

C6-R4 : MULTIMEDIA SYSTEMS

NOTE :

1. Answer question 1 and any FOUR from questions 2 to 7.
2. Parts of the same question should be answered together and in the same sequence.

Total Time : 3 Hours

Total Marks : 100

1. (a) Briefly discuss the role of Synchronized Multimedia Integration Language (SMIL) in multimedia presentations.
(b) Differentiate between Virtual Reality and Augmented Reality Systems.
(c) What are temporal media and non-temporal media ? Briefly discuss.
(d) List down different types of USB Connectors.
(e) Briefly discuss the fundamental controls of audio compressors.
(f) Write VRML code that (i) creates a simple red sphere, and (ii) generate a red box with 2-unit dimensions.
(g) Briefly discuss the image retrieval system.

(7x4)
2. (a) What is Hypermedia ? Briefly discuss it. Also highlight the differences between hypermedia and hypertext.
(b) Explain the different features of authoring tools. Also discuss the multimedia authoring in brief.

(9+9)
3. (a) MPEG supports four types of image coding : I Frames, P Frames, B Frames, and D Frames. Briefly discuss them.
(b) Briefly discuss some important characteristics of MP3. Highlight some of the applications of MP3 and discuss the two advantages and two disadvantages of MP3 file format.

(9+9)
4. (a) What is Video Conferencing ? Briefly discuss and highlight some important applications of Video Conferencing. Also discuss the disadvantages of Video Conferencing in real time.
(b) Briefly discuss each field of the RTP (Real Time Transport Protocol) header format.

(9+9)
5. (a) A MIDI (Musical Instrument Digital Interface) interface is composed of two different components. Briefly discuss them.
(b) In context of MMX instruction set, discuss the saturating arithmetic and wraparound mode using examples.
(c) How I/O management is done in operating system to support multimedia data.

(6+6+6)

6. (a) What is Video On Demand (VOD) ? Also discuss following types of VOD : Transactional Video On Demand (TVOD), Premium Video On Demand (PVOD), Near Video On Demand (NVOD), and Advertising Video On Demand (AVOD).
- (b) MPEG-7 uses different tools, like, Descriptor, Description Schemes, Description Definition Language, and System tools. Briefly discuss these tools.
- (c) Based on data management characteristic, discuss different types of multimedia applications.

(9+5+4)

7. (a) Data gloves come in two basic varieties : bend-sensing gloves and pinch gloves. Briefly discuss them.
- (b) What is Virtual Reality (VR) ? VR systems can be classified into following : Immersive, Semi-immersive, and Non-immersive. Briefly discuss each of them by taking an example.

(9+9)

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