DIP–411 **DMS–3**

DIPLOMA EXAMINATION — JANUARY, 2015.

Multimedia Systems

DIGITAL IMAGE PROCESSING

Time : 3 hours Maximum marks : 75

PART A — (20 × 1 = 20 marks)

Answer ALL the questions.

1. HMC stands for
   (a) Hoffman Modulation Contrast
   (b) Hoffman Modulation Commission
   (c) Hoffman Modulation Connection
   (d) Holman Modulation Contrast

2. ———————— technique for enhancing the appearance of image.
   (a) Histogram equalization
   (b) Contrast
   (c) Both
   (d) None

3. Huffman algorithm create a

(a) code graph (b) code tree

(c) code list (d) none of these

4. Run length encoding process image

(a) row by row (b) column by column

(c) both (a) and (b) (d) none of these

5. The language of mathematical morphology is

(a) Set theory (b) Probability

(c) Matrix operation (d) None

6. What is the expansion of CCD?

(a) Charge Coupled Device

(b) Charge Collecting Device

(c) Charge Changed Device

(d) Coupled Charge Device

7. The initial step in any image processing technique is

(a) segmentation (b) masking

(c) image acquisition (d) normalization

8. Block coding is a compromise for

(a) local models (b) global models

(c) both (a) and (b) (d) none of these

9. JPEG was started in ————————.

(a) 1980 (b) 1990

(c) 1986 (d) 2000

10. GLA stands for

(a) General Lord Algorithm

(b) Geography Lloyd Algorithm

(c) Generalized Lloyd Algorithm

(d) Geo Locality Algorithm

11. ———————— technique is used in image restoration.

(a) Wiener Filtering

(b) FFT

(c) Hadmard

(d) 2D-DFT

12. Modern digital computer was introduced in ————————.

(a) 1940 (b) 1945

(c) 1935 (d) 1937

13. Vector images used to describe

(a) Line (b) Curves

(c) Rectangle (d) All the above

14. MSE stands for

(a) Median Square Error

(b) Mean Square Error

(c) Mean Standard Error

(d) Median Standard Error

15. FFT stands for

(a) Fast Fourier Transform

(b) Fast Fourier Translation

(c) First Fourier Transform

(d) Fast Fourier Transaction

16. Which type of enhancement operations are used to modify pixel values according to the value of the pixels neighbors?

(a) Point operations (b) Local operations

(c) Global operations (d) Mask operations

17. Block truncation coding is to divide the image into

(a) 4×5 pixel block (b) 4×4 pixel block

(c) 5×4 pixel block (d) 5×5 pixel block

18. Resolution is measured by

(a) ppi (b) Pixel per inch

(c) Both (a) and (b) (d) None of the above

19. DIC stands for

(a) Differential Interface Contrast

(b) Digital Interface Contrast

(c) Differential Interchange Contrast

(d) None of the above

20. Image restoration is to recover an image that has been

(a) Corrupted (b) Degraded

(c) Both (a) and (b) (d) None of the above

PART B — (5 × 5 = 25 marks)

Answer any FIVE questions.

21. How inverse Filter works? Explain.

22. Explain briefly Image Segmentation.

23. Explain Digital Image Representation.

24. Write short notes on Wavelet Transform.

25. Write short notes on Video Images.

26. Explain about Spatial Domain methods.

27. How to convert colors from RGB to HIS? Explain.

28. What is meant by Continuous Tone Image? Explain.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

29. Explain about various Image Transformations.

30. Explain generation of spatial masks.

31. Explain Image compression models.

32. Explain the technique of Image Representation and Segmentation.

33. Discuss in detail about Morphology.

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