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

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. /B.Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, NOV / DEC 2024

PRINTING AND PACKAGING TECHNOLOGY

PT5401 - COLOUR REPRODUCTION

(Regulation2019)

Time:3hrs Max.Marks: 100

CO1	Represent colour using different colour models and calculate colour difference
CO2	Explain the principle of colour reproduction, evaluate colour originals and choose appropriate reproduction objective.
CO3	Infer the influence of substrate and ink properties on colour reproduction.
CO4	Implement suitable method to control colour in press.
CO5	Analyze the quality of colour proofs and printed sheets.

PART- A(10x2=20Marks)

(Answer all Questions)

Q.No.	Questions	Marks	CO	BL
1	What are the standard viewing conditions to evaluate a printed sample?	2	1	
2	Define Colour.	2	1	
3	List the types of colour originals.	2	2	
4	Why is subtractive theory used for colour reproduction in printing?	2	2	
5	Differentiate between masstone and undertone.	2	3	
6	Write the application of Kubelka Munk theory.	2	3	
7	State the causes for additivity failure.	2	4	
8	List the types of profiles.	2	4	
9	Write the benefits of Colour Exchange File format(CxF).	2	5	
10	Which parameters are evaluated for display devices used in soft proofing?	2	5	

PART- B(5x 13=65Marks)

(Restrict to a maximum of 2 subdivisions)

Q.No.	Questions	Marks	CO	BL
11 (a)	Discuss in detail on how the properties of light source and sample affect colour perception.	13	1	4
	OR			
11 (b)	Explain human color perception with the help of any three colour vision theories.	13	1	4

12 (a)	Explain the principle of colour image recording by digital camera and compare between CCD and CMOS.	**13**	2	4
	OR			
12 (b)	Classify the colour reproduction objectives with suitable examples.	**13**	2	4
13 (a)	Examine the effect of ink properties on colour reproduction.	**13**	3	4
	OR			
13 (b)	Analyze in detail on how the substrate properties influences the color reproduction.	13	3	4
14 (a)	Ink film thickness, dot gain and colour sequence affects the colour reproduction capability of a printing system. Explain this statement in detail with suitable justification.	**13**	4	4
	OR			
14 (b)	Explain in detail about the stages in implementing Colour Management System.	**13**	4	4
15 (a) (i)	Why is proofing significant? Classify the methods and explain the factors influencing the selection of proofing system.	**8**	5	4
(ii)	What are the requirements for implementing a soft proofing system? State the relevant certifications.	**5**	5	4
	OR			
15 (b) (i)	How does an inline colour measuring system improve press performance? Explain the principle and criteria for selecting a system?	**7**	5	4
(ii)	Examine the significance of International standards and list the ISO 12647 standards for various print processes.	**6**	5	4

PART- C(1x 15=15Marks)

(Q.No.16 is compulsory)

Q.No.	Questions	Marks	CO	BL
16.	A printing company would like to evaluate the density, dot gain, trapping and gray balance to maintain consistency of color in printed sheets while printing in an offset machine. You are required to design a test target:		5	6
	(i) Draw the elements in the test target and explain its function.	**10**		
	(ii) How can the test target be adapted for different sheet sizes?	**2**		
	(iii) Which instruments are required to evaluate the test target?	**1**		
	(iv) Draw a table with suitable columns for recording the data and mention the time interval in which the measurements should be recorded for a general shift.	**2**		