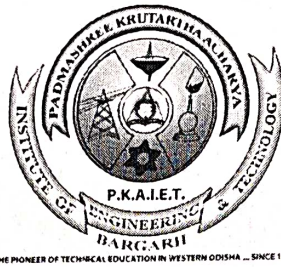


PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH



PROGRESS REGISTER Session-2022-2023

Discipline: Electrical Engg.

Semester: 5th Subject: Energy Conversion-II

Name of the Teaching Faculty: Bimal Kumar Gacheta

Sec-A

Subject: EC-II No. of Days/per week class allotted 04

Semester From Date : 15/09/22 To Date : 21/01/23 No. of Weeks : 8

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
15/9/22	Type of alternator and its construction	alternator type & its construction	Salient & non salient pole, Stator, Rotor	<u>B. Reddy</u>
16/9/22	Working Principle Relation between N & ϕ	Working Principle Relation between N & ϕ	Faraday's law	<u>B. Reddy</u>
20/9/22	Armature winding terminology and winding factor	Winding terminology & winding factor	Distributed & Concentrated wdg K_p & K_d	<u>B. Reddy</u>
22/9/22	Harmonics Causes its impact on winding factor	Harmonic Causes and its impact	$K_d n$ & $K_p n$ for n th harmonics	<u>B. Reddy</u>
23/9/22	Emf equation of alternator	Emf equation	$K_p, K_d, P, Z, T, N, \phi, f$	<u>B. Reddy</u>
24/9/22	Armature Reaction	Armature Reaction effect on emf	magnetising, Demagnetising Cross magnetising	<u>B. Reddy</u>
27/9/22	effect of armature Reaction on emf	Armature Reaction effect on emf	— do —	<u>B. Reddy</u>
29/9/22	Vector Diagram of Loaded alternator	Vector diagram of Loaded alternator	R_a, X_L, X_s, Z_s	<u>B. Reddy</u>
30/9/22	Testing of alternator OC Test SC Test	Testing of alternator	OCC, SCC	<u>B. Reddy</u>
1/10/22	Numerical on SC & OC Test	Problem on OC & SC Test	Problem Practice	<u>B. Reddy</u>
13/10/22	Voltage Regulation by Direct Loading & emf method	Voltage regulator by direct Loading & emf method.	OCC, SCC, draft R_a, X_s, Z_s finding	<u>B. Reddy</u>

Subject: EC-II No. of Days/per week class allotted 04

Semester From Date : 15/09/22 To Date : 21/01/23 No. of Weeks : 02

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
14/10/22	Numericals of Voltage regulation	Problem on Voltage Regulation	Problem Practice	<u>Bradh</u>
15/10/22	Parallel operation by Synchroscope & dark-bright lamp method	Parallel operation by Synchroscope Thms - lamp method	Synchroscope Thms - lamp method	<u>Bradh</u>
16/10/22	Load Sharing by Parallel Connected alternator	Load sharing of Parallel Connected alternator	CKT diagram of Parallel alternator Circulating current	<u>Bradh</u>
18/10/22	Construction of Synchronous motor & working principle	Construction of Synchronous motor working Principle	Stator, Stator Core, Rotor, Rotor Core, exciting coil	<u>Bradh</u>
20/10/22	Torque & Power developed in Synchronous motor	Torque & Power developed by Synchronous motor	Pullout torque, Gross torque, Shaft torque, P_{mech} & P_{max}	<u>Bradh</u>
21/10/22	effect of varying load with const excitation & effect of varying Exc with const load.	effect of varying load with const Exc & Varying E with const load.	under, over normal, excitation	<u>Bradh</u>
22/10/22	Power Angle characteristics	Power Angle characteristics	P vs δ , V , E X_d / X_q	<u>Bradh</u>
27/10/22	effect of excitation on I_a & $\cos \phi$	effect of excitation on I_a & $\cos \phi$	under excitation Normal unit pf over excitation	<u>Bradh</u>
28/10/22	Hunting & Function of Damper bar in Synchronous motor	Hunting & Function of Damper bar	Cause of hunting Effect of " Reduction of "	<u>Bradh</u>
29/10/22	Starting method of Synchronous motor	Starting method of Synchronous motor	Induction motor starting DC motor starting Damper bar starting	<u>Bradh</u>
1/11/22	Application of Synchronous motor	Application	Pf Correction Precise & constant Speed.	<u>Bradh</u>

