

[46/A-32]

No. of Printed Pages : 02

SARDAR PATEL UNIVERSITY

B.C.A. Examination

V<sup>th</sup> Semester (CBCS) (Reg.)

Thursday, Date: 14-11-2019

Session : Morning

Time : 10:00 A.M. TO 01:00 P.M.

Course Code: US05CBCA02

Course Title : Computer Graphics

Total Marks: 70

Q1. Multiple Choice Questions.(Attempt All)

[10]

1. \_\_\_\_\_ produce illustrations for reports used with projectors.  
A. Computer Art  
B. Entertainment  
C. Presentation Graphics  
D. Image Processing
2. Brightness is controlled by which part of CRT ?  
A. Horizontal deflection plate  
B. Control grid  
C. Phosphor coated screen  
D. Vertical deflection plate
3. Maximum number of colors generated by beam penetration method are \_\_\_\_\_.  
A. 2  
B. 6  
C. 10  
D. 4
4. \_\_\_\_\_ algorithm(s) used for line drawing.  
A. DDA  
B. Bresenham  
C. Both A and B  
D. None of the above
5. In odd-even rule, if the number of polygon edges crossed by this line is odd, then that point is \_\_\_\_\_ point.  
A. Interior  
B. Exterior  
C. Overlapping  
D. Partially interior
6. \_\_\_\_\_ obtained by adding a filled semicircle to each butt cap.  
A. Circle cap  
B. Semi circle cap  
C. Round cap  
D. Projecting square cap
7. Which of the following geometric transformation distorts the shape of an object?  
A. Shear  
B. Translation  
C. Reflection  
D. Rotation
8. The region against which an object is clipped is called a \_\_\_\_\_.  
A. Pivot point  
B. Window  
C. Viewport  
D. Clip window
9. \_\_\_\_\_ indicates the selected frame number, the current frame rate, and the elapsed time to the current frame.  
A. Frame  
B. Timeline  
C. Key frame  
D. Layer
10. To transform a gradient or bitmap fill, \_\_\_\_\_ tool is used in FLASH.  
A. Selection  
B. Fill Transform  
C. Paint Bucket  
D. Eye Dropper

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(P.T.O.)

**Q2. Answer the following Short Questions (Attempt any TEN) [20]**

1. What are advantages of Flat panels compared to CRT?  
Give examples of Flat Panel displays.
2. List primary components Electron gun of CRT and state its functions.
3. Define Terms: (i) Aspect Ratio (ii) Resolution
4. Explain Boundary Fill procedure using 4 connected approach.
5. What is Inside-Outside test? List the methods for Inside-Outside test.
6. List and draw the types of joins used to join two intersecting thick lines.
7. Define Terms: (i) Reflection (ii) Window
8. What is Clipping?
9. What is Scaling?
10. List and Explain different types of text fields that can be created in FLASH.
11. Define Terms: (i) Layer (ii) Stage
12. Explain play and stop actions of movie clip.

**Q3.a. Explain working of Cathode Ray Tubes in detail with labeled diagram. [06]**

**Q3.b. Explain in detail concept of Random Scan Technology. [04]**

**OR**

**Q3.a. Explain various applications of Computer Graphics in detail. [06]**

**Q3.b. Explain Shadow Mask method with labeled diagram in detail. [04]**

**Q4.a. Write a short note on Character Generation. [05]**

**Q4.b. Write steps for Mid-Point Circle generation algorithm. [05]**

**OR**

**Q4.a. Explain Odd-Even rule with example. [05]**

**Q4.b. Write steps for Bresenham Line drawing algorithm. [05]**

**Q5.a. What is Geometric Transformation? Explain Translation geometric transformation in detail. [05]**

**Q5.b. Explain Cohen-Sutherland line clipping algorithm in detail. [05]**

**OR**

**Q5.a. Explain Viewing Pipeline in detail. [05]**

**Q5.b. Explain Sutherland Hodgeman polygon clipping algorithm in detail. [05]**

**Q6. What is FLASH? Explain toolbox of FLASH in detail (any 10 tools). [10]**

**OR**

**Q6. Explain following animations in detail with example and steps to create animation: (i) Frame by Frame (ii) Shape tween [10]**

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