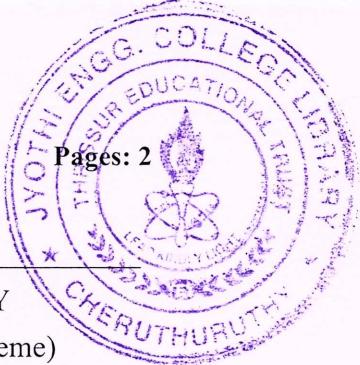


Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S6 (S,FE) Examination December 2025 (2019 Scheme)

**Course Code: MRT304****Course Name: DIGITAL IMAGE PROCESSING & MACHINE VISION****Max. Marks: 100****Duration: 3 Hours****PART A***Answer all questions, each carries 3 marks.*

Marks

1	Define neighbours of a pixel.	(3)
2	Write about any two geometric transformations	(3)
3	Compare smoothing and sharpening in image enhancement	(3)
4	Describe basic frequency domain enhancement with block diagram	(3)
5	Explain redundancies in image compression	(3)
6	Differentiate between lossy and lossless compression	(3)
7	What is edge detection? List two types of edge detection models	(3)
8	Give a brief description about image segmentation	(3)
9	Define 1D and 3D Vision.	(3)
10	List any six applications of machine vision	(3)

PART B*Answer any one full question from each module, each carries 14 marks.***Module I**

11 a) Explain in detail about fundamental steps in image processing with block diagram (14)

OR

12 a) Construct Walsh basic for N=8 (14)

Module II

13 a) What is homomorphic filter and explain its procedure with neat block diagram (14)

OR

14 a) With necessary equations and graph explain the noise models (14)

Module III

15 a) Illustrate wavelet coding image with neat sketches. (14)

OR

16 a) Explain Huffman coding procedure with suitable example (14)

Module IV

17 a) Discuss in detail about thresholding (14)

OR

18 a) Explain in detail any two boundary representation schemes and illustrate with examples. (14)

Module V

19 a) Define machine vision and also compare low level and high level machine vision (14)

OR

20 a) Explain in detail about components of machine vision system with neat block diagram (14)
