[Total No. of Questions - 9] [Total No. of Printed Pages - 3] (2125)

15214

B. Tech 6th Semester Examination

Multimedia Systems (OS)

EC-6006

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 from each of the Sections A, B, C & D. Section E is compulsory.

SECTION - A

1. (a) Explain the characteristics and uses of multimedia. (10)

   (b) List the pros and cons of GIF and JPEG as image formats. (10)

2. (a) Explain the following with respect to multimedia operating system.

   (i) Resource management

   (ii) Process management (10)

   (b) Define Hyper Text. What is the relationship between Hyper Media and Hyper Text? (10)

SECTION - B

3. (a) Describe how improvements in bandwidth, increased storage capacity, better display technologies and powerful CPUs have influenced the development of multimedia. (10)

[P.T.O.]

   (b) Differentiate between lossless and lossy compression. Give one example each of a lossless and a lossy compression technique. (10)

4. (a) Define data prediction technique. Explain prediction technique for image compression. (10)

   (b) How text and image compression techniques differ from each other? Describe run length encoding technique for text coding. (10)

SECTION - C

5. (a) Differentiate between MPEG-1 and MPEG-2. (10)

   (b) List four distinct models of colour used in multimedia. Explain why there are a number of different colour models exploited in multimedia data formats. (10)

6. (a) Discuss various characteristics of video signal representation in detail. (10)

   (b) Explain with examples how the types of software below can be used in multimedia systems:

   (i) Presentation software

   (ii) Video processing software (10)

SECTION - D

7. (a) Consider two hosts A and B connected by a single link of rate r bits/sec. The two hosts are separated by d meters. Signal propagation is p meters per second. Host A is sending to host B an image of size S bits. What is the propagation delay? What is the transmission delay? (10)

   (b) What do you mean by video image processing? Explain various networking devices used for video communication. (10)

8. (a) Explain two transport layer protocols to support multimedia communication. (10)

   (b) In multimedia Networking, Explain audio/video streaming with reference to communication between client and server. (10)

SECTION - E

9. (a) Explain Graphical User Interface.

   (b) What is Video on Demand?

   (c) How redundancy can be used for compression?

   (d) Describe bitmap image.

   (e) What is the role of high definition devices for multimedia?

   (f) Define Virtual Reality

   (g) Define router.

   (h) Explain video conferencing.

   (i) How does networking bandwidth affect multimedia communication?

   (j) Why jitter is an important parameter in multimedia data transmission? (2×10=20)