US – 656

VI Semester B.C.A. Examination, May 2017
(Y2K8 Scheme) (R)
COMPUTER SCIENCE
BCA-603 : Computer Graphics

Time : 3 Hours Max. Marks : 100

Instructions : *1) Answer **all** Sections.*
*2) Section – **D** is applicable to students of **2013-14** and onwards.*

SECTION – A

Answer **any ten** questions. **Each** question carries **two** marks. **(10×2=20)**

1. Define computer graphics.
2. Define coherence properties.
3. What are the different fill styles to fill a polygon ?
4. What are the advantage of gravity field ?
5. Give the different attributes of line.
6. Explain shear transformation.
7. Define clipping.
8. What is dragging method ?
9. Write about the functioning of a mouse.
10. Write about the octrees.
11. What do you mean by segment files ?
12. Give examples of touch screen.

P.T.O.

SECTION – B

Answer **any five** questions. **Each** question carries **five** marks. **(5×5=25)**

13. With neat diagram explain the working of CRT.

14. Define circle. Write DDA circle algorithm.

15. Explain two Dimensional Translation.

16. What is the use of segments and explain segment attributes ?

17. Explain positioning techniques in details.

18. Explain window-to-viewport co-ordinate transformation.

19. Explain Dragging and Rubber band Technique as applied to interactive computer graphics.

20. Explain the different actions performed by a touch screen in graphical input device.

SECTION – C

Answer **any three** questions. **Each** question carries **fifteen** marks. **(3×15=45)**

21. a) List any 5 applications of computer graphics. Explain any two applications. **10**

    b) Explain the working of shadow mask CRT. **5**

22. a) Explain Bresenham' line drawing algorithm and illustrate with end points (17, 6) and (28, 14). **8**

    b) Explain different character attributes in detail. **7**

23. a) Explain 2D basic transformation with suitable illustrations. **9**

    b) Consider a polygon with 4 coordinate points (0, 0), (4, 0), (2, 3), (2, 1) with a scaling factor (S_x, S_y) as (0.5, 0.7). Show how the object is scaled. **6**

24. a) Explain Cohen-Sutherland line dipping algorithm with an example. **10**

    b) Explain polygon surfaces. **5**

25. Write short notes on : **(5+5+5)**

    a) Sketching

    b) Constraints

    c) Selection by name.

SECTION – D

Answer **any one** question. **Each** question carries **ten** marks. **(1×10=10)**

26. a) Explain scan line algorithm for area filling. **5**

    b) Explain 3D transformation. **5**

27. a) Explain different actions performed by a mouse and keyboard. **5**

    b) What is menu selection ? Explain. **5**