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

Feb/March 2024

(B. Tech) Program: AI &DS Scheme I/II/IIB/III:II
Examination: SY   Semester: III
Course Code: AIC305 and   Course Name: Computer Graphics

Date of Exam: 06/03/24   Duration: 2.5 Hours   Max. Marks: 60

Supplementary Examination

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

		Max. Marks	CO	BT level
Q 1	Solve any six questions out of eight:	12		
i)	List any four flat-screen technologies, with their applications in one line each	2	1	U
ii)	What is the most important shortcoming of the DDA algorithm	2	2	U
iii)	Derive matrix equation for multiplication	2	3	U
iv)	What are the advantages of Cohen Sutherland algorithm.	2	4	U
v)	What is the Orthogonal projection	2	5	U
vi)	What is the Z-buffer	2	6	U
vii)	List various transformations	2	3	U
viii)	What is meant by the world coordinates	2	4	U
Q.2	Solve any four questions out of six.	16		
i)	Draw the block diagram of the Cathode Ray Tube and explain each block in a couple of lines.	4	1	U
ii)	Explain how the increment parameter is calculated in the DDA algorithm	4	2	U
iii)	Write any 8 points on a circle having a center at (2,2) and a radius of 4 units	4	2	Ap
iv)	Explain the process of region code / out code generation in the Cohen-Sutherland Line clipping algorithm	4	4	U

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v)	Write a short note on perspective Projection.	4	5	U
vi)	Write a short note on the Key Frame	4	6	U
Q.3	Solve any two questions out of three.	16		
i)	List the applications of Computer Graphics and comment on each in one or two lines	8	1	U
ii)	Write advantages & disadvantages of Bresanham line algorithm.	8	2	U
iii)	Calculate the points on a circle which has the origin as the center and radius of 5 units	8	3	Ap
Q.4	Solve any two questions out of three.	16		
i)	Write algorithm steps for Sutherland Hodgman polygon clipping algorithm	8	4	U
ii)	Compare Bezier curve V/s B spline curve generation	8	5	U
iii)	Explain the area subdivision method for visible surface detection	8	6	U

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