

PARUL UNIVERSITY
FACULTY OF IT & COMPUTER SCIENCE
BCA Summer 2018 – 19 Examination

Semester: 5
Subject Code: 05101301
Subject Name: Computer Graphics

Date: 06/05/2019
Time: 10:30am to 1:00pm
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 the following in short.****(05)**

1. State the importance of Computer Graphics.
2. Define Refresh buffer.
3. What is Scaling?
4. Define Image Restoration.
5. What is a Tweening?

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

1. The graphics can be
 - a) Drawing
 - b) Simulation
 - c) Photograph, movies
 - d) All of these
2. Raster graphics are composed of
 - a) Pixels
 - b) Palette
 - c) Paths
 - d) None of these
3. Several graphics image file formats that are used by most of graphics system are
 - a) GIF
 - b) TIFF
 - c) JPEG
 - d) All of these
4. CMYK true color model has _____ color depth
 - a) 24bit
 - b) 32bit
 - c) 64bit
 - d) None
5. Two basic technique for producing color display with a CRT are
 - a) Shadow mask and random scan
 - b) Beam penetration method and shadow mask method
 - c) Random scan and raster scan
 - d) None of above
6. Flat panel displays can be categorized as emissive display and non- emissive display.(True/False)
7. The ratio of the width to the height of an image or screen is known as Aspect Ratio.(True/False)
8. Inside-Outside test is used to locate a _____ which is inside or outside the polygon.
 - a) Line
 - b) Segment
 - c) Point
 - d) None of the above
9. Which is the image processing technique used to improve the quality of image for human viewing?
 - a) compression
 - b) enhancement
 - c) restoration
 - d) analysis
10. A _____ is a location on a timeline which marks the beginning or end of a transition.
 - a) Frame
 - b) Scene
 - c) Layer
 - d) Keyframe

Q.2 Answer the followings.**(15)**

1. Explain any 2 types of Polygons. **2**
2. State the causes of image noise. **2**
3. What is a frame? **2**
4. Explain Winding number problem. **3**
5. Explain GIF standard for image. **3**
6. Compare Lossy compression and Lossless compression. **3**

Q.3 Answer the following. (Any three) (15)

1. Differentiate between LCD and LED.
2. Write a note on DDA Algorithm.
- 3 Explain MPEG and JPEG image file formats.
- 4 Write the steps of Digital Image processing.

Q.4 Answer the following.

A. Explain the construction and working of an Cathode Ray Tube. (05)

B. Explain Bresenham's line drawing algorithm. Find the pixels required for generating a line from (0,0) to(10,5) by Bresenham's algorithm. (10)

OR

B. Explain in brief Translation, Scaling, Rotation, Reflection and Shearing. (10)
Define a Window and a Viewport. List and explain the steps of Window Viewport mapping