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Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII(NEW) • EXAMINATION – WINTER 2016

Subject Name:Spintronics		Date:21/11/2016	
		Total Marks: 70	
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Q.1	(a) (b)	Write a short note on the early history of spin. Explain schematic arrangement of Stern-Gerlach experimental	set up. 07
Q.2	(a) (b)	Write a short note on domain wall scattering. Write a short note on spin LED.	07 07
	(b)	OR Explain charge and spin in single quantum dots.	07
Q.3	(a) (b)	What are the difficulties in obtaining highly spin polarized mate. What are the experimental issues exist for the spin-LED? OR	erials? 07
Q.3	(a) (b)	Why high optical polarization could not obtained in the spin LF the Heusler alloy based contact? Explain ratchet effect in domain wall motion.	ED based on 07
Q.4	(a) (b)	Magnetic domain walls and its dynamics. Write a short note on spin photo electronic devices. OR	07 07
Q.4	(a) (b)	Describe basic electron transport in thin films. Explain resistance change in multilayer structure.	07 07
Q.5	(a) (b)	Explain concept of Giant Magnetoresistance using theory. Explain Spin-dependent scattering of electrons in multilayers. OR	07 07
Q.5	(a) (b)	Write a short note on Tunneling Magnetoresistance. Write a short note on spin-orbit interaction.	07 07