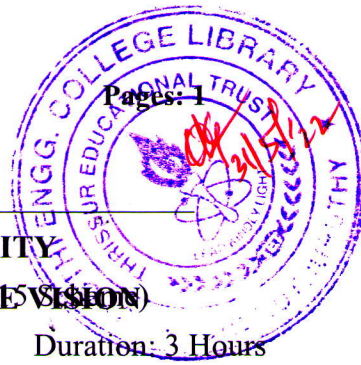


B

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Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNICAL UNIVERSITY

Course Name: ~~DIGITAL IMAGE PROCESSING & MACHINE VISION~~

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all the questions, each carries 5 marks.

- 1 What is Walsh transform? Mention its importance. (5)
- 2 Define histogram and discuss the steps for histogram equalization. (5)
- 3 Illustrate the different types of noise models in image processing. (5)
- 4 Differentiate JPEG compression from MPEG compression. (5)
- 5 Analyse the different steps of edge detection. (5)
- 6 Explain about external and internal representation in image segmentation. (5)
- 7 Give a brief description about image acquisition and digitization. (5)
- 8 List out the different types of machine vision sensing levels and explain it. (5)

PART B

Answer any three questions, each carries 10 marks.

- 9 Briefly describe the structure of eye and explain about image formation. (10)
- 10 Explain sharpening process in spatial domain. List out its applications. (10)
- 11 Elucidate inverse filtering methods for restoration of images. (10)
- 12 "Wavelet coding is a form of data compression well suited for image compression". Justify the statement. (10)
- 13 Comment on lossless compression technique. Explain LZW coding with an example. (10)

PART C

Answer any two questions, each carries 15 marks.

- 14 Elaborate the need of descriptors and enumerate its types. (15)
- 15 (a) Explain the purpose of thresholding in image processing. (5)
(b) Illustrate any two thresholding methods. (10)
- 16 (a) Evaluate the different methods involved in feature extraction. (12)
(b) Mention any four applications of feature extraction. (3)
- 17 What are the elements in a charge coupled device? Explain its operation. (15)
