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13MCA543

Fifth Semester MCA Degree Examination, June/July 2019

Multimedia Systems

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. Define multimedia. Explain its data elements. (08 Marks)
b. List and explain key properties of multimedia system. (04 Marks)
c. How do you characterize continuous media data streams? Explain. (08 Marks)
- 2 a. Define the following terms:
(i) Sound (ii) Frequency (iii) Amplitude (06 Marks)
b. Explain sound concatenation in time range. (04 Marks)
c. With diagrams, explain speech recognition system components. (10 Marks)
- 3 a. List and explain different types of image storage formats. (10 Marks)
b. Explain image recognition procedure in detail. (10 Marks)
- 4 a. List and explain the methods of controlling animation. (06 Marks)
b. The characters A, B, C, D and E to be compressed and have the relative probabilities of the occurrences as $P(A) = 0.51$, $P(B) = 0.11$, $P(C) = 0.13$, $P(D) = 0.16$, $P(E) = 0.09$. Obtain the Huffman code for these characters. (08 Marks)
c. What are the steps involved in JPEG Image Compression? Explain. (06 Marks)
- 5 a. Explain the Lossy sequential DCT – Based Mode of JPEG compression. (10 Marks)
b. With respect to CD-DA, explain the following:
i) Technical basis
ii) Eight to Fourteen modulation (10 Marks)
- 6 a. With a diagram, explain CD-ROM data hierarchy. Also explain its modes. (10 Marks)
b. How many ways to analyze the individual images and briefly discuss each of them? (10 Marks)
- 7 a. Explain briefly the TIFF format, giving its structures, headers and tags. (10 Marks)
b. With a diagram, explain TWAIN architecture in detail. (10 Marks)
- 8 a. Explain the components of multimedia system. (10 Marks)
b. Write short notes on:
i) Virtual reality design
ii) Multimedia application classes (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.