QP Code: RN21BTECH541 | Reg. No | | | | | | | | | | | AY 21

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

B. Tech (Seventh Semester – Regular) Examinations, November – 2024

21BCSPC47001/21BCMPC47001/21BCDPC47001 – Computer Graphics

(CSE,CSE(AIML),CSE(DS))

Time: 3 hrs | Maximum: 70 Marks

(The figures in the right-hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. If we use direct coding of RGB value with 2 bits per primary colour, how many possible colours do we have for each pixel	CO1	K2
b. What is the function of control electrode in a CRT?	CO1	K1
c. What is the region code of a point P= (15, 20) about the clipping window A= (5,5), B= (10,5), C= (10,10), D= (5,10)?	CO2	K1
d. For n=4 and k=3 represent the open uniform knot vector	CO3	K2
e. What are the two types of smooth shading?	CO4	K1

PART – B **(15 x 4 = 60 Marks)**

Answer ***All*** the questions		Marks	CO #	Blooms Level
2. a.	Illustrate the working principle of Raster scan and Random scan display.	7	CO1	K1
b.	Mention the point to be display when drawing a line between A= (5, 5) and B= (12, 11) by Midpoint line drawing algorithm.	8	CO1	K2
	(OR)			
c.	Explain Midpoint circle drawing algorithms.	7	CO1	K1
d.	Draw the circle of radius 10 with centre (200, 100) by Bresenham's circle drawing algorithms	8	CO1	K2
3.a.	Represent different types of 3-D Transformation.	7	CO1	K1
b.	Rotate the given triangle A=(2,2), B=(5,2), C=(4,5) by 90 degree keeping A fix.	8	CO2	K2
	(OR)			
c.	Reflect a point (20,25) about the line y= x+3.	7	CO1	K1
d.	Describe different types of Projection with diagram.	8	CO1	K2
4.a.	Evaluate 6 point of Bezier curve which control by the control point A=(1, 1), B=(2, 3), C=(2, 3) D= (4, 3).	7	CO3	K2
b.	Describe properties of Bezier curve with blending function.	8	CO3	K1
	(OR)			
c.	Given point A=(1, 2, 0), B= (3, 6, 20) C=(2, 4, 6) and view point V=(0, 0, -10), determine which point obscure others when viewed from V.	7	CO3	K2
d.	Describe the painters algorithm to remove hidden faces.	8	CO3	K1
5.a.	Define Dithering. Mention the bi -level intensity in a 2X2 pixel grid.	7	CO4	K2
b.	Mention different type of Animation Systems	8	CO4	K2
	(OR)			
c.	What is shading? Describe Half tone Shading.	7	CO4	K1
d.	Explain the virtual Reality.	8	CO4	K2

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