Total No. of Printed Pages:2

SUBJECT CODE NO:- H-1063
FACULTY OF SCIENCE AND TECHNOLOGY
S.Y. B.Tech. (Electrical) CBC & Grading System (Sem IV)
AC Machine
[Revised]

[Time: Three Hours] **[Max.Marks: 80]**

Please check whether you have got the right question paper.

N.B
1) Question no.1 from Section A and Question no.6 from Section B is compulsory
2) Solve any two from remaining questions from each section
3) Assume suitable data, if required

Section A

Q.1 Attempt any five of the following 10
a) Why squirrel cage induction motor used in maximum industrial applications?
b) Why induction motor called rotating transformer?
c) What is the purpose of block rotor test?
d) State the faradays first, second and third law
e) What is meant by single phasing
f) What are the advantages of skewing?
g) Give the classification of single phase induction motor

Q.2 a) Compare single phase and three phase induction motor 08
b) Explain the pole formation strategy in induction motor 07

Q.3 a) Explain Auto-transformer starter with neat sketch 08
b) A properly shunted centre zero galvanometer is connected in the rotor circuit of a 10 pole 50hz wound rotor induction motor. If the galvanometer makes 90 complete oscillations in one minute, calculate speed 07

Q.4 a) Explain the construction and working of shaded pole induction motor 08
b) Explain torque slip characteristics of three phase induction motor 07

Q.5 a) Explain double field revolving theory 08
b) Draw and explain torque slip characteristics of single phase induction motor 07

Section B

Q.6 Attempt any five of the following 10
a) Define short circuit ratio in synchronous motor
b) What are the causes for hunting in synchronous motor
c) What is the importance of excitation in synchronous machines?
d) Draw the equivalent circuit of a synchronous motor
e) Draw the phasor diagram of synchronous motor for over excitation
f) What are the necessary conditions for parallel operation of alternator?
g) State the formula and importance of pitch factor

Q.7	a)	In details explain the role of damper winding in machines	08
	b)	Explain the power flow diagram of synchronous motor with neat diagram	07
Q.8	a)	Explain the operating characteristics of alternator	08
	b)	Explain the armature reaction in synchronous machines	07
Q.9	a)	What are the effect of changes on a synchronous motor	08
	b)	Explain any two methods used to make synchronous motor self-starting	07
Q.10	a)	Compare synchronous motor and induction motor	08
	b)	Explain V-curves of synchronous motor	07