

COMPUTER SCIENCE AND ENGINEERING

Seventh Semester

CS 9041 – VISUALIZATION TECHNIQUES

(Regulation 2008)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. Give one example for each: Sensory symbol and arbitrary symbol.
2. Define psychophysics.
3. Define the concept of non linear magnification.
4. List two applications of non computer visualization.
5. Compare one dimension and multi dimensional data.
6. Write down the advantages of using workspaces in GUI.
7. Write down the features of a typical text to speech system.
8. Give the advantages of continuous zoom technique.
9. List any five animation techniques.
10. Define rendering process.

PART-B (5 x 16 = 80 Marks)

11. (i) Explain the visualization stages in detail. (8)
(ii) How are data classified in visualization? Give one example for each and explain. (8)
12. (a)(i) How is DOI of an element for a given focus FD computed? Also explain fish eye view principle. (8)
(ii) Explain the properties suitable for users comprehension and explain comprehensible fish eyes view. (8)

OR

- (b)(i) Explain the groups of emphasis techniques in detail. (8)
(ii) How is abstraction implemented in user interfaces? (8)
13. (a)(i) Given a data set which consists of temperature and rainfall of ten places for five years. Explain any one visualization technique used in detail to visualize the above data set. (8)
(ii) How are text visualized using vector representation model? Explain. (8)

OR

- (b)(i) Explain the different ways of visualizing hierarchical dataset. (8)
(ii) Explain the process of using tree map technique for visualizing documents. (8)
14. (a) How will you use zoom techniques for illustration purposes. Explain. (16)

OR

(b) Explain the architecture of a visual interface with dynamic figure captions. (16)

15. (a)(i) Design an animating system which is capable of rendering animated line drawings. (8)

(ii) Explain in detail the process of creating enhanced animation sequences from simple animation files. (8)

OR

(b) Write short notes on:

(i) Zoom navigator (5)

(ii) Rendering gestural expressions. (5)

(iii) Tactile maps (6)