

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.

Time: 3 Hours

Total Marks: 100

1. (a) What do you mean by Content-based video retrieval ? Explain with example.
(b) Explain the role of key frames in video processing.
(c) How to create a multimedia presentation ?
(d) What is mixed reality ? Give example.
(e) What are the Real-Time considerations for resource scheduling in multimedia system ?
(f) What are the basic characteristics of temporal media ?
(g) What is video on demand ? Write applications of video on demand.

(7×4)

2. (a) With diagram show how MIDI instruments can be interfaced with a PC. In relation to MIDI distinguish between channel message and system messages.
(b) What are the uses of synchronized multimedia integration language ? Describe SMIL authoring.
(c) What is MMX instruction set ? List out characteristics of MMX instruction set.

(6+6+6)

3. (a) What is the need of video compression ? Describe MPEG-4 natural video compression scheme.
(b) What are the differences between audio compression and video compression ? Illustrate any one audio compression scheme in detail.
(c) What is the synthetic Graphic Objects ? Illustrate with example.

(6+8+4)

4. (a) What are the supports required for multimedia data from multimedia operating system ?
(b) What is QoS ? Explain the QoS required for video conferencing.
(c) What are the differences between USB port and IEEE 1394 interface ?

(6+6+6)

5. (a) Explain Real-Time protocol and resource reservation protocol in detail with their QoS.
- (b) What are the issues of standardization of multimedia database ? Write the important differences between relational and object oriented model of multimedia databases with examples.

(9+9)

6. (a) What do you mean by immersive virtual reality ? List out the essential hardware that are required for any immersive VR application.
- (b) Describe Mixed Reality. What is the significance of simultaneous localization and mapping in Augmented Reality ?
- (c) What is the use of VRML in virtual reality ? Write short note on haptic input device.

(6+6+6)

7. (a) What do you mean by file format ? Describe MP4, PNG, PDF, TIFF file format with their uses.
- (b) Why Filter is used to an image ? Briefly describe the architecture of a video frame grabber.

(9+9)
