B.E. Seventh Semester (Information Technology) (CGS)
10754 : Elective - I : Multimedia Technologies
7 IT 05

P. Pages : 2

Time : Three Hours

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Max. Marks : 80

Notes : 1. Assume suitable data wherever necessary.
2. Illustrate your answer necessary with the help of neat sketches.
3. Use of pen Blue/Black ink/refill only for writing the answer book.

1. a) What is multimedia? Explain different components. **6**

   b) Enlist different file format for image? Explain GIF file format and give specification of GIF screen descriptor. **7**

OR

2. a) What is multimedia authoring? Explain multimedia authoring metaphors? **7**

   b) What is the meaning of the following statement related to image? Also calculate the size of image in bytes related to the following. **6**
   i) 512 x 512 x 8
   ii) 640 x 480 x 24

3. a) Explain geometric representation of RGB model and CMY model. **7**

   b) Explain L* a* b* (CIELAB) color model? **7**

OR

4. Draw CIE chromaticity diagram and explain following terms. **14**
   i) Line of purples.
   ii) White spot.
   iii) Dominant wavelength.
   iv) Set of complementary colors.
   v) Excitation purity.

5. a) Explain the following terms :- **7**
   i) Signal-to-Noise ratio (SNR).
   ii) Signal-to-Quantization Noise Ratio (SQNR).

   b) Suppose the sampling frequency is 1.5 times the true frequency, what is alias frequency? **6**

OR

6. a) What is hardware aspect of MIDI? Draw typical MIDI setup diagram. **7**

   b) Explain the concept of MIDI sequences and messages. **6**

7. a) What is Entropy? Also explain lossless compression. **7**

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b) Apply LZW compression on 7
ABABBABCABABBA

Given	Code	Siring
	1	A
	2	B
	3	C

OR

8. a) Describe the special features of JPEG 2000. 7

b) Explain Shannon-Fano algorithm. Encode 'AMRAVATI' using Shannon-Fano algorithm. 7

9. a) Explain the three main steps adopted by motion compensation in video compression. 6

b) Define video. Explain video compression based on motion compensation. 7

OR

10. a) Describe the six hierarchical layers for bitstream of an MPEG-1 video. 6

b) Differentiate between H.261 and MPEG-1 standard with respect to : 7
   i) Source formats   ii) Slice
   iii) Quantization.

11. a) What is the use of vocoders? Explain vocoders with linear predictive coding. 7

b) Explain Vocoders with. 6
   i) Phase insensitivity   ii) Format Vocoder.

OR

12. a) What is CELP? Explain the two kinds of prediction in CELP encoders. 7

b) Explain MPEG audio with respect to 6
   i) MPEG layers   ii) MPEG audio strategy.

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