[4759] - 212

B.E. (Computer Engineering)
MULTIMEDIA SYSTEMS
(2008 Course) (Semester - I) (Elective - II) (410445)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

1) *Answers to the two sections should be written in separate answer books.*

2) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6 from Section - I & Q7 or Q8, Q9 or Q10, Q11 or Q12 from Section - II.*

3) *Neat diagrams must be drawn wherever necessary.*

4) *Figures to the right side indicate full marks.*

5) *Use of Calculator is allowed.*

6) *Assume suitable data if necessary.*

SECTION - I

Q1) a) What is MMDBMS? Explain the characteristics of Multimedia database. **[8]**

b) Differentiate between Multimedia file system and Conventional file system. **[8]**

OR

Q2) a) What is multimedia? Explain building blocks of multimedia. **[8]**

b) What is streaming? Explain SIP and RSVP protocols for streaming. **[8]**

Q3) a) What is image enhancement? Explain how it is achieved using the contrast stretching and histogram equalization. **[8]**

b) Explain Shannon-Fano compression algorithm by taking a suitable example. **[8]**

OR

Q4) a) Explain bitmap file format? Explain special features of.bmp files. **[8]**

P.T.O.

b) Generate the Huffman encoding tree and codes for the example-Characters A,B,C,D and E have the following probability of occurrence: **[8]**

p(A) = 0.16, p(B) = 0.51, p(C) = 0.09, p(D) = 0.13, p(E) = 0.11.

Q5) **a)** Compare **[8]**

i) PCM and DM

ii) MPEG 4 and MPEG 7.

b) Explain CD and DVD formats. **[10]**

OR

Q6) **a)** Explain how audio is captured and stored in computers? **[8]**

b) Discuss the factors that determine size of file and quality of sound for audio capture and playback. What are various chunks present in a sound file stored as WAV format? **[10]**

SECTION - II

Q7) **a)** Explain various features of H.261 and H.263. **[8]**

b) Which are the different video broadcasting techniques? Compare them. **[8]**

OR

Q8) **a)** Which are the different layers in MPEG? Define and explain I,P and B frames with reference to MPEG. **[8]**

b) Explain any two audio file formats. **[8]**

Q9) **a)** Differentiate between 2D and 3D animation. Explain different techniques of animation. **[10]**

b) Explain the architecture of OpenGL. **[8]**

OR

*Q10)*a) Write a small program in Open GL to create any 2D/3D animation. **[10]**

b) Explain the use of animation in website development. **[8]**

*Q11)*a) Explain Movie on Demand Concept in Multimedia. **[8]**

b) Explain various networking components required for a reliable Multimedia data transmission. **[8]**

OR

*Q12)*Write short notes on following: **[16]**

a) VoIP.

b) Quality of Service in Multimedia data transmission.

c) Multimedia Applications.

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