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) What are hypertext and hyper media? Compare.
b) Explain Huffman coding with example.
c) What do you mean by term QoS? Discuss the applicability of QoS concept.
d) What is MIDI? What are the various MIDI massages?
e) What is SMIL? Why SMIL uses wallclock( ) function?
f) Explain VRML with a short example.
g) What are the various levels of RAID? What is the difference between RAID 4 and 5 levels?

(7x4)

2. a) Explain MPEG-4 video compression. What are I, P & B frames and what is their relevance?
b) What is augmented reality? Explain any two Virtual reality tools.

(9+9)

3. a) Explain JPEG image compression. What are the differences in JPEG and JPEG 2000 format?
b) In a conventional Multimedia Operating system, how process management and recourse management are performed?

(9+9)

4. a) What do you mean by multimedia authoring system? Explain with suitable examples.
b) Explain the query processing strategies to the adopted for efficient retrieval of images.
c) Write a short note on:
   i) Sampling rate
   ii) Raster graphics
   iii) Signal to noise ratio

(6+3+9)

5. a) Write a short note Content based image retrieval and its application.
b) Write a short note on MIDI interfacing.
c) Explain in detail the MPEG-7 format. Compare it with other versions of MPEG video encoding.

(6+3+9)

6. a) Explain OLAP operation in multi dimensional data model.
b) Discuss the MP3 audio coding. How it is comparable to .aac extension audio files?
c) Compare GIF and TIFF image coding. Write comment weather these encoding schemes store the images in spatial domain or in frequency domain?

(4+5+9)
7.
   a) What are the various QoS specifications to be considered when we deliver a multimedia file on internet based workstation?
   b) Describe the hand tracker and data globe utilities used in virtual reality system.
   c) Describe the RTP protocol components and its conjunctions with RTCP, Session Initiation Protocol (SIP) & Session Description Protocol.

(3+6+9)