Duration   3 Hours   Maximum marks   80

1)   Question **1** is compulsory
2)   Solve any **three** from the remaining five questions
3)   Assume suitable data if necessary.
4)   Figures to the right indicate full marks

Q.1.   Answer any **four questions** from the following: [20]
   a.   Differentiate between DCT based and Wavelet based compression standards.
   b.   Define pattern and pattern classes.
   c.   Discuss different generations of CT machines.
   d.   Give the characteristics of Multi Spectral Scanning System (MSS).
   e.   State Fourier Slice Theorem.

Q.2.a   With the help of a neat block diagram, explain JPEG 2000 compression scheme.   [10]
   b.   Discuss different spectral factors involved in remote sensing.   [10]

Q.3.a   What is minimum distance classifier?   [10]
   b.   Name and explain any two noise probability density functions.   [10]

Q.4.a   Differentiate in detail between inverse filter and Wiener filter.   [10]
   b.   Explain the importance of Image Registration in Image Fusion.   [10]

Q.5.a. How can data be hidden in a digital image? Explain any one method in detail.   [10]
   b.   What is image reconstruction? Explain the method of image reconstruction using   [10]
        parallel beam filter back projections.

Q.6   Write short notes on **any four**:   [20]
        a.   Spectral Signatures
        b.   Radon transform
        c.   Video compression standards
        d.   Push broom scanner
        e.   Wavelet transform

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