

GUJARAT TECHNOLOGICAL UNIVERSITY
BE –SEMESTER IV (NEW SYLLABUS) EXAMINATION- SUMMER 2018

Subject Code: 2143903**Date: 24/05/2018****Subject Name: Elements of Material Science****Time: 10:30 AM to 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

			MARKS
Q.1*	(a)	Define true Stress.	03
	(b)	Explain ferromagnetism with necessary applications.	04
	(c)	Write down short note on GMR device in the vicinity computer.	07
Q.2	(a)	Define :Photoluminescence.	03
	(b)	Explain Piezoelectricity with necessary applications.	04
	(c)	Explain: Colossal Magneto Resistance (CMR) with its applications.	07
		OR	
	(c)	Explain: Magnetic Bubble Memory.	07
Q.3	(a)	Define true Strain.	03
	(b)	Define: Ferroelectricity and write down its applications.	04
	(c)	Write short note on Photoconductivity.	07
		OR	
Q.3	(a)	Define: Elastic Deformation.	03
	(b)	Give difference between Refraction and Reflection.	04
	(c)	Derive the expression for thermal conductivity K.	07
Q.4	(a)	Give example of Garnets or Ferrites.	03
	(b)	What do you mean by Time Dependent Deformation?	04
	(c)	Write a short note on OLED.	07
		OR	
Q.4	(a)	Define: Thermal Shock.	03
	(b)	Write down four applications of superconductivity in the vicinity of electrical engineering.	04
	(c)	Write a short note on Metallic Conductivity in conducting wire with necessary equitation.	07
Q.5	(a)	Define :Heat Capacity in the vicinity of material	03
	(b)	Give difference between Anti-ferromagnetism and Ferrimagnetism	04
	(c)	Explain the absorption and transmission light with necessary example.	07
		OR	
Q.5	(a)	Define : Yielding	03
	(b)	State the current applications of superconductor.	04
	(c)	Explain role of composition in material engineering.	07