

Code No: R1941043

R19

Set No. 1

IV B.Tech I Semester Advance Supplementary Examinations, March - 2023

DIGITAL IMAGE AND VIDEO PROCESSING

(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 75

*Answer any FIVE Questions
ONE Question from Each unit
All Questions Carry Equal Marks*

UNIT I

- 1 a) Explain about the origin and applications of digital image processing. [7]
b) Explain about image sampling and Quantization. [8]
(OR)
- 2 a) What is the need of image transforms? List out various transforms used in image processing. [7]
b) Write a note on Hadamard transform and write its properties. [8]

UNIT II

- 3 a) Explain about the point processing techniques in detail. [7]
b) Write a note on Blind de-convolution. [8]
(OR)
- 4 a) What are the various fundamental steps in spatial filtering? Explain. [7]
b) Explain the non-linear image restoration techniques. [8]

UNIT III

- 5 a) Explain how a point, line and edge can be detected in an image. [7]
b) Explain the Shannon– Fanocoding with example. [8]
(OR)
- 6 a) Discuss the clustering and threshold based segmentation. [7]
b) Describe the Huffmancoding with suitable example. [8]

UNIT IV

- 7 a) Explain basics and standards of digital video. [7]
b) Write a note on photometric image formation. [8]
(OR)
- 8 a) Explain about three-dimensional motion models. [7]
b) Discuss the geometric image formation model with neat figure. [8]

UNIT V

- 9 a) What is motion estimation? Write the general methodologies of it. [7]
b) Explain the region-based motion estimation in detail. [8]
(OR)
- 10 a) Explain the pixel-based motion estimation. [7]
b) Define optical flow? Explain about it. [8]

