

GOVERNMENT POLYTECHNIC COLLEGE, KOTA (RAJ.)

SYLLABUS BREAK-UP (SESSION 2015-16)

SUBJECT CODE : **EE306**

SUBJECT NAME : **Electrical machines II**

FACULTY NAME : **AP BHANA**

DESIGNATION : **H.O.D.(ELECT. ENGG.)**

TOPIC	LECTURE / PRACTICAL CLASSES REQUIRED TO COVER TOPIC	MONTHS IN WHICH THE TOPIC WILL BE COVERED	ACTUAL DATE OF COVERING OF THE TOPIC	REASON FOR NOT COVERING THE TOPIC IN DUE TIME	E-CONTENTS PROVIDED TO STUDENTS RELATED TO TOPIC
Overview of different motors & main features of 3 ph induction motors	1	Aug-15			
Production of rotating magnetic	1	Aug-15			
Construction of slip ring and	1	Aug-15			
Principle of operation & Slip	1	Aug-15			
Starting performance, starting torque, condition for maximum starting torque, problems	1	Sep-15			
Running performance, running torque, condition for maximum running torque,	1	Sep-15			
Relation between starting, maximum and full load torque, problems	1	Sep-15			
Torque-slip characteristics & effect of rotor resistance	1	Sep-15			
Power stages and efficiency, problems	1	Sep-15			
Equivalent circuit: approximate and exact	1	Sep-15			
Phasor diagram	1	Sep-15			
No-load and blocked rotor tests	1	Sep-15			
Circle diagram, problems	2	Oct-15			
Methods of starting	1	Oct-15			
Speed control of induction motors	1	Oct-15			
Cogging and crawling	1	Oct-15			
Double cage induction motor, characteristic, applications, Industrial applications	1	Oct-15			
Main feaures of 1 ph i.m., Double revolving field theory and cross-filed theory	1	Oct-15			

Construction, working principle, characteristics, Industrial applications of following motors 1 Resistance start 2 Capacitor start & induction run 3 Capacitor start & capacitor run 4 Shaded pole motor	1	Oct-15			
Alternators, Constructional features	1	Nov-15			
Principle of operation, Winding factors	1	Nov-15			
Eme eqn, problems	1	Nov-15			
Idea of leakage reactance (cylindrical rotor) and armature reaction	1	Nov-15			
Synchronous reactance, synchronous impedance, phasor diagram at different power factors (cylindrical rotor)	1	Nov-15			
Voltage regulation, open circuit and short circuit tests	1	Nov-15			
Calculation of voltage regulation by synch. Imp. Method, problems	1	Nov-15			
Calculation of voltage regulation by mmf method, problems	1	Dec-15			
Parallel operation of three phase alternators	1	Dec-15			
Effect of variation in excitation and prime mover power on the performance of parallel connected alternators	1	Dec-15			
Synchronous motor, charecteristic features, construction and principle of operation	1	Dec-15			
Phasor diagram at no load and on load (cylindrical rotor)	1	Jan-16			
Power equation, Power angle characteristics	1	Jan-16			
Synchronous motor operation at Constant input power and variable excitation, V - curves and inverted V- curves	1	Jan-16			

Synchronous motor operation at Constantt excitationt and variable input power	1	Jan-16			
Methods of starting, Synchronous condenser	1	Jan-16			
Comparison of induction motor and synchronous motor, Application of synchronous motor	1	Jan-16			
Stability Analysis of Synchronous	1	Jan-16			
Symmetrical short circuit	1	Jan-16			
Swing equation, swing curve, M and H constants	1	Feb-16			
Steady state stability,Transient stability	1	Feb-16			
Equal area criterion of stability	1	Feb-16			
Hunting phenomenon in synchronous machines	1	Feb-16			
Special Machines :Basic principles,	1	Feb-16			
Stepper motor,	1	Feb-16			
A.C. Commutator Motors	1	Feb-16			
Repulsion motor	1	Feb-16			
Schrage motor,	1	Mar-16			
Revision	12	Mar-16			
PRACTICALS					
Connecting, starting and reversing the direction of rotation of 3-phase squirrel cage induction motor by using D.O.L starter,Star-Delta starter	4	Aug-15			
Speed control of 3-phase induction motor by rotor resistance control.	4	Sep-15			
Speed control of 3-phase induction motor by stator voltage control	4	Sep-15			
No-load and blocked rotor tests on 3-phase induction motor and plotting of circle diagram.	4	Oct-15			
Study the various types of single-phase Induction motor with starting and reversing operation.	4	Oct-15			

Starting of synchronous motor and plotting V-curves.	4	Nov-15			
Determination of load characteristics of alternator at rated speed.	4	Nov-15			
Determination of regulation of alternator by direct loading.	4	Dec-15			
Determination of magnetisation curve of an alternator at rated speed	4	Dec-15			
O.C and S.C tests on alternator and determination of regulation by synchronous impedance method	4	Jan-16			
Synchronisation of alternators.	4	Jan-16			
Revisions of practicals	16	Feb-mar16			

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SYLLABUS BREAK-UP (SESSION 2015-16)

SUBJECT C **EE 205**

SUBJECT NAME : **Electrical Circuit Theory**

FACULTY N **Arun Prakash Bhana**

DESIGNATION : **HOD (Electrical)**

TOPIC	LECTURE / PRACTICAL CLASSES REQUIRED TO COVER TOPIC	MONTHS IN WHICH THE TOPIC WILL BE COVERED	ACTUAL DATE OF COVERING OF THE TOPIC	REASON FOR NOT COVERING THE TOPIC IN DUE TIME	E-CONTENTS PROVIDED TO STUDENTS RELATED TO TOPIC
Network Parameters	1	Aug-15			
Unilateral and	1	Aug-15			
Time varying and time	1	Aug-15			
Source conversion	2	Aug-15			
Network Theorems	2	Sep-15			
Node analysis	2	Sep-15			
Star-delta transformation	2	Sep-15			
Reciprocity theorem	1	Sep-15			
Superposition theorem	2	Oct-15			
Thevenin's theorem	2	Oct-15			
Norton's theorem	1	Oct-15			
Maximum power	2	Oct-15			
Millman's theorem	1	Oct-15			
Tellegen's theorem	1	Nov-15			
Resonance :Series	1	Nov-15			
Q-factor, bandwidth,	1	Nov-15			
Importance of resonance	1	Nov-15			
Circuit Transients	1	Nov-15			
Laplace transformation	1	Nov-15			
Unit impulse	1	Nov-15			
Sinusoidal function	1	Nov-15			
Derivative	1	Dec-15			
Laplace transformation	1	Dec-15			
Shifting Theorem in t domain	1	Dec-15			
Complex differentiation	1	Dec-15			
Initial value theorem	1	Jan-16			
Final value theorem	1	Jan-16			
Complex integration	1	Jan-16			
Inverse L.transform	2	Jan-16			
Solution of series RL,	3	Jan-16			
Two Port Network :z-	1	Jan-16			
y-parameters	1	Feb-16			
h-parameters,ABCD-	1	Feb-16			
Inter relation among	1	Feb-16			
Special types of network	1	Feb-16			
Complex Frequency and	1	Feb-16			
Plotting of poles and	1	Feb-16			

Necessary conditions of	1	Feb-16				
Revision	12	Feb-mar16				