



**B.TECH DEGREE EXAMINATIONS: APRIL/ MAY 2016**

(Regulation 2013)

Sixth Semester

**INFORMATION TECHNOLOGY**

U13ITE201: Multimedia Systems

**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 1 = 10 Marks)**

1. FPS stands for
  - a) Frequency Per Second
  - b) Frames Per Sequence
  - c) Frames Per Second
  - d) Frequency Per Sequence
2. The management of resources to achieve synchronization is called \_\_\_\_\_.
3. Which of the following is not a video file extension?
  - a) mp4
  - b) jpg
  - c) avi
  - d) qt
4. Redundancy between frames is called \_\_\_\_\_.
5. Experts say the healthiest way to view a computer monitor is by
  - a) Placing it 18 to 30 inches away from your eyes
  - b) Adjusting the screen for maximum contrast
  - c) Viewing from a darkened room
  - d) Using special glasses that filter out UV rays
6. The components lying in the region between the OS and applications is termed as \_\_\_\_\_.
7. Which of the following is a file format technique for real-time interchange?
  - a) Sequencing
  - b) Indexing
  - c) Interleaving
  - d) All of the above
8. The digital alternative to videotape is \_\_\_\_\_.
9. The aspect ratio of HDTV is
  - a) 16:9
  - b) 16:12
  - c) 4:3
  - d) 4:9
10. The multidimensional model for multimedia communication is \_\_\_\_\_.

**PART B (10 x 2 = 20 Marks)**

**(Answer not more than 40 words)**

11. Compare MIDI and digital audio.
12. What is intramedia synchronization? How does it differ from intermedia synchronization?
13. State the need for Media Stream Protocol.
14. Differentiate between lossy and lossless data compression.
15. Write notes on: Voice over IP
16. List out the differences between hypertext and hypermedia.
17. Compare track model and object model in a multimedia system.
18. Summarize the features of a Teleconferencing system.
19. What are the problems of overlay mode in a Team Work Station?
20. How are multimedia and virtual reality related?

**PART C (5 x 14 = 70 Marks)**

**(Answer not more than 400 words)**

**Q.No. 21 is Compulsory**

21. Illustrate and elaborate the process of converting an analog signal to its digital form.
22. (a) (i) Describe JPEG compression with necessary diagrams. (7)  
(ii) Given two images A and B that undergo JPEG compression (7)

Image A

127	125	128	129
128	126	130	131
129	127	131	133
130	129	132	135

Image B

127	125	128	129
127	125	128	129
132	118	117	114
132	138	113	113

Which one will give a better compression if a quantization factor of 64 is used?

Why?

**(OR)**

- (b) (i) Compare I, B and P frames in MPEG compression. (7)
- (ii) Consider the GOP for the following sequence: (7)

**I<sub>1</sub> B<sub>2</sub> B<sub>3</sub> P<sub>4</sub> B<sub>5</sub> B<sub>6</sub> B<sub>7</sub> B<sub>8</sub> I<sub>9</sub> B<sub>10</sub> B<sub>11</sub> P<sub>12</sub> B<sub>13</sub> B<sub>14</sub> I<sub>15</sub> B<sub>16</sub> B<sub>17</sub> P<sub>18</sub> B<sub>19</sub> P<sub>20</sub>**

Find the encoding sequence of the frames. What would be the order of encoding in the absence of B frames? Justify.

23. (a) What is the role of data models in multimedia systems? Explain.

**(OR)**

(b) (i) Discuss the need for authoring tools in multimedia and their characteristics. (7)

(ii) Explain the basic features required in a software tool to make a multimedia presentation. (7)

24. (a) Explain distributed multimedia network services with a suitable diagram.

**(OR)**

(b) (i) What key features of Quick Time have led to its adoption and acceptance as an international multimedia format? (4)

(ii) Briefly outline the Quick Time architecture and its key components. (10)

25. (a) What are the various approaches for distributed groups in a shared workspace? Explain with suitable illustration.

**(OR)**

(b) (i) Elaborate the issues in designing an intelligent multimedia system. (4)

(ii) Discuss the salient features of CUBRICON system. (10)

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