GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VII (NEW) EXAMINATION – WINTER 2017

Subject Code: 2173613   **Date: 02/11/2017**

Subject Name: Specialty Pigments & Recent development in Pigment Technology(Department Elective - VII)

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 the following: (i) Flop index (ii) Colour flop (iii) Salinity	03
	(b)	Discuss the term refractive materials with respect to specialty pigments.	04
	(c)	What are the pearl effect pigments? Discuss the variables controlling the pearl effect.	07
Q.2	(a)	Explain the following terms: (i) Cluster (ii) Colloids (iii) Nanoparticle	03
	(b)	Write a note on: Sacrificial Pigments	04
	(c)	Explain the commercial processes of manufacturing of Titanium dioxide- Mica based effect pigments.	07
OR			
	(c)	Explain the behavior of a biocide-based antifouling system exposed to sea water with the help of schematic diagram.	07
Q.3	(a)	How do you differentiate active and barrier pigments?	03
	(b)	Discuss the two types of underwater antifouling coatings.	04
	(c)	Explain the Paint reconditioner & thinning mixer with its diagrammatical representation.	07
OR			
Q.3	(a)	How does the Nanoscale materials are divided into three categories.	03
	(b)	Explain the following terms with respect to antifouling coatings: (i) Temperature (ii) P^H	04
	(c)	Explain the following terms: (i) Refractive indices of material (ii) Lightness flop	07
Q.4	(a)	Write a note on: Aluminium flake pigments.	03
	(b)	Discuss the properties of the Nanomaterials.	04
	(c)	Explain with schematic diagram of the basic effect of anticorrosive coatings and inhibitive pigments in controlling corrosion of a metallic substrate.	07
OR			
Q.4	(a)	How does the anticorrosive pigments affected on performance of protective coatings?	03
	(b)	Explain the model used to explain the flake orientation during film formation.	04
	(c)	What is meant by Pigment tinters? Discuss the formulation of pigment tinters with role of each ingredient.	07

Q.5 **(a)** Write a note on: Filling   **03**

(b) Discuss about ultrasound dispersion.   **04**

(c) Explain the different types of the strainers with its diagram.   **07**

OR

Q.5 **(a)** Write a note on: Pigment tinters   **03**

(b) Discuss the cavitation mechanism with the suitable examples.   **04**

(c) Explain the micaceous iron oxide pigment in detail.   **07**

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