

No. of Printed Pages : 4

Sl. No.

C6-R4 : MULTIMEDIA SYSTEMS

DURATION : 03 Hours

MAXIMUM MARKS : 100

Roll No. :

--	--	--	--	--	--

Answer Sheet No. :

--	--	--	--	--	--

Name of Candidate : _____ ; **Signature of Candidate :** _____

INSTRUCTIONS FOR CANDIDATES :

- Carefully read the instructions given on Question Paper, Answer Sheet.
- Question Paper is in English language. Candidate has to answer in English Language only.
- Question paper contains Seven questions. The Question No. 1 is compulsory. Attempt any FOUR Questions from Question No. 2 to 7.
- Parts of the same question should be answered together and in the same sequence.
- Questions are to be answered in the ANSWER SHEET only, supplied with the Question Paper.
- Candidate cannot leave the examination hall/ room without signing on the attendance sheet and handing over his/her Answer Sheet to the Invigilator. Failing in doing so, will amount to disqualification of Candidate in this Module/Paper.
- After receiving the instruction to open the booklet and before answering the questions, the candidate should ensure that the Question Booklet is complete in all respects.

DO NOT OPEN THE QUESTION BOOKLET UNTIL YOU ARE TOLD TO DO SO.

1.
 - (a) Briefly discuss the structure of a Synchronized Multimedia Integration Language (SMIL) document and its file extension.
 - (b) What is MIDI (Musical Instrument Digital Interface) ? Highlight some of the advantages of MIDI.
 - (c) In the context of Temporal and non-temporal media, classify the following media types : audio, graphics, text, video, music, image, and animation.
 - (d) Briefly discuss the different layers in multimedia system architecture.
 - (e) What are the basic components of Virtual Reality systems ? Briefly discuss.
 - (f) Mention some of the applications and application domains that benefited from the MPEG-7 standard.
 - (g) Highlight some of the features and drawbacks of Fire Wire. (7x4)

2.
 - (a) What is Hypertext ? Briefly discuss it. Also, highlight the advantages and disadvantages of hypertext.
 - (b) Highlighting the advantages and disadvantages, discuss the following classifications of authoring tools :
 - (i) Card or Page based authoring tools
 - (ii) Icon-based or Event-driven authoring tools
 - (iii) Time-based authoring tools (9+9)

3.
 - (a) JPEG and JPEG 2000 may share the same name, but they are two very different image file types. Briefly discuss them and differentiate both over the following parameters : Image resolution, Compression, and Encoding.
 - (b) What is MP3 ? Briefly discuss. Also, discuss the impact of high and low MP3 bit rates in the context of the music/sound quality. (9+9)

4.
 - (a) Briefly discuss the following video conferencing protocols : H.320, H.323, and SIP (Session Initiation Protocol).
 - (b) How does Voice over Internet Protocol (VoIP) work ? Briefly discuss. Further, compare the VoIP and traditional phone services over different features. (9+9)

5.
 - (a) Discuss types of MIDI (Musical Instrument Digital Interface) controllers with suitable examples.
 - (b) Describe all four data types supported by the MMX instruction set in the brief.
 - (c) Briefly discuss FireWire connector. Also, describe different generations of FireWire connectors. (6+6+6)

6. (a) What is the multimedia database ? Briefly discuss. In the context of multimedia databases, discuss the following in brief :
- (i) Major challenges in multimedia databases
 - (ii) Major areas where the multimedia database is applied
 - (iii) Major issues which must be addressed if multimedia data are to be stored in a database
- (b) One of the most common methods for comparing two images in content-based image retrieval is image distance measure. Briefly discuss the content-based image retrieval and image distance measure. (9+9)
7. (a) Briefly discuss the following :
- (i) Virtual Reality
 - (ii) Augmented Reality
 - (iii) Mixed Reality
- (b) What is VRML and how does it differ from HTML ? (9+9)

- o o o -

SPACE FOR ROUGH WORK