

11/12/13

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B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV / DEC 2013

GEO INFORMATICS

IV Semester

GI381/GI9252 DIGITAL IMAGE PROCESSING

(Regulation 2004/2008)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. Write the conditions to represent the linear systems.
2. What are radiometric and geometric corrections?
3. What is Nyquist frequency?
4. Differentiate brightness and contrast.
5. Define Bay's Theorem.
6. What are FCC and TCC?
7. What is band pass filter?
8. What is producer's accuracy?
9. Define fuzzy set.
10. What is image compression?

Part – B (5 x 16 = 80 marks)

11. Describe the RGB and HSV coloring system.

12. a) Explain in detail about the digital image sampling and quantization.

OR

b) Describe Huffman coding and run Length coding and Write the advantage and disadvantage of the each coding technique.

13. a) Apply histogram equalization process to the following hypothetical data 64X64 and plot the equalized histogram.

f(BVi)	591	1226	651	753	228	446	141	60
BVi	0	1	2	3	4	5	6	7

OR

b) Describe the following image enhancement techniques with examples

- Contrast stretching
- Thresholding
- Histogram model.
- Spatial operators

14. a) Explain working procedure for

i) Minimum distance to mean classifier and

(8)

ii) K-mean clustering with suitable dataset.

(8)

OR

b) Describe the maximum likelihood classifier and explain the 3 class classification MLC algorithms

15. a) Compare conventional Classification and fuzzy Classification with water, forest wetland and upland forest.

OR

b) Describe RS and GIS Utilities with expert system implementation