

INFORMATION SCIENCE AND TECHNOLOGY

FIFTH SEMESTER

IT 373 – GRAPHICS AND MULTIMEDIA

(REGULATIONS 2004)

Time: 3 hr

Max Mark: 100

Answer ALL Questions

Part – A (10 x 2 = 20 Marks)

1. Name the techniques used to display neat 'thick lines' in Graphics applications.
2. How does a 'raster' graphics system work?
3. Depict the RGB color gamut.
4. How are 3D objects represented?
5. What do you know about AVI standard?
6. List the chief components of a typical multimedia workstation.
7. Give one example each for a lossy and a lossless compression standard.
8. What are the attributes of digital audio?
9. How are hypermedia and multimedia related to each other?
10. Mention a few challenges in managing distributed multimedia applications.

PART – B (5 x 16 = 80 Marks)

11. a) i) Present DDA line drawing algorithm for all line slopes. (8)
- ii) Give the transformation matrix that uniformly scales a square [(1, 1), (4, 4)] by 2 and then rotates CW by 90°. Find the new vertices of the square. (8)

12. a) i) Discuss about the HSV and HSL color models in detail. (8)
- ii) How is 'key frame' animation performed? Explain with an example. (8)

Or

- b) i) Give the basic transformation matrices in 3D. (8)
- ii) Derive the transformation matrix for perspective projection of a 3D point. (8)

13. a) i) What are the basic objects of Multimedia Systems? Discuss with illustrations wherever necessary. (8)

ii) What are the chief characteristics of Multimedia databases? (8)

Or

b) i) Write at length about any two popular multimedia applications. (8)

ii) What are data interface standards? Give an example. (8)

14. a) i) Write about RIFF format. (8)

ii) Discuss the methods in video image processing. (8)

Or

b) i) Explain how optical storage devices work? What are the various types? (8)

ii) Which of the RAID levels are suitable for multimedia applications? Discuss. (8)

15. a) i) What are the components of a Hypermedia message? Discuss. (8)

ii) Write notes on any popular Integrated Multimedia message standard. (8)

Or

b) i) Describe Time-line based authoring system with an example. (8)

ii) What are User Interface metaphors? Explain. (8)

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