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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Sixth Semester, B.E. - Information Science and Engineering

Semester End Examination; May/June - 2018

Multimedia Computing

Time: 3 hrs *Max. Marks: 100*

Note: Answer ***FIVE*** *full questions, selecting* ***ONE*** *full question from each unit.*

UNIT - I

1	a.	Describe the data elements for multimedia system.	6
	b.	With a neat diagram, explain architecture of a multimedia workstation environment.	8
	c.	List out the benefits of multimedia database.	6
2	a.	Define MIDI standard. Explain the components of a MIDI interface.	5
	b.	Define multimedia. Explain data stream characteristics for continuous data.	9
	c.	Describe the speech recognition principle with a neat diagram	6

UNIT - II

3	a.	Explain the GIF and TIFF image file format.	6
	b.	Describe the three image properties used to classify images.	6
	c.	Explain the edge-oriented and region-oriented image segmentation methods.	8
4	a.	With block diagram, describe the five steps involved in image recognition.	10
	b.	The Video Graphic Arrays (VGA) format can works with a resolution of 640 x 480 pixels with 256 simultaneous colors. The monitor is controlled via an analog RGB output. What is the storage capacity per frame required?	4
	c.	Explain the various methods for controlling animation.	6

UNIT - III

5	a.	Difference between entropy coding and source coding.	4
	b.	The letters A, B, C, D, and E are to be encoded and have relative probabilities of occurrence as follows : P(A) = 0.16, P(B) = 0.51, P(C) = 0.09, P(D) = 0.13, P(E) = 0.11 use Huffman coding to drive a code for each letter.	6
	c.	With a neat diagram, explain the steps of Lossy sequential DCT-mode of JPEG image compression.	10
6	a.	Describe the coding of four different frame types in MPEG video compression.	8
	b.	List and explain the six layers of MPEG video streams.	6
	c.	Compare MPEG-4 extensions with MPEG-2.	6

Contd…2

UNIT - IV

7 a.	Explain the process of Eight-to-Fourteen modulation and error handling on a CD-DA.	8
b.	With sector layout diagram, describe mode1 and mode2 CD-ROM.	6
c.	Give the limitations of CD-ROM technology.	6
8a.	Explain the working principle of the CD-R.	10
b.	Compare DVD technology with conventional CD technology.	10

UNIT - V

9 a.	Describe any two methods to compute motion vectors.	10
b.	Explain how audio analysis is performed using syntactic and semantic audio indicators.	10
10 a.	What are the TWAIN specification objectives? Draw and explain the TWAIN architecture.	10
b.	List and explain the key format information in RTE document files.	4
c.	Describe the structure of TIFF image file format headers.	6

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