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	Question P	aper Code	: 41007	
because B.E	Electrical an EE6601 –	Sixth Semester d Electronics Eng SOLID STATE DI	ineering	
	rengos OCI ball vac (Re	egulations 2013)		
Time : Three Ho	ours Croquado alo a n		Maximum	: 100 Marks
	Ans	wer ALL questions		
		PART – A	(10×2=	=20 Marks)
1. What are th	ne types of load torque	es?		
2. What is me	ant by regenerative b	raking?		
3. List out the	e drawbacks of AC-D	C converter fed DC	drive.	
4. What are th	ne advantages of chop	per fed DC drives	rahold a grupu samati ni wateri amana motori saw	
5. What are th	ne various application	s of stator voltage	control scheme ?	
6. What are the motor?	he three regions in th	e speed-torque cha	racteristics of the in	duction
7. What are th	he different types of	controls used in syr	chronous motor drive	es?
8. What are th	he advantages of perr	nanent magnet syn	chronous motors?	
9. What are th	he advantages of close	ed loop speed contro	ol schemes?	
10. List out the	e simulation software	packages that can	be used for electrical	drives.
		PART – B	(5×13:	=65 Marks)
11. a) i) Write	equations governing	motor load dynami	cs.	(6)
	in in detail with an e l-Torque plane.			(5)
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12. a) Explain in detail, the operation of a single phase fully controlled converter fed separately excited DC motor in continuous and discontinuous modes with steady state analysis and waveforms. (OR) b) i) Explain the operation of four quadrant chopper fed DC separately excited motor drive with necessary diagrams. (7) ii) What are the types of control strategies in a dc chopper? (6) 13. a) i) What are the drawbacks of stator voltage control method? (ii) Explain the speed control scheme of induction motor drive with v/f control technique. (OR) b) Describe the closed loop speed control of VSI fed and CSI fed induction motor drives. (13) 14. a) i) Discuss using a block diagram the operation of a voltage source inverter fed synchronous motor in the true synchronous mode. (OR) b) Explain the self control of synchronous motor in detail. (OR) b) Explain in detail the construction, principle of operation and applications of permanent magnet synchronous motor. (13) (15. a) Explain the design procedure and derive the transfer function of the speed and current controller. (OR) b) Derive the transfer function of DC motor-load system with converter fed system. (13) PART - C (1×15=15 Marks) 16. a) Compare in detail V/f control strategies of induction motor and synchronous motor drives.	ШШ	41007
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