

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2022

Subject Code:3173623

Date:12-01-2023

Subject Name:New development in dyes

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.
4. Simple and non-programmable scientific calculators are allowed.

	MARKS
Q.1 (a) What do you mean by printing? What are its significances?	03
(b) What are functional dyes? How they are different from conventional?	04
(c) Discuss the various methods of dyeing with suitable example?	07
Q.2 (a) What is NIP? Give its merits & demerits?	03
(b) What is anilox roller? What is its role in printing process?	04
(c) With neat sketch, working, & applications, elaborate Screen Printing Process?	07
OR	
(c) Discuss gravure printing with its advantages and disadvantages?	07
Q.3 (a) What is difference between Raster Image & Vector Image in digital printing?	03
(b) What is offset printing? What are its disadvantages?	04
(c) What is laser printing? Discuss the steps involved in it in detail.	07
OR	
Q.3 (a) Write a short note on: Supercritical CO ₂	03
(b) Explain the concept of eco-friendly solvents with applications?	04
(c) Discuss electrophotography with principle & working?	07
Q.4 (a) Write a short note on: Electrochemical Dyeing	03
(b) Explain Dye-Sensitised Solar Cell (DSSC) with schematics.	04
(c) With working, principle, schematics and methods of ink deposition, explain ink jet printing?	07
OR	
Q.4 (a) Explain the concept of Thermochromism?	03
(b) Give the difference between direct and indirect method of electrochemical dyeing?	04
(c) Discuss various commercial food dyes with their applications?	07
Q.5 (a) Enlist various examples of green solvents used in dyes sectors?	03
(b) What are solvent dyes? What are its applications?	04
(c) What is Plasma Technology? Explain it in detail.	07
OR	
Q.5 (a) Write a short note on: Permanent Hair Dyeing	03
(b) Explain hair dyes with its various types?	04
(c) Discuss various combinations of primary intermediates and couplers used in permanent hair colors?	07
