

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (NEW) - EXAMINATION – SUMMER 2018

Subject Code: 2183609

Date: 30/04/2018

Subject Name: Analysis, Applications, Health and Safety Aspects of Dyes & Pigments (Department Elective – IX)

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) Discuss about toxicity of pigments.	03
(b) Explain the following terms: (i) Crystal structure (ii) Refractive index	04
(c) How to perform following pigments analysis? (i) Oil absorption value (ii) Bulking value (iii) Tinting strength	07
Q.2 (a) Write a note on: colour fastness property of dyes	03
(b) Discuss about thin layer chromatography in details.	04
(c) How do you determine the colour strength, colour difference and purity of colour by using colour matching spectrophotometer?	07
(c) Explain the Column chromatography in detail.	07
Q.3 (a) Write a short note on: Aqueous Dispersions of Synthetic Resins.	03
(b) How to perform following pigments analysis? (i) Bleeding tendency (ii) Hiding power	04
(c) Discuss the applications of pigment in paint on the basis of formulation of paint.	07
Q.3 (a) Elaborate the term Backed enamels.	03
(b) Discuss the application of pigments for plastics.	04
(c) Explain UV-visible Spectrophotometer with its working principles and applications in dyes & intermediates sectors.	07
Q.4 (a) Write a note on: Textile Dyeing	03
(b) Discuss the application of dyes over Hydrophobic fibers and Polyamide fibers.	04
(c) Explain the method of direct printing in detail.	07
Q.4 (a) Write a note on: Printing ink	03
(b) Discuss the application of dyes over polyacrylonitrile fibers.	04
(c) Explain the UV-visible Spectrophotometer with its advantages.	07
Q.5 (a) Write a note on: Toxicity Assessments of dyes and pigments.	03
(b) Explain the concept of pigment dispersion.	04
(c) How do briefly discuss the acute toxicity of dyes & pigments?	07
Q.5 (a) Explain the term: Carcinogenicity.	03
(b) Explain the various stages of pigment dispersion.	04
(c) Discuss the health and safety aspects of dyes & pigments.	07

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