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B.E. / B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2011

INFORMATION TECHNOLOGY

FIFTH SEMESTER

IT 9302 –MULTIMEDIA SYSTEMS

(REGULATIONS 2008)

Time: 3 hr

Max Mark : 100

Answer ALL questions

Part – A (10 × 2 = 20 Marks)

1. Compare *YUV* and *RGB* signals for broadcast video.
2. Which of the attributes of digital audio determine its quality?
3. What is "interlaced mode" for a display device?
4. What are the features of H.261 standard?
5. Which of the java classes enables reading pixel array of a color image?
6. Give the HTML code snippet to embed an animated GIF file into a web page.
7. Define "*Constant Linear Velocity*" of a CD-ROM.
8. Name any two popular multimedia document architecture standards.
9. What are the functions of RTSP protocol?
10. What is ITV?

Part – B (5 × 16 = 80 Marks)

11. a) i) Identify the characteristics unique of audio & video, which pose many challenges in managing them (storage, representation, manipulation, transmission etc.,) for different kinds of applications. (8)
- ii) Write short notes on each of the following animation techniques. (8)
 - Key frame
 - Morphing
 - Onion skin
 - Motion Capture

12. a) i) Describe JPEG baseline encoding scheme. (12)
- ii) Depict TIFF IFD. (4)

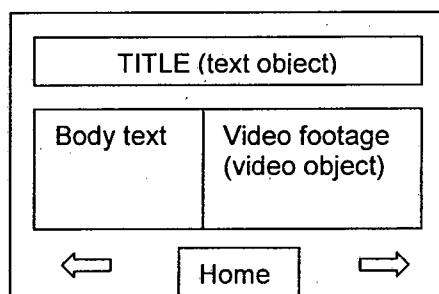
or

- b) i) What is RIFF file format for? Give an example of RIFF Chunk, with atleast one list chunk and two sub chunks. (8)
- ii) What is lossless compression? Write notes on any one lossless compression standard for images. (8)

13. a) How would you develop an interactive multimedia application? Which of the organization metaphors would be prefer to choose? Justify.
From conceptual-stage till the final creation of a multimedia application, elaborate the stages in detail, by citing an example problem. (16)

or

- b) Write HTML script for the following scenario (as shown in the figure below). Assume all the media objects are embedded. There are three navigation elements (*previous*, *next* and *home*). Each screen element (except the bottom navigation controls) is a cell content in a HTML table. An audio feed back is to be heard every time a screen control is clicked (for ex., when "next" arrow is clicked the audio "next" should be heard.) (16)



14. a) i) Compare the performances of EDF and Rate Monotonic algorithms, when more than one stream needs to be concurrently processed. (8)
- ii) What data structures are used to represent image and video objects in a multimedia database? (8)

or

- b) i) How are LDU's of time dependent media, classified? (8)
- ii) What is "GAP" problem in synchronization? How is it addressed? (8)

15. a) i) Write about SIP protocol. (8)

ii) Write notes on any one of the popular multimedia applications? (8)

or

b) i) What types of QOS negotiation takes place while establishing a multimedia call? Discuss. (8)

ii) Mention the challenges of dealing with multimedia data over wireless networks. (8)
