USN ☐☐☐☐☐☐☐☐☐☐

13MCA543

Fifth Semester MCA Degree Examination, July/August 2021
Multimedia Systems

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions.*

1 a. Explain briefly objects for multimedia systems.   **(10 Marks)**
   b. Define the term media. List out different classifications of media.   **(05 Marks)**
   c. Explain multimedia workstation architecture briefly with a neat diagram.   **(05 Marks)**

2 a. What is Sound? Explain how audio is represented on computers.   **(05 Marks)**
   b. Explain the role of MIDI devices in sound synthesis.   **(05 Marks)**
   c. With a neat diagram, explain speech synthesis and speech recognition processes.   **(10 Marks)**

3 a. Describe the five steps of image recognition.   **(10 Marks)**
   b. Explain various methods of controlling animation briefly.   **(10 Marks)**

4 a. Explain briefly basic compression techniques.   **(08 Marks)**
   b. Explain following variants of JPEG standard of image compression:
      i)   Lossy sequential
      ii)   Expanded lossy
      iii) Hierarchical mode.   **(12 Marks)**

5 a. Describe the mode 1 and mode 2 operations of CD-ROM.   **(10 Marks)**
   b. Explain I, P, B and D types of frames in MPEG systems.   **(10 Marks)**

6 a. Write short notes on analysis of individual images.   **(10 Marks)**
   b. Describe the methods of analyzing image sequences in motion vectors.   **(05 Marks)**
   c. Explain audio analysis briefly.   **(05 Marks)**

7 a. What are the objectives of TWAIN? Highlight on different layers of TWAIN.   **(10 Marks)**
   b. Compare and contrast the TIFF file formats with RIFF file formats.   **(10 Marks)**

8 a. Explain briefly the various issues of virtual reality design considerations.   **(10 Marks)**
   b. Describe how multimedia databases are organized briefly.   **(10 Marks)**

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