

## C11-R3: MULTIMEDIA TECHNOLOGY AND VIRTUAL REALITY

**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 is Common Intermediate Format (CIF) and Quarter Common Intermediate Format (QCIF)
- b) Explain the concept of Non-Temporal and Temporal media?
- c) Explain in brief the image morphing method and what are the technologies which can facilitate morphing?
- d) What is content based image retrieval? Explain the procedure.
- e) "Resource Reservation Protocol may be useful in multimedia data transfer". Comment.
- f) Explain the concept of video over IP.
- 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) What is authoring? Explain different authoring paradigms.

**(6+6+6)**

**3.**

- a) Explain the importance of data compression in multimedia. List various compression techniques for different multimedia files.
- b) How is the information lost in JPEG compression of images? Explain, how JPEG is formed.
- c) Describing the use of various types of frames used for video encoding in MPEG.

**(6+6+6)**

**4.**

- a) Describe Video streaming technology? What are its advantages?
- b) Describe the Augmented Reality Systems.
- c) Explain the real-time processing requirements for multimedia information.

**(6+6+6)**

**5.**

- a) What is VRML? Explain the concept of VRML Programming.
- b) In what way are video conferencing standards different from audio conferencing standards?
- c) Explain how multimedia workstations are configured.

**(6+6+6)**

**6.**

- a) Explain why multicasting is relevant in multimedia applications. At what level of network stack might you find multicast functionality and why?
- b) Explain how design of video on demand system is done.
- c) Briefly explain three general forms of Virtual Reality.

**(6+6+6)**

**7.**

- a) Explain the working principle of interface to the virtual world.
- b) How are multimedia databases organized? Give examples.
- c) What are different planning and project management strategies in Multimedia Production?

**(6+6+6)**