

TILAK MAHARASHTRA VIDYAPEETH, PUNE
MASTER OF COMPUTER APPLICATIONS
(Specialization in Artificial Intelligence & Machine Learning)
EXAMINATION :MAY - 2024
SEMESTER - II
Sub:Digital Image Processing(MCAI 23-205)

Date :27/05/2024

Total Marks :60

Time: 10.00 am to 12.30 pm

Instruction:

- 1. All questions are compulsory unless and otherwise stated.*
- 2. Bold figures to the right of every question are the maximum marks for that question.*
- 3. Candidates are advised to attempt questions in order.*
- 4. Answers written illegibly are likely to be marked zero.*
- 5. Use of scientific calculators, Log tables, Mollier Charts is allowed.*
- 6. Draw neat and labelled diagram wherever necessary.*

Q.1. Answer the following in 2-3lines. (Any 5) (10)

1. Define luminance and brightness.
2. Explain high pass filter.
3. Define Image segmenatation.
4. Describe psycho-visual redundancy.
5. What is gray scale quantization?
6. What is point opration?
7. Explain RGB model.

Q. 2. Answer the following in short. (Any 4) (20)

1. What do you mean by digital path and connectivity?
2. Explain image sharpening.
3. What is erosion and dilation?
4. Write a note on fidelity criteria for image.
5. Describe Run length coding with suitable example.
6. Explain sobel operator for image segmentation.

Q. 3. Answer the following in detail. (Any 3) (30)

1. Describe the fundamental steps in image processing.
2. Explain the point and discontinuity detection.
3. Explain graph based segmentation of image.
4. Describe the Discrete Cosine transform for image transformation.
5. Write in detail about the image compression and its types.
