

**GUJARAT TECHNOLOGICAL UNIVERSITY**
**BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2018**
**Subject Code: 2163604**
**Date: 05/05/2018**
**Subject Name: Technology of Pigments**
**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.

		<b>MARKS</b>
<b>Q.1</b>	(a) What is Pigment? Explain with its types?	<b>03</b>
	(b) What is Colour? Explain the concept of Colour blindness?	<b>04</b>
	(c) Discuss Vapour phase oxidation with suitable example. Explain factors controlling it.	<b>07</b>
<b>Q.2</b>	(a) What is the difference between pigments & fillers?	<b>03</b>
	(b) Explain the processing, properties & applications of BaSO <sub>4</sub> ?	<b>04</b>
	(c) Discuss co-precipitation with suitable example. Explain factors controlling precipitation.	<b>07</b>
	<b>OR</b>	
	(c) Write short note on: Drying & Evaporation	<b>07</b>
<b>Q.3</b>	(a) Explain the properties of Pigmentary TiO <sub>2</sub> in reference to specific gravity, oil absorption value, refractive index.	<b>03</b>
	(b) Explain the processing, properties & applications of Barytes?	<b>04</b>
	(c) Explain the synthesis of TiO <sub>2</sub> by Sulfate method with flow sheet?	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) What are lakes & toners?	<b>03</b>
	(b) Explain properties of Prussian Blue pigments.	<b>04</b>
	(c) Discuss Carbon black pigments with synthesis of any one of it?	<b>07</b>
<b>Q.4</b>	(a) Discuss the difference between pigments & extenders.	<b>03</b>
	(b) Explain the synthesis of ZnO pigments by using direct Process?	<b>04</b>
	(c) Explain the synthesis of TiO <sub>2</sub> by Chloride Method with flow sheet?	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Explain properties of Hansa Yellow pigments.	<b>03</b>
	(b) Explain light fastness of pigments and factors affecting on it.	<b>04</b>
	(c) What is bleeding tendency? Explain it with procedure.	<b>07</b>
<b>Q.5</b>	(a) What is oil absorption value of pigments? Give significance of it.	<b>03</b>
	(b) Explain the processing, properties & applications of CaCO <sub>3</sub> ?	<b>04</b>
	(c) Explain the small scale preparation of Benzene with chemical reactions.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) What is carbonization of coal?	<b>03</b>
	(b) Explain Coal tar distillation and processing of distillation products?	<b>04</b>
	(c) Explain the large scale preparation of Benzene with chemical reactions.	<b>07</b>

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