

This question paper contains 3 printed pages.]

1808

Your Roll No.

B.Sc. (HONS.) Computer Science/VI Sem. A

Paper 605 (ii) : MULTIMEDIA APPLICATION

(Admissions of 2001 and onwards)

Time : 3 Hours

Maximum Marks : 75

*(Write your Roll No. on the top immediately
on receipt of this question paper.)*

Attempt all questions.

1. (a) Define Multimedia. What is the difference between a multimedia application and a conventional application. 3
- (b) What are the three main developmental functions that a multimedia system must perform ? Use figures to illustrate the concept. 5
- (c) What are the benefits and drawbacks of multimedia when used in training ? 4
2. (a) Why do we need to compress images ? Explain the following techniques of image compression. Give examples in all the techniques :

[P.T.O.]

- (i) Text conversion
 - (ii) Vectorisation
 - (iii) Run Length Encoding 1+6
 - (b) Discuss PCM, DPCM and ADPCM techniques for sound compression. 3
3. (a) Differentiate between : 2+2+2
- (i) Temporal and Non Temporal Media Types
 - (ii) Additive and subtractive color models
 - (iii) Hypertext and Hypermedia
- (b) Explain Dexter Hypertext Reference Model. 5
4. (a) What is meant by Virtual Reality ? What are its different forms ? 1+3
- (b) What is six degrees of freedom in virtual reality applications ? 2
- (c) List the steps to develop an interactive virtual reality application. 4
5. (a) Explain the term 'Hand Tracking' in a Virtual Reality application. Discuss Optical Hand Tracking. 1+2
- (b) What are Head Mounted Displays ? Explain. 2

6. (a) Define templates for following media types :
(i) Text
(ii) Image 2+2
- (b) What are the four different kinds of Windows Metafile Format (WMF) ? Explain. 4
- (c) Write short notes on the following : 2+2
(i) MIDI
(ii) JPEG
7. (a) Describe HSB color model. 2
- (b) For a stereo CD audio recording, if the sampling rate is 44.1 KHZ and 16 bits per sample per channel is used, then what is the total data rate in Mbps ? 2
8. (a) Discuss some system software components added by Microsoft to support multimedia applications on desktop computers. 4
- (b) How multimedia can help in group collaboration ? 3
- (c) Give the minimum configuration for creating videos on a desktop computer. 4