

6th Semester IMCA Examination, 2021

6.2 Multimedia & Applications

Full Marks – 70

Time – 2 Hours

Answer All Questions

1. a) What is Multimedia System? Explain the various properties of multimedia system along with the classification of medium. 12
 - b) A 15-inch monitor has an aspect ratio 4:3 and pixel addressability is 720 X 480. Calculate the resolution of the monitor. 2
- OR
- c) Explain the mode of transmission of data stream in multimedia system. 6
 - d) Discuss the various applications of multimedia system. Suppose a picture frame consists of 640 X 480 pixels and each pixel is represented using 8 bits. The transmission system transmits 60 frames per second. What amount of memory space is required to receive 10 minutes of picture information? 8
2. a) Write the characteristics of sound wave. Explain the procedure of digital representation of sound. 10

b) An analog audio signal has a dynamic range of 60DB. Determine the magnitude of quantization noise relative to minimum signal amplitude if the quantizer uses a bit depth of 5 bit. 4

OR

c) Explain the components of MIDI device and types of MIDI messages. 12

d) State the Nyquist theorem. Find the sampling frequency of an analog audio signal with frequency values ranging from 60 Hz to 6 KHz. 2

3. What is the data compression? What are the different techniques of data compression? Explain the various steps of JPEG compression technique. 14

OR

a) Find the Huffman code for the given set of characters. 7

Char	A	M	K	D	L	F	S
Frequency	20	45	12	18	80	60	40

b) Describe the features about various color models available in multimedia system. 7

4. Create the following table in HTML with some dummy data. 14

Name of train	Place	Destination	Train No.	Time		Fair
				Arrival	Departure	

OR

Write the HTML code to create a web page containing information about your department. 14

5. What is animation? Discuss the principles of multimedia animation. Discuss the different techniques of animation. 14

OR

Describe the followings. 14

- i) Multimedia System Development Life Cycle
- ii) Characteristics of Multimedia DBMS

