

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER – VI (NEW).EXAMINATION – WINTER 2016

Subject Code: 2163604**Date: 26/10/2016****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.

- Q.1** (a) Define Pigment. Discuss the general chemical and physical properties of pigment. **07**
- (b) Give the synthesis of copper phthalocyanine blue pigment by using various methods. **07**
- Q.2** (a) Explain the following terms with suitable diagrammatical representation **07**
(i) Particle (ii) Aggregate (iii) Agglomerate (iv) Flocculate
- (b) Write down the following test methods of pigments. **07**
1. Oil absorption Value
2. Hiding power
3. Non-volatile matter
- OR**
- (b) Discuss the Extenders with its properties and applications. Write a note on Calcium carbonate. **07**
- Q.3** (a) Explain the manufacturing of TiO_2 Pigment by using sulphate method. **07**
- (b) Explain the manufacturing of ZnS Pigment with its properties and applications. **07**
- OR**
- Q.3** (a) Discuss the properties and application of TiO_2 Pigment in detail. **07**
- (b) Explain the furnace black process for the preparation of carbon black pigment. **07**
- Q.4** (a) Explain the preparation of chrome green pigment with its reaction, production process and application. **07**
- (b) Explain the following terms: **07**
(i) Tinting strength (ii) Scattering power
- OR**
- Q.4** (a) Explain the Acetylene black process for the preparation of carbon black pigment with its uses. **07**
- (b) Explain the following methods of processing of inorganic pigments: **07**
(i) Crushing & grinding (ii) Co-precipitation (iii) Filtration
- Q.5** (a) Discuss the manufacturing process of ultramarine blue pigment by using wet process with its uses. **07**
- (b) Discuss the measurement of colour by using chromaticity diagram in detail. **07**
- OR**
- Q.5** (a) Discuss Zinc Oxide Pigment with its properties and applications **07**
- (b) How do you manufacturing of copper Phthalocyanine blue pigment by using phthalonirile process. **07**
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