SAMEER ARORA
BCA B
41 - Computer Graphics

3= WAP and Algorithm to implement BRESHAM CIRCLE DRAWING

⇒ ALGORITHM

- If d <= 0, then NX+1, YX+1, Y is to be chosen as next pixel
- If d>0, then SX+1, Y-1, X+1, Y-1 is to be chosen as next pixel.

ALGORITHM

Step 1- Get the coordinates of the center of the circle and radius and store them in x, y and R respectively. Set P=0 and Q=R.

Step 2- Set decision parameter D= 3-2R

Step 3- Repeat through step-8 while P ≤ Q

Step 4- Call Draw Circle X, Y, P, QX, Y, P, Q

Step 5- Increment the value of P

Step 6- If D < 0 then D>= D+4P+6

(Errors)

Step 7 - Else Set R=R-1, D= D+4P-6P-Q+10

Step 8 : Call Draw Circle X, Y, P, QX, Y, PQ

PROGRAM

```
#include <stdio.h>
#include <graphics.h>
void main()
{
    int gd = DETECT, gm;
    int r, x, y, p, xc = 320, yc = 240;
    printf("Enter the radius ");
    scanf("%d", &r);
    initgraph(&gd, &gm, " ");
    x = 0;
    y = r;
    putpixel(xc+x, yc-y, 1);
    p = 3 - (2*r)
    for(x=0; x<=y; x++)
    {
        if(p<0)
        {   y=y;
            p=(p+(4*x)+6);
```

```
else
 {
 y = y - 1;
 p = p + ((4 * (x - y) + 10));
    }
   put pixel (xc + x, yc - y, 1);
   put pixel (xc - x, yc - y, 2);
   put pixel (xc + x, yc + y, 3);
   put pixel (xc - x, yc + y, 4);
   put pixel (xc + y, yc - x, 5);
   put pixel (xc - y, yc - x, 6);
   put pixel (xc + y, yc + x, 7);
   put pixel (xc - y, yc + x, 8)

      }
      getch();
      closegraph()

   }
```