

		Harcourt Butler Technical University Kanpur			MID SEM EXAM- II																											
Branch		MCA		Program		MCA																										
Course Name		Digital Image Processing		Semester		IV																										
Course Code		ECA-576		Year		(F Year) 2023-24																										
Time:		1.00 Hr		Maximum Marks		15																										
Knowledge Level (KL)		K1: Remembering		K3: Applying		K5: Evaluating																										
		K2: Understanding		K4: Analyzing		K6: Creating																										
Note: Answer All Questions.																																
Q. No	Questions				Marks	COs	KL																									
1.	What do you understand by Filtering? Distinguish between linear filters and non-linear filters.				5	CO3	K2																									
2.	Discuss Canny Edge Detection algorithm.				5	CO3	K4																									
3.	Apply simple Laplacian Filter on the following image: What do you observe? <div><table><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>200</td><td>200</td><td>200</td><td>200</td><td>200</td></tr><tr><td>200</td><td>200</td><td>200</td><td>200</td><td>200</td></tr><tr><td>20</td><td>20</td><td>20</td><td>20</td><td>20</td></tr><tr><td>20</td><td>20</td><td>20</td><td>20</td><td>20</td></tr></table></div>				0	0	0	0	0	200	200	200	200	200	200	200	200	200	200	20	20	20	20	20	20	20	20	20	20	5	CO4	K3,K5
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Course Outcomes		CO1	Apply sampling and quantization technique for conversion of an analog image into digital form																													
		CO2	Enhance the image using various types of filtering, segmentation and edge detection techniques																													
		CO3	Analyze and interpret the effects of high pass and low pass filter in an image.																													
		CO4	Restore the image in the presence of noise by using modern restoration software																													
		CO5	Use the techniques of morphological image processing, image registration and image recognition.																													