USN □□□□□□□□□□   **13MCA543**

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions.*

1   a.   Define multimedia. Explain different application of multimedia.   **(10 Marks)**
    b.   What is speech recognition? Explain the components of speech recognition.   **(10 Marks)**

2   a.   With necessary diagram, explain the following concepts with respect to sound
         i)   Waveform
         ii) Period
         iii) Frequency
         iv) Amplitude.   **(10 Marks)**
    b.   Explain key properties of multimedia system.   **(10 Marks)**

3   a.   Explain the steps involved in image recognition.   **(10 Marks)**
    b.   Explain the methods of controlling Animation.   **(10 Marks)**

4   a.   With a neat diagram, explain the different steps of JPEG compression techniques.   **(10 Marks)**
    b.   Differentiate between lossy and lossless mode. Explain lossy sequential DCT – Based mode.
                                                                                           (10 Marks)

5   a.   Explain the steps involved in MPEG audio encoding.   **(10 Marks)**
    b.   Why CD – ROM in used? Explain the modes of CD – ROM.   **(10 Marks)**

6   a.   The characters A, B, C, D, and E are to be encoded and have relative probabilities of 0.16,
         0.51, 0.09, 0.13 and 0.11 respectively. Obtain Huffman coding tree and table for these
         characters.   **(10 Marks)**
    b.   Explain Audio analysis and its application.   **(10 Marks)**

7   a.   Discuss in detail about RTF and Tagged image file format.   **(10 Marks)**
    b.   Explain the characteristics of multimedia database.   **(10 Marks)**

8   a.   Explain in detail the various types of multimedia system.   **(10 Marks)**
    b.   Describe the various components of multimedia system.   **(10 Marks)**

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