18ELP24B

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2023
(Fourth Semester)

Branch – **APPLIED ELECTRONICS**

DISCIPLINE SPECIFIC ELECTIVE –II
DIGITAL IMAGE PROCESSING

Time: Three Hours Maximum: 50 Marks

SECTION-A (5 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (5 x 1 = 5)

1 ---------- is the first step in image processing.
(i) Image Restoration (ii) Wavelets and Multi-resolution Processing
(iii) Compression (iv) Image Acquisition

2 ---------- is an analogue filter design which produces the best output response with no ripple in the pass band or the stop band.
(i) Butterworth (ii) Gaussian
(iii) Adaptive (iv) Inverse

3 ---------- adds pixels to the boundaries of objects in an image.
(i) Morphology (ii) erosion
(iii) dilation (iv) edge linking

4 ---------- is used to Identify and store the directions from each pixel to its neighbor pixel on each contour.
(i) Subband coding (ii) Chain Coding
(iii) pattern (iv) wavelets

5 Mally accepted as an international standard in 1992 was ----------.
(i) pdf (ii) doc
(iii) JPEG (iv) pixel

SECTION - B (15 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 3 = 15)

6 a State the orgin of digital image processing.
OR
b Illustrate the color models in digital image processing.

7 a Explain the Histogram in image processing.
OR
b Evaluate the frequency domain.

8 a Justify the noise models.
OR
b Solve the Morphological Dilation and Erosion process in digital image processing.

Cont...

9 a Analyze the shape number.

OR

b Describe the Texture.

10 a Solve the bit-plane coding.

OR

b Evaluate Image Compression Standards.

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 6 = 30)

11 a Interpret Image sensing and acquisition.

OR

b Elucidate image transformation.

12 a Criticize the Gray level transformation.

OR

b Compare the Smoothing and sharpening Spatial Filter.

13 a Differentiate optimum notch filtering and inverse filtering.

OR

b Justify edge linking and boundary detection.

14 a Assess the Fourier descriptors and regional descriptors.

OR

b Develop the recognition based on matching.

15 a Elucidate subband coding.

OR

b Enumerate lossy compression.

Z-Z-Z END