Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: Computer Graphics (CG)

Subject Code: 5CS04MCG1 **Branch: MCA**

Semester: 4 **Date: 05/05/2018** **Time: 10:30 To 01:30** **Marks:70**

Instructions:

(1) Use of Programmable calculator and any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

SECTION – I

Q-1		**Attempt the Following questions**	**(07)**
	a.	What is Resolution?	1
	b.	What is Computer Graphics?	1
	c.	What is Aspect Ratio?	1
	d.	What is a dot size?	1
	e.	List out the merits and demerits of Penetration techniques.	1
	f.	What is seed fill?	1
	g.	What is Transformation?	1
Q-2		**Attempt all questions**	**(14)**
	a	Write difference between CRT and LCD.	5
	b	Explain in detail about graphics input devices with suitable figures.	5
	c	Discuss scalar & Cross Product with examples	4
		OR	
Q-2		**Attempt all questions**	**(14)**
	a	What is Projection? Explain types of Projection.	5
	b	Explain about Bresenham's Line drawing with an algorithm.	5
	c	Write a program to draw lines of attributes using DDA Line Algorithm	4
Q-3		**Attempt all questions**	**(14)**
	a	Write about Cohen-Sutherland's line clipping algorithm	7
	b	Explain Translation, Rotation and Scaling with Matrix Representation Form.	7
		OR	
Q-3	**a**	What is viewing transformation? Describe the window port and view port	7
	b	Write a program to draw a Circle using Mid Point Circle Algorithm	7

SECTION – II

Q-4		**Attempt the Following questions**	**(07)**
	a.	What is the use of clipping?	1

	b.	What is Polygon mesh?	1
	c.	Define Projection.	1
	d.	What are the steps involved in 3D transformation?	1
	e.	Define YIQ color model	1
	f.	What are the two common sources of textures?	1
	g.	What is Color Look up table?	1
Q-5		**Attempt all questions**	**(14)**
	a	Explain in detail about raster and random scan systems.	5
	b	Write a graphics program to scale a polygon in which values of polygon edges and translation points will be given by user	5
	c	Write a short note on parallel and perspective projections.	4
		OR	
Q-5	**a**	Describe any Five applications of computer graphics	5
	b	Write a graphics program which translates a point from window-to-view port coordinate transformation	5
	c	Explain two methods of circular drawing	4
Q-6		**Attempt all questions**	**(14)**
	a	Explain about shading and graphics pipeline.	**7**
	b	Explain in detail about the conversion between HSV and RGB color models.	**7**
		OR	
Q-6		**Attempt all Questions**	
	a	Explain Scan Line Seed Fill Algorithms?	**7**
	b	Describe basic illumination model with its types.	**7**