Subject: BC-II No. of Days/per week class allotted 04

Semester From Date : 15/09/22 To Date : 21/01/23 No. of Weeks : 03

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
3/11/22	Production of Rotating magnetic field	Production of Rotating magnetic field	3 Phase Current Supply speed & direction of rotation magnetizer	<u>B. Jadhav</u>
4/11/22	Construction of Squirrel Cage & Slipring I/m	Construction of Squirrel cage & Slipring I/m	Stator, Rotor, squirrel cage wound rotor.	<u>B. Jadhav</u>
5/11/22	Working Principle of 3 ϕ I/m	Working Principle	Rotor Conductor. Stator conductor stator magnetic field Faraday's law	<u>B. Jadhav</u>
10/11/22	Slip speed, slip & Relation between S with Rotor Parameter	Slip speed, slip Relation of S with rotor quantity	% slip, rotor emf, x_2 , I_r I_2	<u>B. Jadhav</u>
11/11/22	expression T_{st} T_{run} & T_{max}	expression of T_{st} T_{run} T_{max}	Z_2 , I_2 , $\cos \phi_2$	<u>B. Jadhav</u>
12/11/22	Torque, slip characteristics	Torque, slip characteristic	Family of T-s characteristics $S=0$ to $S=1$	<u>B. Jadhav</u>
15/11/22	Relation between T_{st} & T_{st}	Relation between T_{st} & T_{st}	Ratio of T_{max} & T_{st} depending $\alpha = R_2/x_2$	<u>B. Jadhav</u>
17/11/22	Losses - Rotor cu loss Rotor o/p, T_g & Relation between S & rotor cu loss	Rotor cu loss Rotor o/p, T_g	Fixed loss, Variable loss, Gross output of Rotor	<u>B. Jadhav</u>
18/11/22	Method of Starting Different starter in 3 ϕ I/m	Method of starting & starter in 3 ϕ I/m	DOL, Y- Δ , stator-Resistors	<u>B. Jadhav</u>
19/11/22	Speed Control Pole changing frequency Control	Speed Control by Pole changing & frequency Control	V/f control, stator pole, FCM	<u>B. Jadhav</u>
22/11/22	Type of motor enclosure	Type of motor enclosure	ODP, TEEC, TEAO, TENV, TEFV / TEBC	<u>B. Jadhav</u>

Subject: EC-IINo. of Days/per week class allotted 04Semester From Date: 15/09/22To Date: 21/01/23No. of Weeks: 03

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
24/11/22	Plugging in ϕ I/m	Plugging ϕ I/m	Braking Inr- change of Phase of stator	<u>Bradh</u>
26/11/22	Principle of Induction Generator & its application	Principle of Induction gen Application	Asynchronous Gen supply add ⁿ Power to motor load	<u>Bradh</u>
29/11/22	Ferraris Principle	— do —	Electromagnet at right angle ac of 90° out of phase	<u>Bradh</u>
1/12/22	Double revolving field cross field theory	Double revolving field & cross field theory	Two-rotating magnetic field	<u>Bradh</u>
2/12/22	Working principle torque speed characteristics	Working principle T-N characteristics	+ve forward torque -ve backward torque	<u>Bradh</u>
3/12/22	Application of split phase & capacitor start motor	— do —	Running & starting winding centrifugal switch	<u>Bras</u>
6/12/22	Application of capacitor start capacitor run motor	Application of capacitor start capacitor run motor	high starting torque	<u>Bradh</u>
8/12/22	Application of Permanent capacitor type motor	— do —	Fan, blower air conditioner no centrifugal switch Pullout torque	<u>Bradh</u>
9/12/22	Application of Shaded pole motor	Shaded pole motor	Salientor protruding pole Low starting torque	<u>Bradh</u>
10/12/22	Method of changing direction of rotation	Changing direction of Rotation	Reversible by disassembly & flipping over the stator	<u>Bras</u>
13/12/22	Construction & working Principle of Commutator motor	Construction & working of Commutator motor	Sine commutator motor, ϕ ac voltage supply	<u>Bras</u>

Subject: EE-1 No. of Days/per week class allotted 04

Semester From Date : 15/09/22 To Date : 21/01/23 No. of Weeks : 03

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
15/12/22	Construction of universal motor	Construction of universal motor	DC series motor few turn series field low reluctance path	<u>Bray</u>
16/12/22	Running characteristics & application of ϕ series motor	— do —	hair dryer garden, table fan, blower	<u>Bray</u>
17/12/22	Working Principle & application of universal motor	Working Principle & application of universal motor	Interaction of field flux & armature flux electric shaver	<u>Bray</u>
20/12/22	Working Principle of Repulsion start motor	Working Principle of Repulsion start motor	Construction of Two-pole repulsion motor	<u>Bray</u>
22/12/22	Repulsion start Induction Run Repulsion I/m	Repulsion start induction run motor	Repulsion motor Centrifugal device	<u>Bray</u>
23/12/22	Principle of Stepper motor	Principle of Stepper motor	Brushless DC motor open Loop Control switch reluctance motor	<u>Bray</u>
24/12/22	Classification of Stepper motor	Classification	Permanent magnet variable reluctance hybrid synchronous	<u>Bray</u>
27/12/22	Variable reluctance & permanent magnet stepper motor	— do —	Iron rotor minimum reluctance Permanent magnet rotor	<u>Bray</u>
29/12/22	Hybrid Stepper motor principle	— do —	Combination of Permanent magnet & variable reluctance motor	<u>Bray</u>
30/12/22	Stepper motor Application	Application	Computer printer Floppy disk drive CD, CN machine	<u>Bray</u>
31/12/22	Grouping of winding & Advantage	Grouping of winding	Δ/Δ , Y/Y Y/Δ , Δ/Y Group - I-III	<u>Bray</u>

subject: ECU No. of Days/per week class allotted 04

semester From Date : 15/09/22 To Date : 21/09/22 No. of Weeks : 02

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