



MS – 540

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VI Semester B.C.A. Degree Examination, May/June 2014
(Y2K8 Scheme)

Computer Science

BCA 603 : COMPUTER GRAPHICS

F – 100 – 2013-14 and Onwards/R – 90 – Prior to 2013-14

Time : 3 Hours

Max. Marks : 90/100

Instructions : 1) Section **A, B** and **C** is common to **all**.

2) Section **D** is applicable to the students who have taken admission in **2011-2012**.

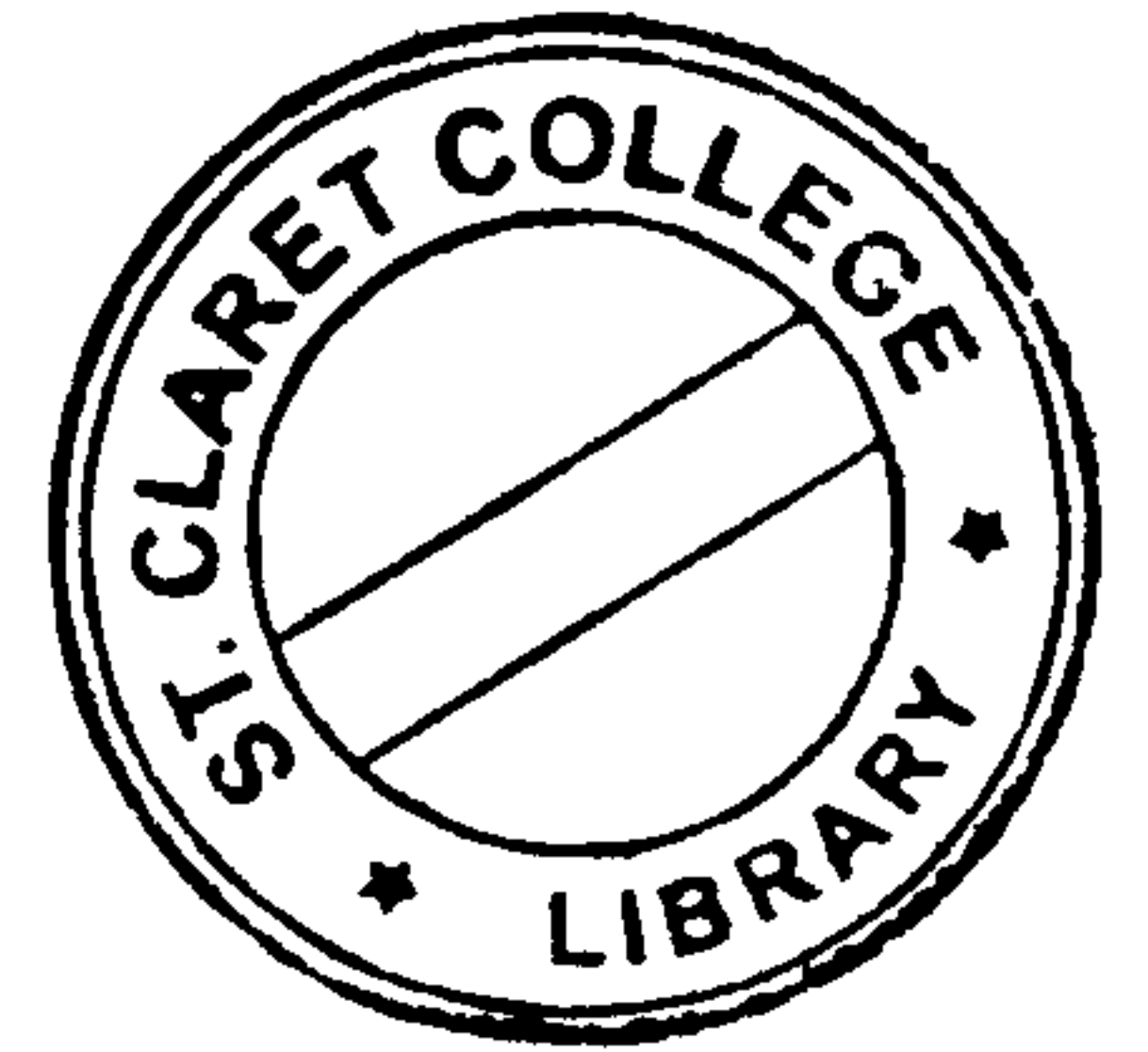
3) **100** marks for **fresh** students of **2013-2014** onwards and **90** marks for **repeater** students prior to **2013-2014**.

SECTION – A

I. Answer **any ten** questions. **Each** questions carries **two** marks.

(10×2=20)

- 1) Define the terms persistence and resolution.
- 2) Define a bitmap and pix map.
- 3) What is staircase effect ?
- 4) What is line cap ? List any two line caps.
- 5) What is shearing ?
- 6) Distinguish between uniform scaling and differential scaling.
- 7) What is exterior clipping ?
- 8) Explain depth cueing.
- 9) Give any two functions for segmenting.
- 10) Draw the segment format diagram.
- 11) Explain gravity field effect.
- 12) Explain any two stroke devices.



P.T.O.



SECTION – B

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

- 13) Explain any five applications of computer graphics.
- 14) Give different attributes for line in detail.
- 15) Explain general pivot point rotation for a 2-dimensional object.
- 16) What is clipping ? Explain different forms of text clipping.
- 17) Explain about Bezier curves.
- 18) What is a segment file and what are its attributes ?
- 19) Explain rubber band method and dragging.
- 20) Bring out the differences between pointing and positioning devices.

SECTION – C

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

- 21) a) With a neat diagram explain the working of a shadow mark CRT. **8**
b) Explain difference between Random Scan and Raster Scan Systems. **7**
- 22) a) Write the Bresenham's circle algorithm and plot a circle of radius $r = 10$ and center as origin for first quadrant only. **10**
b) Explain scan line algorithm for area filling. **5**
- 23) a) What is transformation ? Explain two dimensional translation rotation and scaling with an example. **9**
b) Explain window to viewport transformation. **6**
- 24) a) Explain Cohen-Sutherland method of line clipping algorithm with an example. **8**
b) What is octrees ? How are they used to represent 3D objects ? **7**
- 25) a) What is multiple and menu selection ? Explain with example. **7**
b) Explain dynamic manipulation in interactive input techniques. **8**



SECTION – D

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

Note : Section **D** should be answered by students of 2013-2014 onwards **only**.

- 26) a) Explain the DDA line drawing algorithm with an example. 5
 - b) Explain the two dimensional transformation of reflection about the x-axis and y-axis. 5
 - 27) a) Explain 2D composite transformation. 5
 - b) Illustrates polygon tables with an example. 5
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