Duration : 3 Hours   **Total Marks assigned to the paper : 80**

Instructions to the candidates, if any:-
N.B. : (1) Question No. 1 is compulsory.
          (2) Attempt any three questions out of remaining five questions.

Q.1 (a) Discuss the use of text in multimedia. Explain the term hypermedia and Hypertext?   (05)
     (b) Calculate the file size for 1 minute, 44.1 KHz, 16-bits, stereo sound file?   (05)
     (c) A monitor has a pixel addressability of 800 × 600 and a color depth of 24 bits. Calculate the minimum amount of display memory required on its adapter card to display an image on the screen?   (05)
     (d) Describe briefly TV trees.   (05)

Q.2 (a) Explain MPEG video coding. Give comparison between MPEG1 and MPEG 2   (10)
     (b) Compare Midthread and Midrise quantizer.   (10)

Q.3 (a) What is need of Adaptive Huffmann coding and explain it with suitable example.   (10)
     (b) Explain the most common features of any audio editing software.   (10)

Q.4 (a) Explain different architectures for content organization in multimedia databases   (10)
     (b) An MPEG-1 video has a frame sequence : IBBPBBPBBPBBI. Determine the size of GOP. Derive the transmission sequence of the frames?   (10)

Q. 5 (a) Explain similarity based retrieval in Image Databases.   (10)
      (b) Explain and draw neat and labelled diagram for encoder and decoder of H.261.   (10)

Q. 6 Write short notes on (Any Four)   (20)
          i) Challenges in Multimedia networking
          ii) Descriptors in MPEG-7
          iii) Media Abstraction
          iv) Difference between I-frame and P-frame
          v) ADPCM in Speech Coding
          vi) Multimedia over ATM networks

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