IV B.Tech I Semester(R05) Regular & Supplementary Examinations, December 2009
MULTIMEDIA AND APPLICATION DEVELOPMENT
(Common to Computer Science & Engineering, Information Technology and Computer Science & Systems Engineering)

Time: 3 hours   Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

KOTTAM
INSTITUTIONS

1. Write an algorithm for calculating a color histogram for RGB data.   [16]

2. (a) Draw and explain the schematic diagram of encoder for predictive coding.

   (b) Draw and explain the schematic diagram of decoder for predictive coding.
                                                                                         [8+8]

3. Explain casting mechanism in ACTION SCRIPT.   [16]

4. Explain how to add repositioning the view region feature to ImageViewer class.   [16]

5. Explain converting currency based on user input.   [16]

6. (a) Discuss about RLC?

   (b) Write short notes on the idea behind vector quantization?

   (c) Write a short notes on lossless JPEG?   [5+5+6]

7. (a) Explain Vocoders in detail?

   (b) Write about search for motion vectors in detail?   [8+8]

8. Write short notes on:

   (a) Harmonic broad casting

   (b) OSI (Open Systems Interconnection) network layers?   [8+8]

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1. Explain the following:

    (a) Spectral Sensitivity Function

    (b) Reflectance Function

    (c) Color signal.   [5+5+6]

2. Write about the following:

    (a) PAL video

    (b) SECAM video

    (c) Chroma sub sampling.   [5+5+6]

3. Write different problems that can arise when a type is casting to

    (a) String

    (b) Number

    (c) Date

    (d) Array.   [4+4+4+4]

4. (a) Explain when to use composition over inheritance.

    (b) Explain the following briefly

        i. Is - A relation
        ii. Has - A relation
        iii. Uses - A relation.   [10+6]

5. (a) Explain about the Document Timeline.

    (b) Explain how to handle Component Events?   [10+6]

6. Explain the following:

    (a) Explain about RLC?

    (b) Explain about LZW algorithm?

    (c) Comparision of DCT & DFT.

    (d) One dimensional inverse DCT.   [4+4+4+4]

7. (a) Explain about formant Vocoder?

    (b) Explain 2D mesh object coding in synthetic object coding of MPEG-4?   [8+8]

8. (a) Write the characteristics of multimedia networks communications?

    (b) What is the idea behind DMIF (Delivery multimedia integration framework) in MPEG-4? [8+8]

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1. Briefly write about the following:

   (a) Wavelength

   (b) Color level

   (c) Brightness

   (d) Whiteness.   [4+4+4+4]

2. What is differential pulse code modulation? In what way it is differed from predictive coding.   [16]

3. Write a program in ACTION SCRIPT for the class Box which contains three properties length, width, height and a method volume. Read 10 objects data and print their volumes.[16]

4. What is inheritance? Give an example program for inheritance in AS.   [16]

5. Explain properties and methods of nested assets with an example.   [16]

6. (a) Explain in detail about variable length coding

   (b) Write a short notes on lioyd-max quantizes.   [12+4]

7. (a) Write the major differences between MPEG-1 and MPEG-2?

   (b) Explain about motion compensation in MPEG-4?   [8+8]

8. (a) What is the main difference between the OSI and TCP/IP reference models?

   (b) Explain about the quality of multimedia data transmission?   [8+8]

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1. (a) Explain the procedure to transform from RGB to CMY model.

   (b) Write about the RGB cube and CMY cube.   [8+8]

2. (a) Draw a diagram showing a sinusoidal at 5.5 KHz and sampling at 8 KHz(show the 8 intervals
       between samples).

   (b) Draw the alias at 2.5 KHz and show that in the eight sample intervals, exactly 5.5 cycles of true
       signal fit into 2.5 cycles of the alias signal.[8+8]

3. (a) List different data types in action Script and explain with examples

   (b) Write a sample class for Circle using Action Script which contains two methods namely area and
       perimeter . Use the class in creating object and compute area and perimeter.[6+10]

4. Define Exception. Differentiate it with compile time errors and also give one example in AS.   [16]

5. (a) Explain about movie clip subclasses with an example.

   (b) Explain the currency converter class.   [8+8]

6. (a) Explain in detail about variable length coding

   (b) Write a short notes on lioyd-max quantizes.   [12+4]

7. (a) Compare audio compression techniques in detail?

   (b) Explain video compression techniques?   [8+8]

8. (a) What is reliable Multicast Transport why we go for this?

   (b) Explain the types of RTSP (Real Time Control Protocol) packets?   [8+8]