EEC069(A)/EIT082

B. Tech.

(SEM. VIII) THEORY EXAMINATION, 2014-15
MULTIMEDIA SYSTEMS

Time : **3 Hours]**   [Total Marks : **100**

1   Attempt any four :   4×5=20

   (1)   Explain the term Multimedia. Discuss the role of the multimedia technology in the field of Business and Education.

   (2)   Explain Hypertexts and state various features of Hyper Text.

   (3)   What are the hardware and software requirements for multimedia computer? Discuss the multimedia application in Business.

   (4)   What are the various software tools for creating text for multimedia project?

   (5)   Difference between:

      (i)   Interactive media and Hypermedia

      (ii)   Video and animation

2   Attempt any two :   2×10=20

   (1)   With the help of diagram show how a MIDI instrument can be interfaced with PC ? How does the MIDI files different from digital audio?

   (2)   What are the various audio files format used in multimedia? What are the various digital technique used in multimedia ?

   (3)   What are the major factors to be taken into account when considering Storage Requirements for Multimedia Systems?

3   Attempt any two :   2×10=20

   (1)   Message comprising seven different characters, A through G, are to be transmitted over a data link. Analysis has shown that the relative frequency of occurrence of each character is :

Symbol	A	B	C	D	E	F	G
Probability	0.05	0.20	0.07	0.32	0.01	0.10	0.25

   (i)   Derive the entropy of the message
   (ii) Use Huffman algorithm to derive a suitable set of codeword

   (2)   The following is the probability distribution of symbols in the word "ARITHMETIC".

Symbol	A	C	E	H	I	M	R	T
Probability	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2

   (3)   Consider the text string "YESNOHUFTHUFTHUFYHUFYHUFYHK". Show all the steps of LZ78 compression and decompression including the dictionary formation.

4   Attempt any two :   2×10=20

     (1)   What do you mean by lossy compression and slice compression? Also explain the terms sampling rate and sampling size.

     (2)   Define the term Speech Compression. With help of the diagram explain the LPC Encoder and decoder process.

     (3)   Explain in detail Lossless audio Methods.

5   Attempt any two :   2×10=20

     (1)   What is the basic concept of Color and also explain the video capturing technique.

     (2)   Briefly explain why we need to be able to have less than 24-bit color and why this problem makes for problem. Generally, what do we need to do to adaptively transform 24-bit color values to 8-bit once?

     (3)   What are some of animation file formats? What are the some of the advantages or key features of each of these formats?

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