Subject Name: Applied Power Electronics		fo.: Enrolment No	Enrolment No.	
		BE - SEMESTER- V • EXAMINATION – WINTER 2016 ct code: 152403 Date: 19/11/2016		
	Instru	ections:		
		 Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. 		
Q.1	(a)	Define Simulation. List the types of simulation processes. Draw the block diagram of all simulation processes. Explain the challenges in computer simulation.	07	
	(b)	Define Electrical Motor Drive. Draw and Explain block diagram of electrical motor drive system.	07	
Q.2	(a)	Define signal processing. Explain the necessity and type of signal processing and its requirement in PES.	07	
	(b)	Design a first order Butterworth High pass filter with a cutoff frequency of 1 KHz. Draw the necessary circuit diagram with value of components. OR	07	
	(b)	Design an Monostable multivibrator using IC 555 having frequency of 1 KHz. Draw the necessary circuit diagram with value of components.	07	
Q.3	(a)	Define Active Filter. Explain concept and realization of Switched Capacitor Filter using simple circuit.	07	
	(b)	Explain basic power diagram, working, advantages, disadvantages and application of Controlled Rectifier.	07	
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Q.3		Define Active Filter. Explain concept and realization of State Variable Filter using simple circuit.	07	
	(b)	Explain basic power diagram, working, advantages, disadvantages and application of AC Voltage Regulator.	07	
Q.4	(a)	Explain configuration of HVDC Transmission along with its advantages, disadvantages and application.	07	
	(b)	Define UPS. Explain the classification of it and also explain working of Offline UPS with necessary block diagram. OR	07	
Q.4	(a)	Define following terms: 1. Active Power Filter 2.Harmonic Restrain Factor 3.SVC 4.TCI 5.TSC 6.Power Factor 7. Power Quality.	07	
	(b)	Define SMPS. Explain the classification of it and also explain working of SMPS with necessary block diagram.	07	
Q.5	(a)	Define Fusion Welding. Explain the working, advantages, disadvantages and application of Switched Mode Arc Welder using block diagram.	07	
	(b)	List the difference between Induction and Dielectric heating OR	07	
Q.5	(a)	Explain the working, advantages, disadvantages and application of Electronic Ballast	07	

using block diagram.