

## 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)**