Time: 3 Hrs

Marks:80

1	a)														
		What is the significance of reluctance power? b) By using excitation circle and power circle explain development of V											1,20		
	b)		tation	circle	e and	power	circle	e expl	ain de	velopr	nent of	V curv	es and	Of	
_		curves				a 6	7.4.0		435				\$ 50 °C	300	
2	a)	Explain Steady state analysis of synchronous machine How armature reaction influences the field distribution of alternator. Illustrate the effect													
	b)					ces the	e field	distril	oution	of alte	ernator.	Hlustra	ate the	effect	
3	٥)	under differen Explain Blond				n thao				0	7,830				
,	a) b)	A three phase						ed alte	ernato	r has 6	M clote	with	Leond	uctors	
	D)	per slot. The													
		3300 V betwee													
		useful flux per			- CP							7	00011111	110 1110	
) 4	a)		- 4		tar co	nnect	ed alte	rnator	with	ohmic	resistar	ice of	0.06 Ω	2 /	
	••)	A 220 V , 50 Hz 6 pole star connected alternator with ohmic resistance of 0.06 Ω / phase , gave the following data for O.C and S.C characteristics													
		Field	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.8	2.2	2.6	3.0	3.4	
		current			40°		330				7				
		-a.	1/49/N				7 8 3	200	6	3,5 V					
		If(amp)	3				200	7.00	104	200		20.4	300	310	
		O.C.voltage	29	58	87	116	146	172	194	232	261.5	284	500	510	
			29	58	87	116	146	172	194	232	261.5	284	300	310	
		O.C.voltage	29	58	87	116	146	40	194	232	261.5	284			
		O.C.voltage Ef (volts) S.C.current Isc (amp)						40	OF SECTION						
		O.C.voltage Ef (volts) S.C.current Isc (amp) Find % voltage	e regi	ulatio	n at fi			40	OF SECTION						
		O.C.voltage Ef (volts) S.C.current Isc (amp) Find % voltage method and M	e regi	ulatio	n at fi	ull loa	d curr	40 ent of	40 am	p at 0	 .8 p.f. la	 ngging	by EM	 MF	
	b)	O.C.voltage Ef (volts) S.C.current Isc (amp) Find % voltage method and M Explain with p	e regi	ulatio	n at fi	ull loa	d curr	40 ent of	40 am	p at 0	 .8 p.f. la	 ngging	by EM	 MF	
		O.C.voltage Ef (volts) S.C.current Isc (amp) Find % voltag method and M Explain with p line.	e regi IMF i	ulatio metho diag	n at fu d ram w	ull loa	d curr	40 ent of cuit ch	40 am	np at 0	.8 p.f. la	 ngging	by EN	 MF	
	b)	O.C.voltage Ef (volts) S.C.current Isc (amp) Find % voltage method and M Explain with p line. Derive the exp	e regi IMF i bhasoi bressi	ulatio metho diag	n at fi d ram w	ull loa	d curr	40 ent of cuit ch	40 am	np at 0	.8 p.f. la	 ngging	by EN	 MF	
	a)	O.C.voltage Ef (volts) S.C.current Isc (amp) Find % voltage method and M Explain with p line. Derive the exp	e regi IMF rohason pressi	latio netho diag	n at ford ram were active	ull loa why showe and	d curr	40 ent of cuit ch	40 am	ap at 0	.8 p.f. la	 ngging	by EN	 MF	
	a)	O.C.voltage Ef (volts) S.C.current Isc (amp) Find % voltage method and M Explain with p line. Derive the exp	e regi IMF rohason pressi	latio netho diag	n at ford ram were active	ull loa why showe and	d curr	40 ent of cuit ch	40 am	ap at 0	.8 p.f. la	 ngging	by EN	 MF	
\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	a)	O.C.voltage Ef (volts) S.C.current Isc (amp) Find % voltage method and M Explain with p line. Derive the exp machine. Also Explain the ne	e regi IMF rohasor pressi plot plot ped an	ulatio metho diag on for P-δ c	n at fi d ram w r activ urve.	ull loa why showe and	d curr	40 ent of cuit ch	40 am	ap at 0	.8 p.f. la	 ngging	by EN	 MF	
\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	a) b)	O.C.voltage Ef (volts) S.C.current Isc (amp) Find % voltage method and M Explain with p line. Derive the exp machine. Also Explain the ne	e regi IMF rohason pressi plot eed an	ulationethor diagrams on for P-δ cad open	n at ford ram wer active	ull loa why showe and	d curr ort circ reacti	40 ent of cuit che ve por nous of	40 am	ap at 0	.8 p.f. la	 ngging	by EN	 MF	
	a)	O.C.voltage Ef (volts) S.C.current Isc (amp) Find % voltage method and M Explain with p line. Derive the exp machine. Also Explain the new Write short no Synchronizing	e regi IMF in ohasoi pressi o plot eed an otes of	ulationethor diagram for P-δ c do open any er and	n at ford ram war active urve. eration two	ull loa why shave and n of sy	d curr ort circ reacti	40 ent of cuit che ve por nous of	40 am	ap at 0	.8 p.f. la	 ngging	by EN	 MF	

Instructions:

• Question No: 1 is compulsory.

• Figures to the right indicate full marks.

• Answer any three from the remaining five questions.

• Assume any suitable data wherever required but justify the same.