

Total No. of Printed Pages:02

SUBJECT CODE NO:- E-414
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(CSE) Examination Nov/Dec 2017
Digital Image Processing
(REVISED)

[Time: Three Hours]

[Max.Marks:80]

- N.B
- Please check whether you have got the right question paper.
- i. Question No.1 and Question No.6 are compulsory.
 - ii. Attempt any two questions from the remaining question from each section.
 - iii. Assume suitable data if necessary.

Section A

- Q.1 Answer the following.(any five) 10
- a) What is image transform?
 - b) Define first order gradient derivative operator.
 - c) Define entropy of an image.
 - d) What is image restoration?
 - e) What is image compression?
 - f) Define DCT and its inverse.
 - g) What is digital image?
 - h) Give the mask used for high-boost filtering.
- Q.2 08
- a) With the neat diagram, explain the fundamental steps involved in digital image processing.
 - b) Explain histogram equalization with example. 07
- Q.3 08
- a) Explain image compression model with neat diagram.
 - b) What is connectivity in digital image processing? Explain different types of connectivity. 07
- Q.4 08
- a) Explain contrast stretching & bit plane slicing.
 - b) Explain in brief about noise models with their principles of working. 07
- Q.5 Write short notes on 15
- a) Spatial domain filters.
 - b) Run length coding.
 - c) MSE & PSNR

2017

Section B

- Q.6 Answer the following (any five) 10
- a) What is an edge?
 - b) What are the major effects in the erosion process?
 - c) Define gradient operator.
 - d) Define chain code.
 - e) What is boundary descriptor?
 - f) Write applications of Segmentation.
 - g) What is hue and saturation?
 - h) How a point can be detected?
- Q.7 a) Describe seeded region growing Segmentation technique in detail. 08
b) Discuss edge detection process in image segmentation. 07
- Q.8 a) Elaborate the morphological algorithm for thinning in detail along with boundary extraction 08
algorithm.
b) Explain RGB and HSI color models in brief. 07
- Q.9 a) Explain simple boundary and region descriptors. 08
b) What is image texture? What are different approaches to describe texture? 07
- Q.10 Write short notes on 15
- a) Boundary representation techniques.
 - b) Color transformations.
 - c) Applications of image segmentation.