

PRN No.

PAPER CODE

UB15-214A (ESE)

(AY:2025-26) December 2025 (ENDSEM) EXAM
TY (SEMESTER - I)

COURSE NAME: Image Processing Branch: AI&DS COURSE CODE: AD31234A
(T.Y.PATTERN 2023)

Time: [1Hr 30 Min]

[Max. Marks: 40]

(*) Instructions to candidates:

- 1) Figures to the right indicate full marks. Use of scientific calculator is allowed
- 2) Use suitable data wherever required
- 3) All questions are compulsory. Solve any two sub question each from Questions 1 and 2
- 4) Solve any one sub question (2 marks) from Questions 3, 4, 5 and 6 and sub question of 4 marks is compulsory from questions 3,4,5,and 6

Q. No.	Question Description	Max. Marks	CO mapped	BT Level
Q.1	a) State Components of image processing.	[4]	CO1	Understand
	b) Difference between Image Sampling and Image Quantization?	[4]	CO1	Understand
	c) Discuss Histogram Equalization technique.	[4]	CO1	Understand
Q2	a) What are different Image Color Models.	[4]	CO2	Understand
	b) How Pseudo Color Image Processing is useful in image processing?	[4]	CO2	Understand
	c) Enlist various Smoothing and Sharpening filters and Explain in brief.	[4]	CO2	Understand
Q3	a) Discuss Image Restoration technique in brief OR	[2]	CO3	Understand
	b) Discuss Image Reconstruction technique in brief	[2]	CO3	Understand
	c) Which are different Noise Models in Image Processing?	[4]	CO3	Understand
Q4	a) How redundancy is useful in Compression? OR	[2]	CO4	Analyze
	b) Why and which different Image formats are in use?	[2]	CO4	Analyze
	c) Explain with example i) Run Length Coding ii) Binary Run Length Coding	[4]	CO4	Apply

Q.5	a) Evaluate Erosion and Dilation, opening & closing operations in brief.	[2]	CO5	Analyze
	OR			
	b) State applications of Line and Edge segmentation.	[2]	CO5	Analyze
	c) Applications of segmentation techniques in Image processing?	[4]	CO5	Analyze
Q.6	a) Explain the different learning techniques in Artificial Neural Network?	[2]	CO6	Understand
	OR			
	b) State various applications of Artificial Neural Networks in Image Processing?	[2]	CO6	Understand
	c) State use of matching Shape, Numbers, Strings in Image Processing.	[4]	CO6	Analyze