



विश्वजीवनमृतं ज्ञानम्

Atal Bihari Vajpayee Indian Institute of Information Technology & Management, Gwalior

IT402: Digital Image Processing

Minor Examination (Session 2023–24)

Maximum Time: 1.5 Hours

Max Marks: 25

Note: All questions are compulsory. Diagrams and equations carry due weightage.

1. Define image resolution and contrast. How do these affect digital image quality? (5 Marks)
2. Explain the concept of histogram equalization. Perform histogram equalization on the sequence: [52, 55, 61, 59, 79, 61, 76, 61]. (5 Marks)
3. Derive the 2D Discrete Fourier Transform (DFT) and briefly discuss its significance in image processing. (5 Marks)
4. Differentiate between low-pass and high-pass filtering in the frequency domain with examples. (5 Marks)
5. Write short notes on: (a) Image sampling and quantization (b) Applications of DIP in medical imaging (5 Marks)