

Roll No.									
----------	--	--	--	--	--	--	--	--	--

B.E. / B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2014
ELECTRONICS AND COMMUNICATION ENGINEERING BRANCH

SEVENTH SEMESTER

EC 522 – DIGITAL IMAGE PROCESSING

(REGULATIONS 2004)

Time: 3 Hours

Max.marks: 100

Answer ALL Questions

Part-A (10x2=20 Marks)

1. Justify that the perceived brightness is not a simple function of intensity.
2. Write the properties of uniform quantizer.
3. Define dithering.
4. List the properties of DFT.
5. Represent the filter model to enhance reflectance components of an image.
6. What is meant by pseudo coloring?
7. Draw the diagram for image restoration model.
8. What is geometric distortion?
9. Define shift code.
10. Compare scaling and wavelet functions.

Part-B (5x16=80 Marks)

- 11.(i) Describe the elements of a general purpose system capable of performing the image processing operations. **(10)**
- (ii) Explain the mach band effect. **(6)**
- 12.(a) How do you compute 2D Fourier transform as a series of 1D transforms? Prove separability of 2D DFT. **(16)**
- OR**
- 12.(b) Compare 2D DCT and 1D DCT. Write the applications of DCT. Write the properties of 2D DCT. **(16)**
- 13.(a) Explain the computation of edge detection using compass gradient operators. **(16)**
- OR**
- 13.(b) Discuss the noise removal using median filters. **(16)**
- 14.(a) Explain the formulation of inverse filtering and the technique of Weiner filtering. **(16)**
- OR**
- 14.(b) Define the response of mask at any point in image. Explain the role of gradient operators in edge detection. **(16)**
- 15.(a) Explain the JPEG standard for still images with block schematic. **(16)**
- OR**
- 15.(b) Explain about tag for any message in arithmetic coding. **(16)**