POKHARA UNIVERSITY

Level: Bachelor	Semester –Spring	Year: 2020
Program: BE		Full Marks: 70
Course: Computer Graphics		Pass Marks: 31.5
		Time: 2 hrs.

Candidates are required to answer in their own words as far as practicable.
The figures in the margin indicate full marks.

Attempt all the questions.

Group - A: (5×10=50)

Q. N. 1 Why graphical system contains Digital to Analog Converter (DAC) and what is the role of frame buffer organization? 8 way symmetry is not applicable for Ellipse drawing mechanism. Why? Derive the initial decision parameter for Mid-point circle drawing algorithm. — 10

OR

Throughout the first quadrant dividing it into two parts, the regions can be formed by considering the slope of the curve. Assume the slope of curve is less than one than we are in region one and when the slope becomes greater than -1 then in region 2. Considering major and minor axis throughout the first quadrant. What would be appropriate method used to draw the elongated part of circle

Q. N. 2 What is the importance of window and viewport transformation, explain with its practical application? Why we used to homogenous coordinate system in transformation, is it true that without homogenous coordinate system we could not have the final transformation matrix while performing animation? — 10

Q. N. 3 Rotate a triangle A(5,5) B(10,10) and C(@,@) by 45 in CW and scale to half of its original size about origin where @ is the last digit of your exam roll number. — 10

Q. N. 4 Why clipping is necessary in computer graphics? Clip the given polygon using Sutherland-Hodgeman Algorithm and explain every step considered. — 10
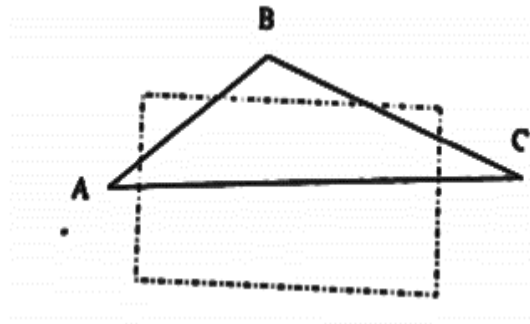
Q. N. 5 If you ask people to describe a color in terms of 24 bit color model, color are represented by varying intensities of different light and if the maximum intensities of color is used. Which color model will be applicable to this perceptual organization of color? C is sometime called minus R, M is sometimes called minus G and Y is sometime called minus B. How would you represent this model geometrically — 10

Group - B: (1×20=20)

Q. N. 6   To develop a gaming application which process model that you are going to recommend as a software project manager when the requirement are very hard to collect and not stable. During the development of the application which data structure can be suitable for you application and in the final rendering process which rendering model that you are going to suggest if we have enough computing resources where we are aiming to develop the seamless finest graphics ?