C11-R3: MULTIMEDIA TECHNOLOGY AND VIRTUAL REALITY

NOTE:

> 1. **Answer question 1 and any FOUR questions from 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) Distinguish between hypertext and hypermedia.
b) Explain the importance of data compression in multimedia?
c) What do you understand by the term animation?
d) Explain the use of computer audio in multimedia applications.
e) "Resource Reservation Protocol may be useful in multimedia data transfer." Comment.
f) Describe the steps involved in creating interactive 3D product using VRML.
g) Give examples of QoS parameters in multimedia communication?

(7x4)

2.
a) Describe the steps involved in analog to digital conversion of audio signals.
b) Explain Event-based synchronization.
c) Distinguish between the timeline-based authoring system and structured multimedia authoring system.

(6+6+6)

3.
a) Explain MP3 compression Scheme.
b) How is the information lost in JPEG compression of images, explain using all the coding steps?
c) Describe the use of various types of frames used for video encoding in MPEG.

(6+6+6)

4.
a) Describe local area network architecture for delivering multimedia information.
b) Describe the Augmented Reality Systems.
c) Explain the real-time processing requirements for multimedia information.

(6+6+6)

5.
a) How is Head-mounted display technology used in virtual reality. Explain.
b) In what way are video conferencing standards different from audio conferencing standards?
c) Explain how are multimedia workstations configured?

(6+6+6)

6.
a) Explain the Telnet protocol as used for multimedia transmission.
b) What are the advantages and disadvantages of Video-on-demand systems?
c) Describe the advantages of using VR technology.

(6+6+6)

7.

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a)   What is MHEG and what is its target domain?
b)   How are multimedia databases organized? Give examples.

(9+9)