Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER-VI– EXAMINATION – SUMMER 2016

	•	t Code: 2163604 Date: 13/05/2016	
	-	t Name: Technology of Pigments	
Time: 10:30 am to 1:00 pm		<u>-</u>	
Ins	struction 1. 2. 3.	. Attempt all questions.	
Q.1	(a)	Define Pigment. Discuss the classification of inorganic pigments with examples.	07
	(b)	Explain the following properties of pigment: (i) Specific surface area (ii) Particle size (iii) Particle size distribution	07
Q.2	(a)	Discuss the crystallography and spectra of pigment with suitable diagrammatical representation.	07
	(b)	Write down the following test methods of pigments. 1. Bleeding Tendency 2. Bulking volume 3. Fineness of grind	07
		OR	
	(b)	Discuss the role of extenders in paint formulation. Write a note on Barytes.	07
Q.3	(a)	Explain the Physical, Chemical properties and application of TiO ₂ Pigment.	07
	(b)	Explain the properties, applications and toxicology of ZnS Pigment. OR	07
Q.3	(a) (b)	Explain the manufacturing process of TiO ₂ Pigment by using chloride process. Explain the Thermal black process for the preparation of carbon black pigment.	07 07
Q.4	(a)	Explain the following properties of carbon black pigment: (i)Specific surface area (ii) Absorption properties (iii) Electrical conductivity	07
	(b)	Explain the gas black process of preparation of carbon black pigment. OR	07
Q.4	(a)	Explain the general areas for the new development of inorganic pigments.	07
	(b)	Explain the following methods of processing of inorganic pigments: (i) Vaporization (ii) Calcination (iii) Drying	07
Q.5	(a)	Discuss the manufacturing process of ultramarine blue pigment by using dry process with its uses.	07
	(b)	Discuss the principle of colorimetry with various spectral reflectance curves. OR	07
Q.5	(a)	Explain the Zinc Sulphide Pigment with flow diagram.	07
	(b)	Explain the Direct or American process for preparation of Zinc Oxide Pigment.	07