Comps / AIDS / KT
(CEC305 / AIC305)

B

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

Nov – Dec 2024
(B. Tech) Program: Computer Scheme IIB
Backlog S.Y. / Examination: SY Semester: III
Course Code: CEC305 and Course Name: Computer Graphics
Date of Exam: 30/11/24 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 **two** questions out of three: (05 marks each)	10		
a)	Explain Random scan display with neat diagram		CO1	U
b)	Compare DDA and Bresenham's line drawing algorithm.		CO2	U
c)	Scale a triangle with vertices A(2,2), B(6,2) and c(4,4) with scaling factor Sx=2 and Sy=3		CO3	Ap
Q 2	Solve any **two** questions out of three: (05 marks each)	10		
a)	Explain 2D viewing pipeline in detail.		CO4	U
b)	Explain Parallel and Perspective projection.		CO5	U
c)	Explain the principles of animation.		CO6	U
Q.3	Solve any **two** questions out of three. (10 marks each)	20		
a)	Write a DDA line drawing algorithm. Calculate the pixel coordinates of line AB using DDA algorithm, where A=(0,0) and B=(4,6)		CO2	Ap
b)	Using Cohen Sutherland algorithm, find the visible portion of line P1(70,20) P2(100,10) against a window A (50,10), B (80,10). C(80,40) & D(50,40).		CO4	Ap
c)	Explain various steps to perform rotation about an arbitrary axis in 3D.		CO5	U
Q.4	Solve any **two** questions out of three. (10 marks each)	20		
a)	Explain z buffer method for hidden surface removal with suitable example.		CO6	U

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b)	What is a 4-connected and 8-connected method? State its advantages and disadvantages.		CO2	U
c)	Explain Bezier curve? Describe properties of Bezier curve.		CO5	U

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