

19. (a) Explain global processing via Graph Theoretic techniques.

Or

- (b) Explain the use of motion in segment on a spatial domain.

20. (a) Explain the opening and closing operations in Morphology.

Or

- (b) Explain in detail statistical moments.
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M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2010.

Fifth Semester

Computer Application

DIGITAL IMAGE PROCESSING

(For those who joined in July 2008 and afterwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

1. What is a Digital Image?
2. What is spatial Domain?
3. Define filtering in the frequency domain.
4. Write down the three major color models.
5. Define Image Pyramid.
6. What is variables Length Coding?

7. Mention the three basic types of gray-level discontinuities in a digital image.
8. What is a dam construction or watershed line?
9. What is dilation?
10. What is a signature?

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Briefly explain the first two steps in Digital Image Processing.

Or

- (b) What is image subtraction? Explain.

12. (a) Write a short note on Discrete Fourier Transform.

Or

- (b) Write the PDF of any three noises.

13. (a) Explain Haar Transform.

Or

- (b) Discuss in briefly about Transform coding.

14. (a) Briefly explain line detection.

Or

- (b) Explain the procedure to split and merge regions in an image.

15. (a) Briefly explain the erosion.

Or

- (b) Write a short note on Fourier Descriptors.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions choosing either (a) or (b).

16. (a) Describe the uses of Digital Image Processing.

Or

- (b) Explain in detail sharpening Spatial Filters.

17. (a) Explain the High Pass filters.

Or

- (b) Explain the Wiener Filtering.

18. (a) Explain the wavelet series expansion with an example.

Or

- (b) Explain LZW coding for Image Compression.