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**B.E. (Computer Engineering)**

**MULTIMEDIA SYSTEMS**

**(2008 Pattern) (Elective - II) (Semester - I)**

*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)** Explain in brief Multimedia Architecture. How Windows supports multimedia? **[8]**
- b)** What is MMDBMS? Explain the characteristics of Multimedia database. **[8]**

OR

- Q2) a)** What is streaming? Explain SIP and RSVP protocols for streaming. **[8]**
- b)** What is multimedia? Explain building blocks of multimedia. **[8]**

- Q3) a)** Classify Image Compression techniques. Discuss RLE stating example. **[8]**
- b)** What is image enhancement? Explain how it is achieved using the contrast stretching and histogram equalization. **[8]**

OR

- Q4) a)** Explain bitmap file format? Explain special features of .bmp files. **[8]**
- b)** What is histogram of an image? Write algorithm for computing histogram of 8 bit gray scale image? **[8]**

*P.T.O.*

- Q5) a)** Explain CD and DVD formats. [10]  
**b)** What is MIDI? Explain in brief MIDI file format. [8]

OR

- Q6) a)** What are different audio devices used in multimedia systems? Explain any four. [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)** Which are the different video broadcasting techniques? Compare them. [8]  
**b)** Write Short note on Text file formats. [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)** Name different techniques used for text compression. Explain with suitable example Arithmetic coding applied to text data. [8]

- Q9) a)** Differentiate between 2D and 3D animation, Explain different techniques of animation. [10]  
**b)** Explain Client Pull & Server Push animation. [8]

OR

- Q10) a)** Write a small program in OpenGL to create any 2D/3D animation. [10]  
**b)** Explain basic principles of 2D animation. [8]

- Q11) a)** Explain various networking components required for a reliable Multimedia data transmission. [8]  
**b)** Write short note Multimedia over IP. [8]

OR

- Q12) a)** State and explain any four applications of Multimedia over internet. [8]  
**b)** State and explain the requirements of Multimedia applications on the network. [8]

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