Total number of printed pages: 02

B. Des. (UG)/2nd Semester/UMCD202

2023

INTRODUCTION TO MULTIMEDIA COMMUNICATIONS

Full Marks: 100

Time: Three hours

The figures in the margin indicate full marks for the questions.

Answer **Question No. 1** and ***any four*** from the rest.

1. A) Fill in the blanks: (10x1 = 10)

i. The term 'multimedia' was coined by _____.
ii. The components of a multimedia system are _____.
iii. Device drivers are examples of _____ software.
iv. The process of converting an analog signal to discrete in time signal is called _____.
v. The full form of MPEG is _____.
vi. Data compression algorithms under entropy coding are _____ in nature.
vii. The taller-than-wide orientation used for printed documents is called _____.
viii. The ASCII character set consist of _____ characters.
ix. _____ cells are better for low light vision.
x. In a 32-bit image, 3 bytes represent RGB and the 4th byte is used as _____.

B) State True or False.: (1 x 10 =10)

i) Analog signals have two amplitude levels called nodes.
ii) LZW is a lossless data compression algorithm.
iii) In Huffman Coding binary tree, the left branches are assigned 1 and right branches are assigned 0.
iv) Passwords are case-sensitive to text.
v) The Latin script is used for English and most European languages.
vi) In Straight Alpha the foreground and background colours are blended.
vii) The standard colour wheel is made up of 14 colours.
viii) Dot matrix printers are faster than laser printers.
ix) A microphone converts analog sound into mechanical signal.
x) Luma cameras can produce coloured images.

2. A) Define multimedia. What are the objects of multimedia? (2+6 = 8)
   B) Describe the different types of multimedia with examples. (4+2 = 6)
   C) What are the components of a multimedia system? (2)
   D) State the characteristics of a multimedia system. (4)

3. A) Explain Run Length Encoding with an example. (6)
   B) Why is text still considered as an important multimedia element? (4)
   C) How can you differentiate between symbols and icons? Explain with examples. (6)
   D) What is a language script? Illustrate with examples. (4)

4. A) How does human beings perceive colour? (5)
   B) How can you differentiate between tones, tints and shades? (2+2+2 = 6)
   C) Describe the fundamental characteristics of colour. (6)
   D) Explain the process of anti-aliasing with a diagram. (3)

5. A) How can you differentiate between musical sound and noise? Give examples. (5)
   B) Explain how one can recognize the voice of a known person over the telephone. (5)
   C) State five differences between MIDI and Digital Audio. (10)

6. A) Describe how component videos are different from composite videos. (3+3 = 6)
   B) What are the different types of stereoscopic videos? Explain them briefly. (3x2 = (6)
   C) What is Phase Alternating Line or PAL? How is it different from NTSC? (4+4 = 8)

7. Write short notes on the following: (4x5 = 20)
   A) Internet
   B) PAN
   C) Search Engine
   D) Augmented Reality.

****