

G. S. Mandal's
 Maharashtra Institute of Technology, Aurangabad
 (An Autonomous Institute)
 END SEMESTER EXAMINATION
First Year M.Tech(CST) -April/May 2022

Course Code : MTC121

Course Name : PE I – Adv. Image Process.

Duration : 2 Hrs

Max. Marks : 50

Date : 13/04/2022

Instructions :

- i) All questions are compulsory
- ii) Assume suitable data wherever necessary and clearly state it
- iii) Figures to the right indicate full marks

Q. 1	Solve/Answer Any Five (Marks : 10)																					
	Questions	Marks	CO	BL																		
a)	Compare image enhancement and image restoration	2	4	2																		
b)	Define histogram	2	4	2																		
c)	What are different Compression Methods?	2	3	1																		
d)	Write down properties of HAAR transform.	2	4	1																		
e)	What do you mean by sampling and quantization?	2	2	1																		
f)	What is image fusion?	2	6	1																		
Q. 2	Construct the block diagram for the fundamental steps in digital image processing and discuss every block in brief.	8	1	3																		
Q. 3	Perform the histogram equalization for 8x8 image shown below: <table border="1" style="margin-left: 20px;"> <tr> <td>Gray levels</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> </tr> <tr> <td>No.of Pixels</td> <td>8</td> <td>10</td> <td>10</td> <td>2</td> <td>12</td> <td>16</td> <td>4</td> <td>2</td> </tr> </table>	Gray levels	0	1	2	3	4	5	6	7	No.of Pixels	8	10	10	2	12	16	4	2	8	4	3
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No.of Pixels	8	10	10	2	12	16	4	2														
Q. 4	Draw and explain with neat diagram Image Compression Model.	8	3	3																		
Q. 5	Summarize the edge detection techniques with suitable example. (OR)	8	3	3																		
Q. 5	Explain discrete wavelet transform (DWT) with suitable example.	8	5	3																		
Q. 6	What is the need of transform? Discuss the properties of 2D Discrete Fourier Transform (OR)	8	4	3																		
Q. 6	Explain discrete wavelet transform based image fusion technique.	8	6	3																		

