

**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