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| **SESSION** | **AUGUST 2023** |
| **PROGRAM** | **BACHELOR OF COMPUTER APPLICATIONS (BCA)** |
| **SEMESTER** | **V** |
| **COURSE CODE & NAME** | **DCA3142 / GRAPHICS AND MULTIMEDIA** |
| **CREDITS** | **4** |
| **NUMBER OF ASSIGNMENTS & MARKS** | **02**  **30 MARKS EACH** |

**Assignment Set – 1**

**1. Discuss DDA and Bresenham’s algorithm with suitable example. 5+5**

**Ans 1.**

**Digital Differential Analyzer (DDA) Algorithm**

The Digital Differential Analyzer (DDA) is a scan-conversion method used in computer graphics for drawing a straight line. It's a straightforward method based on linear interpolation.

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whatsapp no 8791490301.

**2. Explain in detail all types of 2D transformations. 10**

**Ans 2.**

Two-dimensional (2D) transformations are fundamental operations in computer graphics and computer-aided design (CAD) that allow you to manipulate the position, size, and orientation of 2D objects. There are several types of 2D transformations, each serving a specific purpose. Let's explore them in detail:

**1. Translation**: Translation is the simplest 2D transformation, involving the movement of an object from one position to another. It is defined by two parameters: the amount of horizontal (dx) and vertical (dy) displacement. The new coordinates of a point (x, y) after translation are (x + dx, y + dy).

**2. Rotation:** Rotation transforms an object by a certain angle θ about a fixed point called the center of rotation. This

**3. What is Two-dimensional viewing algorithm? Discuss the polygon clipping algorithm. 5+5**

**Ans 3.**

Two-dimensional viewing algorithms are essential in computer graphics and computer-aided design (CAD) to determine which parts of a two-dimensional scene or image should be displayed on a screen or output device. These algorithms help in efficiently rendering complex scenes and handling various geometric primitives such as polygons, lines, and points. One important aspect of two-dimensional viewing algorithms is polygon clipping, which is

**Assignment Set – 2**

**4. What are Bezier curve and B-Spline curves? Write a detailed note on them. 5**

**Ans 4.**

**Bezier Curve:**

A Bezier curve is a mathematical curve that is widely used in computer graphics, animation, and CAD (Computer-Aided Design) applications for defining and representing smooth, curved paths. Bezier curves are named after the French engineer Pierre Bézier, who developed them in the 1960s

**5. Write a detailed note on Light and Color models. 10**

**Ans 5.**

**Light Models:**

In computer graphics and computer-generated imagery (CGI), light models are used to simulate the behavior of light and how it interacts with objects in a virtual scene. These models are essential for creating realistic and visually appealing 3D graphics. There are several light models, each designed to capture different aspects of how light behaves in the real world. Here are some common light models:

**6. Elaborate on the role of animation in Multimedia and also discuss Morphing. 10**

**Ans 6.**

**Role of Animation in Multimedia:**

Animation plays a pivotal role in multimedia, enhancing the overall user experience and enabling the effective communication of information and ideas. In multimedia, which encompasses various media types like text, images, audio, and video, animation brings