

Code No: **R15A0426****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY****(Autonomous Institution – UGC, Govt. of India)****IV B.Tech I Semester Supplementary Examinations, April 2023****Digital Image Processing****(ECE)**

Roll No									
----------------	--	--	--	--	--	--	--	--	--

Time: 3 hours**Max. Marks: 75****Note:** This question paper contains two parts A and B

Part A is compulsory which carries 25 marks and Answer all questions.

Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

PART-A (25 Marks)

- 1). a Define image Acquisition? [2M]
- b Write 2-D FFT Properties any two? [3M]
- c Explain median filter? [2M]
- d Explain Point Operation? [3M]
- e Draw the Degradation Model? [2M]
- f What is Algebraic Approach to Restoration? [3M]
- g Define Thresholding? [2M]
- h Explain Image segmentation? [3M]
- i Write JPEG 2000 Standards? [2M]
- j Define Redundancies with suitable examples ? [3M]

PART-B (50 MARKS)**SECTION-I**

- 2 Discuss the role of sampling and quantization with an example [10M]
- OR

- 3 Derive the equations Discrete Cosine Transform and Walsh transform [10M]

SECTION-II

- 4 State different types of processing used for Image Enhancement in Spatial Domain [10M]

OR

- 5 Explain in detail Smoothing and Sharpening filters in Frequency Domain [10M]

SECTION-III

- 6 Write about Constrained Least Squares Restoration in detail. [10M]

OR

- 7 Explain the Minimum mean square error restoration in detail. [10M]

SECTION-IV

- 8 Explain the Region oriented segmentation in detail [10M]

OR

- 9 Explain in detail hit-or-miss transformation [10M]

SECTION-V

- 10 Briefly explain Image Compression Models and Fidelity Criteria [10M]

OR

- 11 Explain in detail with example of Huffman and Arithmetic Coding [10M]
