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) Give I, P and B-frames technique of MPEG video compression.
   b) Briefly states the differences between two types of object synchronization.
   c) How mp4 helps in multimedia coding?
   d) Do you believe the existence of VoIP? Justify.
   e) Write any two techniques of creating animations?
   f) What are the stages of developing a multimedia presentation?
   g) Explain the different varieties of Virtual Reality. (7x4)

2. a) What is content based coding? Which MPEG standard support that and how?
   b) How Luma-Chroma principle is crucial for video encoding?
   c) Why visual rhetoric is important in developing multimedia applications? (8+5+5)

3. a) Authoring process is categorized in to several stages. Explain the functioning of those major stages.
   b) Illustrate the quantization technique in JPEG compression scheme explaining its importance. (12+6)

4. a) State the issues of standardization of multimedia databases. Write the notable differences between relational and object oriented model of multimedia databases with examples.
   b) Videophony and videoconferencing are two different technique. Justify.
   c) Which MPEG version is known as "Multimedia Content Description Interface"? Illustrate some essential characteristics of that MPEG framework. (7+5+6)

5. a) How entropy encoding is different from source encoding?
   b) Why MMX processor is efficient? Write two other properties of MMX.
   c) What are the components of MIDI? (6+6+6)

6. a) Write down the unique properties of a typical multimedia database.
   b) What are the components in the basic architecture of a distributed multimedia system?
   c) How RTP, RTCP and RTSP are different? (6+4+8)

7. a) Briefly mention the importance of necessary peripheral devices for creating virtual reality.
   b) Illustrate with block diagram the JPEG encoding and decoding technique.
   c) Write the technique of processing WAV file by a standard sound card. (8+6+4)