Roll No. | | | | | | | | | | |

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. / B. Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, APRIL / MAY 2025

PRINTING AND PACKAGING TECHNOLOGY

PT 5401 Colour Reproduction

(Regulation 2019)

Time: 3hrs Max.Marks: 100

CO 1	Represent colour using different colour models and calculate colour difference
CO 2	Explain the principle of colour reproduction, evaluate colour originals and choose appropriate reproduction objective.
CO 3	Infer the influence of substrate and ink properties on colour reproduction.
CO 4	Implement suitable method to control colour in press.
CO 5	Analyze the quality of colour proofs and printed sheets.

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

Q. No	Questions	Marks	CO	BL
1	Densitometer cannot measure colour. Justify	2	CO1	L2
2	Name any two device independent colour spaces.	2	CO1	L2
3	List the types of colour originals.	2	CO2	L1
4	Illustrate the image acquisition mechanism of scanner.	2	CO2	L1
5	What are the causes for optical dot gain?	2	CO3	L2
6	Define Metamerism.	2	CO3	L1
7	How does profile ensure consistent colour communication?	2	CO4	L2
8	What are the causes for poor ink trapping?	2	CO4	L2
9	Distinguish between spot colour and process colour.	2	CO5	L2
10	Which ISO standard is used for offset process control?	2	CO5	L1

PART- B (5 x 13 = 65 Marks)

Q. No	Questions	Marks	CO	BL
11 (a)	Compare between the colour vision theories with diagram..	13	CO1	L4
	OR			
11 (b)	Explain in detail about the components and working principle of spectrophotometer with diagram.	13	CO1	L4
12 (a) (i)	Distinguish betwwen additive and subtractive color theory.	6	CO2	L4
(ii)	How does UCR and GCR help in colour reproduction?	7	CO2	L4
	OR			
12 (b)	Describe in detail about the colour reproduction objectives with suitable examples.	13	CO2	L4
13 (a)	Correlate the optical and surface properties of substrate with colour reproduction quality.	13	CO3	L4
	OR			
13 (b)	Examine the influence of ink properties on colour reproduction.	13	CO3	L4
14 (a)	Infer how ink film thickness, dot gain and color sequence affects the colour in printing.	13	CO4	L4
	OR			
14 (b)	Compare the influence of additivity failure and proportionality failure on colour gamut and tonal range of reproduction.	13	CO4	L4
15 (a) (i)	How will you apply ISO standards for process control in offset	7	CO5	L3

	press? Explain			
(ii)	Choose a proofing technology to minimize colour reproduction errors. Justify your selection and explain its principle with merits and demerits.	**6**	CO5	L3
	OR			
15 (b)	Draw a schematic diagram of a colour control strip and justify the choice and position of each element.	**13**	CO5	L3

PART- C (1 x 15 = 15 Marks)

(Q.No.16 is compulsory)

Q. No	Questions	Marks	CO	BL
16.	An offset printer having prepress, press and postpress units with CTP and two 4 colour offset machines needs to implement colour management system. (i) Enumerate the devices and software required. (ii) Suggest the steps to be followed for implementing colour management system.	 **5** **10**	CO4	L6