

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2020****Subject Code:2173615****Date:21/01/2021****Subject Name:New Functional dyes & Recent Trends in Dyes Technology****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) What are Functional Dyes?	03
	(b) Write a short note on: Solvent Dyes	04
	(c) Explain Metal-Complex Dyes with their Chemical Constitution and Properties	07
Q.2	(a) Write a short note on: Dyes soluble in polymers	03
	(b) What are smart materials? Explain any one of it.	04
	(c) Explain Solvent Dyes with their properties and applications?	07
Q.3	(a) What do you mean by printing? Enlist its types.	03
	(b) With working principle, diagram & mechanism, explain flexography?	04
	(c) With working principle & mechanism, explain screen printing process?	07
Q.4	(a) What are ionic liquids? Give examples of it.	03
	(b) Write a short note on: Supercritical CO ₂	04
	(c) What are green solvents? Explain with their applications?	07
Q.5	(a) What do you mean by raster image?	03
	(b) What is digital printing? Explain with its principle?	04
	(c) Explain electrophotography with regard to neat sketch, working principle and mechanism?	07
Q.6	(a) Enlist method of ink deposition in ink jet printing. Explain any one of them.	03
	(b) Explain ink jet printing process with regard to its mechanism	04
	(c) Discuss the steps involved in Laser Printing?	07
Q.7	(a) What is hair coloring? Enlist its application techniques.	03
	(b) Explain permanent hair coloring with its merits and demerits.	04
	(c) Discuss various combinations of primary intermediates and couplers used in permanent hair colors?	07
Q.8	(a) What is electrochemical dying?	03
	(b) Write a short note on: Plasma Technology.	04
	(c) With neat sketch, working mechanism, discuss DSSC.	07
