

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) Derive Bresenham line drawing Algorithm.
Or
(b) Write and explain Circle algorithm.
17. (a) Discuss about 2D Rotation with diagram.
Or
(b) Explain :
(i) Composite transformation.
(ii) Scaling in 2-Dimension.
18. (a) Explain any one line clipping algorithm.
Or
(b) Explain in details about window-to-view port mapping.
19. (a) Discuss about orthographic projection.
Or
(b) Write in details about 3D scaling.
20. (a) What is the use of Black Surface Detection Method? Explain.
Or
(b) Explain the following color model
(i) RGB
(ii) HSV

Reg. No. :

**Code No. : 41204 E Sub. Code : JMCS 63/
JMSE 63**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2019.

Sixth Semester

Computer Science/Software Engineering

COMPUTER GRAPHICS AND VISUALIZATION
(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer:

- Software packages used for CAD applications typically provide _____ environment to the designer.
(a) Single Window (b) Two Window
(c) Multi Window (d) No Window
- On a monochromatic monitor, the frame buffer is known as _____.
(a) Display file (b) Pixmap
(c) Bitmap (d) Refresh buffer
- The translation distances (t_x, t_y) is called as
(a) Translation vector (b) Shift vector
(c) Both a and b (d) Neither a nor b



4. _____ is applied to an object to repositioning it along a straight line path from one coordinate location to other.
 (a) Reflection (b) Rotation
 (c) Scaling (d) Translation
5. A world coordinate area selected for display is called _____.
 (a) Window
 (b) View port
 (c) Transformation
 (d) Viewing transformation
6. Curve clipping procedures will involve _____ equations.
 (a) Linear (b) Non linear
 (c) Polynomial (d) Quadratic
7. Menus are used to select processing options is _____ input device.
 (a) Locator (b) Pick
 (c) Choice (d) None of these
8. We can perform 3D rotation about _____.
 (a) x (b) y
 (c) z (d) All of these
9. _____ is the color space used by the NTSC color TV system.
 (a) RGB (b) CMY
 (c) YIQ (d) All of these
10. The following is one type of orthographic projections.
 (a) Front Projection (b) Parallel Projection
 (c) Bottom Projection (d) None of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Write a short note on raster scan systems.

Or

- (b) Derive DDA line drawing Algorithm.

12. (a) Explain about curve attributes.

Or

- (b) What is homogeneous transformation matrix?

13. (a) What is view port?

Or

- (b) Explain in details about Polygon clipping.

14. (a) Explain the interactive picture construction techniques.

Or

- (b) Derive 3D Rotation Matrix.

15. (a) Discuss about Depth Buffer method in 3D.

Or

- (b) Explain YIQ color model.

