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**Sixth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025**  
**Computer Graphics and Fundamentals of Image Processing**

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

**Module-1**

- 1 a. Define computer graphics. Explain basic applications of computer graphics. (10 Marks)  
b. Outline electrostatic deflection of the electron beam in a CRT. (10 Marks)

**OR**

- 2 a. Explain Raster Scan display with neat diagram. (10 Marks)  
b. Demonstrate DDA Algorithm with different cases. (10 Marks)

**Module-2**

- 3 a. Construct two dimensional geometric translation and rotation equation. (10 Marks)  
b. Demonstrate three dimensional coordinate axis rotation. (10 Marks)

**OR**

- 4 a. Summarize functions for two dimensional geometric transformations. (10 Marks)  
b. Outline OpenGL Geometric Transformation functions. (10 Marks)

**Module-3**

- 5 a. Summarize logical classification of input devices. (10 Marks)  
b. Explain OpenGL menu functions. (10 Marks)

**OR**

- 6 a. Organize different interactive picture construction technique. (10 Marks)  
b. Identify development stages for design of animation sequences. (10 Marks)

**Module-4**

- 7 a. Outline image processing and related fields. (10 Marks)  
b. Explain image processing Arithmetic operations. (10 Marks)

**OR**

- 8 a. Briefly classify different types of images. (10 Marks)  
b. Write important characteristics of images. (10 Marks)

**Module-5**

- 9 a. Rephrase formal definition of image segmentation. (06 Marks)  
b. Summarize characteristics of the segmentation process. (07 Marks)  
c. Explain canny-edge detection algorithm. (07 Marks)

**OR**

- 10 a. Classify image segmentation algorithm. (10 Marks)  
b. Demonstrate different stages in edge detection. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.