

Seat  
No.

--	--	--	--	--	--



मानव - 018

## Advanced Digital Image Processing

P. Pages : 1

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Solve **any 5** questions from **1 to 8**.
5. Draw suitable diagrams wherever necessary.
6. Assume suitable data if necessary.
7. Figure to right indicates full marks.

- |    |    |   |    |
|----|----|---|----|
| 1. | a) | Enlist the various Geometric Transformations and explain each one of them briefly.                      | 10 |
|    | b) | Explain the sampling and quantization of an image.  | 10 |
| 2. | a) | Write a short note on Wavelet transform.  | 10 |
|    | b) | Explain the Walsh transform in detail.  | 10 |
| 3. | a) | Explain the diagonalization of circulant and Block circulant Matrices.                                  | 10 |
|    | b) | Explain the degradation model of image restoration.   | 10 |
| 4. | a) | Explain the fidelity criteria. Also explain coding redundancy.  | 10 |
|    | b) | What is the context in which run length coding would be efficient ?                                     | 10 |
| 5. | a) | Explain the measures of textures. Also explain the statistical models for textures.                     | 10 |
|    | b) | Explain the analysis of the image texture.  | 10 |
| 6. | a) | Explain the use of neural networks in pattern recognition.  | 10 |
|    | b) | Discuss in detail syntactical recognition of strings.   | 10 |
| 7. | a) | Explain the properties of 2D Fourier Transform.   | 10 |
|    | b) | Explain the Histogram modification techniques.  | 10 |
| 8. | a) | Explain the different structural methods.   | 10 |
|    | b) | Specify the objective of image enhancement techniques. Explain the two categories of image enhancement. | 10 |