GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER- IV(NEW) EXAMINATION – SUMMER 2015

Subject Code:2143905Date:05/06/2Subject Name:Characterization of Nanomaterials-IITime: 10:30am-1.00pmTime: 10:30am-1.00pmTotal MarlInstructions:Total Marl			/2015 ks: 70	
Q.1	(a) (b)	Explain working principle of FTIR instrument and sample preparation. Write down advantage and disadvantage of UV/Visible spectroscopy	07 07	
Q.2	(a) (b)	Write a short note on UV/Visible spectrometer. Note down application of FTIR in various fields of science, medical and engineering.	07 07	
	(b)	OR Draw the schematic diagram of FTIR instrument	07	
	(0)	Draw the schematic diagram of f fire instrument.	07	
Q.3	(a)	Explain the different operation mode of SQUID.	07	
	(b)	Explain Impedance Spectroscopy	07	
Q.3	(a) (b)	OR Write down different applications of SQUID instrument. Draw the layout of Vibrating Sample Magnetometer (VSM) and write its applications.	07 07	
Q.4	(a) (b)	Explain characterization of magnetic material using SQUID instrument. Write a short note on working of VSM.	07 07	
		OR		
Q.4	(a) (b)	Explain Atomic Force Microscopy (AFM) Write down different applications of AFM and MFM	07 07	
Q.5	(a)	Explain Magnetic Force Microscopy (MFM)	07	
	(b)	Write different application of Impedance Spectroscopy	07	
		OR		
Q.5	(a)	Write down advantage and disadvantage of contact mode and non contact mode spectroscopy.	07	
	(b)	Explain few applications of UV/Visible Spectroscopy in the field of Nanotechnology	07	
