

PARUL UNIVERSITY
FACULTY OF IT & COMPUTER SCIENCE
BCA/IMCA Winter 2021 – 22 Examination

Semester: 5**Subject Code: 05101301****Subject Name: Computer Graphics****Date: 08/10/2021****Time: 2hr:30min****Total Marks: 60**

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Answer the followings.**A. Answer / Define the following in short.****(05)**

1. Write the two techniques for producing colour displays with a CRT?
2. Write the types of clipping?
3. What do you mean by emissive and non-emissive displays?
4. What is Translation?
5. Write the important applications of computer graphic.

B. Multiple choice type questions/ Give the sentence true or false. (Each of 01 marks)**(10)**

1. Pixel can be arranged in a regular
 - a) One Dimensional Grid
 - b) Two Dimensional Grid
 - c) Three Dimensional Grid
 - d) None Of These
2. Types of Computer Graphics are
 - a) Vector and Raster
 - b) Scalar and Raster
 - c) Vector and Scalar
 - d) None of these
3. The quality of an image depend on
 - a) No. of pixel used by image
 - b) No. of line used by image
 - c) No. of resolution used by image
 - d) None
4. Several graphics image file formats that are used by most of graphics system are
 - a) GIF
 - b) TIFF
 - c) JPEG
 - d) All of these
5. The amount of time the phosphor produce light is controlled by chemical composition of the phosphor. This is known as
 - a) Persistence
 - b) Resistance
 - c) Generator
 - d) None
6. Random Scan Systems are designed for
 - a) Line drawing application
 - b) Pixel drawing application
 - c) Color drawing application
 - d) None of these
7. The process of coloring the area of a polygon is called
 - a) Polygon filling
 - b) Polygon flow
 - c) Aliasing
 - d) None of these
8. Bresenham circle algorithm uses the approach of
 - a) Midpoint

- b) Point
 - c) Line
 - d) None of these
9. The technique to minimize aliasing are
- a) Increased no of resolution
 - b) Modify pixel intensities
 - c) Super Sampling
 - d) All of these
10. The purpose of refreshing a CRT is
- a) To avoid flickering
 - b) To maintain steady picture
 - c) To avoid fading of pixels
 - d) All of the above

Q.2 Answer the followings. (3 Marks Questions.) (Any Five) (15)

1. What are the 3 common file type of an image file?
2. What is PNG used for?
3. What is sampling and quantization in digital image processing?
4. Why do we need image enhancement?
5. What is image compression?.
6. What is the use of animation in multimedia?

Q.3 Answer the following. (5 Marks Questions)(Any three) (15)

1. Discuss the advantages of Flash.
2. Write a short note on Fundamental steps of Image Processing
3. Magnify the size of triangle having vertices A(4,9),B(3,5)and C(8,9) to thrice of its original size about the fixed point (2,3).
4. Explain differences between Raster Graphics and Vector Graphics

Q.4 Answer the following in detail.

A. What is Line Clipping? Write pseudo code for Cohen-Sutherland Line Clippings (05)

B.(1) What is the purpose of Inside-outside Test & discuss Nonzero winding number rule with suitable example(s) (05)

B.(2) What is Geometric Transformation? Explain General 2-D Fixed Point Scaling with suitable example(s) (05)

OR

B.(1) What is output primitive? List all output primitives & write Bresenham Line Drawing Algorithm (05)

B.(2) Explain Sutherland-Hodgeman Polygon Clipping. (05)