

**K. J. Somaiya Institute of Technology, Sion, Mumbai-22**  
(Autonomous College Affiliated to University of Mumbai)

<del>Nov-Dec 2024</del> <b>Jan/Feb 2025</b> (B. Tech) Program: <del>Computer</del> <b>AI-DS</b> Scheme IIB Supplementary Examination: SY Semester: III Course Code: <del>CC</del> <b>CC</b> 305 and Course Name: Computer Graphics Date of Exam: <b>07-02-25</b> Duration: 02.5 Hours Max. Marks: 60		
--	--	--

**Instructions:**

- (1) All questions are compulsory.
- (2) Draw neat diagrams wherever applicable.
- (3) Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	Solve any <b>two</b> questions out of three: (05 marks each)	10		
a)	Explain Raster scan display with neat diagram		CO1	U
b)	Write advantages and disadvantages of DDA Line Algorithm		CO2	U
c)	Scale a triangle with vertices A(2,2), B(6,2) and c(4,4) with scaling factor $S_x=2$ and $S_y=3$		CO3	Ap
Q 2	Solve any <b>two</b> questions out of three: (05 marks each)	10		
a)	Explain any one Line clipping Algorithm with algorithm steps		CO4	U
b)	Describe types of Projection in detail		CO5	U
c)	Explain the concept of motion capture in animation.		CO6	U
Q.3	Solve any <b>two</b> questions out of three. (10 marks each)	20		
a)	Explain Bresenham's Line algorithm and take suitable example to rasterize first 4 pixels with the help of algorithm steps		CO2	Ap
b)	Using Cohen-Sutherland line clipping algorithm, find the visible portion of line P(40,80), Q(120,30) and the window is defined as A(20,20), B(60,20), C(60,40) and D(20,40)		CO4	Ap
c)	Explain B-Spline Curve with Properties		CO5	U
Q.4	Solve any <b>two</b> questions out of three. (10 marks each)	20		

**K. J. Somaiya Institute of Technology, Sion, Mumbai-22**  
(Autonomous College Affiliated to University of Mumbai)

<del>Nov-Dec 2024</del> <b>Jan/Feb 2025</b>	
(B. Tech) Program: <del>Computer</del> <b>AI-DS</b> Scheme IIB	
Supplementary Examination: SY Semester: III	
Course Code: <del>EC</del> <b>EC</b> 305 and Course Name: Computer Graphics	
Date of Exam: <b>07-02-25</b>	Duration: 02.5 Hours
Max. Marks: 60	

a)	Describe the Depth Buffer Algorithm in detail	CO6	U
b)	Calculate the pixel coordinates of line PQ using the DDA line Algorithm, where P = (4,2) and Q = (10,7)	CO2	Ap
c)	Write steps for 3D object rotation about an arbitrary axis along with its matrix representation	CO5	U

\*\*\*\*\*