

B.E. Seventh Semester (Computer Science & Engineering) (CGS)
10345 : Elective - I : Multimedia Technologies : 7 KS 05

P. Pages : 2

Time : Three Hours



AU - 2895

Max. Marks : 80

- Notes :
1. Due credit will be given to neatness and adequate dimensions.
 2. Assume suitable data wherever necessary.
 3. Illustrate your answer necessary with the help of neat sketches.
 4. Use of pen Blue/Black ink/refill only for writing the answer book.

1. a) Explain technical design issues with multimedia application. 7
b) Explain multimedia Authoring metaphors in brief? 7

OR

2. a) What are different popular file formats use to store image? Explain 8
i) JPEG ii) GIF
iii) PNG iv) TIFF
b) Suppose we have 5-bit grayscale image. What size of ordered dither matrix do we need to display the image on a 1-bit printer? 6
3. a) Explain color YC_bC_r color model in video in detail. 6
b) Explain Interlaced Raster Scan techniques in analog video? 7

OR

4. a) Explain color matching functions in detail. 7
b) Explain different types of video signals. 6
5. a) What are factors taken into consideration in digitization of Audio data? 7
b) Explain concept of MIDI with its hardware aspects. 6

OR

6. a) Explain lossless predictive coding with schematic diagram. 7
b) Explain the terms. 6
i) Linear and nonlinear quantization.
ii) Signal to Noise Ratio (SNR).
iii) Signal to Quantized Noise Ratio (SQNR).
7. Explain the following with example. 14
i) Run-Length coding.
ii) Variable-Length Coding (VLC)
iii) Dictionary based coding.
iv) Arithmetic coding.

OR

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| 8. | a) | Explain and Draw coding tree for "HELLO" using Shannon-Fano algorithm. | 7 |
| | b) | Explain Lossless image compression in detail. | 7 |
| 9. | a) | Explain Intra-frame coding with block diagram. | 7 |
| | b) | Explain quantization in H.261. | 6 |

OR

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|-----|----|--|---|
| 10. | a) | Explain MPEG1 digital compression. | 6 |
| | b) | Why sequential search method for motion vector is costly? Explain the mean absolute difference based search. | 7 |
| 11. | a) | Explain the basic MPEG Audio compression algorithm. | 7 |
| | b) | Describe Equal-Loudness Relations in MPEG Audio compression. | 6 |

OR

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| 12. | What is vocoder? Explain. | 13 |
| | i) Phase Insensitivity. | |
| | ii) Channel vocoder. | |
| | iii) Formant Vocoder. | |
