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

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

b) Explain with suitable examples multimedia building blocks and its role in development of web based multimedia applications. **[8]**

OR

Q2) a) What are the various devices used in multimedia systems? What are the different multimedia components present in Windows OS? **[8]**

b) What is Multimedia Authoring? Explain any three Multimedia Authoring Tools in brief. **[8]**

Q3) a) Explain GIF & BMP file formats in brief. **[9]**

b) Generate the Huffman encoding tree and codes for the example- Characters A, B, C, D and E have the following probability of occurrence: **[9]**

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

OR

P.T.O.

Q4) a) Explain image enhancement using point processing. **[9]**

b) Explain Shannon-Fano compression algorithm by taking a suitable example. **[9]**

Q5) a) Explain how audio is captured and stored in computers? **[8]**

b) Explain in brief WAV & VOC file formats. **[8]**

OR

Q6) a) Compare: **[8]**

i) PCM and DM

ii) MPEG 4 and MPEG 7

b) What are the fundamental characteristics of audio data? How do you define quality of audio data? **[8]**

SECTION-II

Q7) a) Which are the different video broadcasting techniques? Explain various features of H.261 and H.263. **[9]**

b) Explain any two audio file formats. **[9]**

OR

Q8) a) What are the features of MPEG in video compression? Define and explain I, P and B frames with reference to MPEG. **[9]**

b) Explain various features of H.261 and H.263. **[9]**

Q9) a) Explain the use of animation in website development. **[8]**

b) What is Open GL? How it supports animation? **[8]**

OR

Q10) a) Explain the architecture of OpenGL. **[8]**

b) Explain major steps involved in 3D animation. **[8]**

*Q11)*Write short notes on following: [16]

    a)   VoIP

    b)   Quality of Service in Multimedia data transmission.

    c)   Multimedia Applications.

<div align="center">OR</div>

*Q12)*a)   Explain Movie on Demand Concept in Multimedia. [8]

    b)   Explain how multimedia is used in Web based applications. [8]

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