

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) What is the difference between entropy encoding and source encoding?
- b) Differentiate between Intra-Object and Inter-Object synchronization.
- c) What is Luma-Chroma Principle?
- d) How does sound card process WAV file?
- e) Differentiate between differential encoding and transform encoding as related to transform encoding.
- f) Explain, why QOS is important for multimedia communication.
- g) What is visual rhetoric?

(7x4)

2.

- a) What is an authoring system and authoring paradigm? Can you develop all of your materials in the authoring system? Discuss.
- b) With the aid of an example, describe the rules that are followed to construct the Huffman Code tree for a transmitted character set.

(9+9)

3.

- a) What is Interframe Co-relation? Explain the I, P and B-frames technique of MPEG-1 Video Compression Technique.
- b) Describe the quantization process in JPEG Compression Scheme.
- c) State how the compression algorithm used with MPEG-1 differs from that used in the H. 261 standard.

(6+6+6)

4.

- a) Describe the network architecture for multimedia systems.
- b) What are the components in the basic architecture of a distributed multimedia system?
- c) Differentiate among RTP, RTCP and RTSP.

(6+4+8)

5.

- a) Briefly discuss the characteristics of ATM (Asynchronous Transfer Mode).
- b) What is EDF scheduling strategy? Can it be used for scheduling multimedia tasks? Discuss.

(8+10)

6.

- a) What do you understand by benchmarking of multimedia databases? Distinguish between relational and object oriented model of multimedia databases. Why synchronization is important for delivery of multimedia data?
- b) Explain, how video-conferencing standards are different from video and/or audio compression standards.
- c) Discuss the typical features of MPEG-7.

(8+5+5)

7.

- a) Briefly explain the typical features of VRML.
- b) Describe the Virtual Reality Peripheral Devices.

(10+8)