15329

B. Tech 7th Semester Examination

Multimedia Technology (NS)

CS-411(a)

Time : 3 Hours   Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five questions in all, selecting one question each from section A, B, C & D. Section-E is compulsory.

SECTION - A

1. Differentiate between multimedia and hypermedia. What are the various media that are mainly incorporated in multimedia presentations? Give examples, how information may be conveyed through each of these media components.   (20)

2. (a) Discuss the different types of software required for implementing a multimedia production.

   (b) Discuss the architecture of sound card.   (12+8=20)

SECTION - B

3. (a) State the differences between video, motion picture and animation.

   (b) What are the various criteria for selecting animation tool? Discuss frame by frame animation. What is meant by persistence of vision with respect to animation?
   (5+15=20)

4. (a) Discuss various standards related to HDTV. Explain in detail, the mechanism to convert a motion picture to video.

   (b) Write a note on principles of raster graphics. (15+5=20)

SECTION - C

5. (a) Explain how compression is achieved using GIF standard. Is it lossy or lossless?

   (b) Explain the role of psycho-acoustic model in audio compression.

   (c) Discuss how data is compressed using Huffman encoding technique. Give suitable examples.   (6+6+8=20)

6. (a) Discuss the features of Open Media Framework.

   (b) Justify the statement: "*HyTime can be considered as an extension of SGML*".

   (c) Explain the following in relation to MHEG:

   Object Hierarchy, Non-Editability, Macrofacility.
   (10+5+5=20)

SECTION - D

7. (a) Define synchronization of multimedia objects. What are the basic synchronization issues? Discuss.

   (b) What are the key issues that need to be addressed for designing web based multimedia applications?
   (15+5=20)

8. Explain the components of multimedia distributed system. Mention some important guidelines for incorporating video contents in a multimedia presentation.   (20)

SECTION - E

9. Attempt the following:

   (a) What is a CODEC?

   (b) Why file or data compression is necessary for multimedia activities, specially when transmitted on internet?

   (c) In what ways can MIDI be used efficiently in multimedia applications?

   (d) Differentiate between bitmap fonts and vector fonts.

   (e) How does the computer reconstruct sound wave from the sample data?

   (f) Define morphing with example.

   (g) How frame by frame animation is converted to the continuous presentation?

   (h) Give some TV broadcast standards.

   (i) What is the mechanism of digitized sound?

   (j) Define anchors and nodes.   (2×10=20)