CHAPTER 6: Class X
GRAPHICS IN BASIC

Ans: Graphics is an art to design and produce pictorial representation of information. There are two
graphic modes. (a). Medium Resolution / SCREEN 1. (320 x 200)
(b). High Resolution / SCREEN 2. (640 x 200)

5. What are the coordinates of text mode, medium resolution mode and higher resolution mode?
Ans: a). Text Mode (SCREEN 0) consists of 80 x 25 rows. It can display 16 colors.
      b). Medium Resolution (SCREEN 1) consists of 320 x 200 rows. It has 4 colors. (0,1,2,3)
      c). High Resolution (SCREEN 2) consists of 640 x 200 rows matrix.

6. Describe the SCREEN Statement.
Ans: Purpose: SCREEN statement is used to select a screen mode for text / graphics. F10 key is used
to select text mode like SCREEN 0,0,0
Syntax: SCREEN [mode] [, [color switch]]
Where screen mode is a numeric value from 0,1,2,7,8,9,10. Screen 0 is by default mode, which is only
text base. Screen mode 1 activates Medium Resolution graphic mode with 320 x 200 pixels. Screen
mode 2 activates High Resolution graphic mode with 640 x 200 pixels.

7. Write the syntax of CIRCLE statement. Also give example for explanation.
Ans: Syntax: CIRCLE (x,y), radius, [color]
Example: CIRCLE(100,100),50,1

8. Compare and differentiate LINE and DRAW statements?
Ans: LINE statement is used to draw lines and boxes on the screen. Its simple syntax is
LINE [(x1,y1)->(x2,y2)] [attribute][B[F][],style]]
Attribute option can be color no. 1, 2 or 3
B: switch is used to draw BOX and BF switch is to fill the box.
Style: It is used to make stylish box lines with 0, 1, 2, 3, 4, and 5 options.

DRAW: The DRAW statement is used to draw lines and other shapes on the screen. It is valid only in
graphics mode. Its syntax is DRAW string. A string consists of single character command followed by
a prefix that control the size, direction etc.

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9. Find out the errors in the following if any? (Try it yourself)
LIE (140, 100) – (200 – 100), 2, FB, 4
       b). 10 SCREEN 2
       20 COLOR 1, 2
       30 DRAW “U10 410 D10 L10”
       40 END
       C). 10 SCREEN 1
       20 LET A = 20
       30 DRAW “U=A R=A, D=A L=A”
       40 END

10. What will be the output of the following. (Try it yourself)

| 10 SCREEN 2 |
| 20 PSET (250, 50) |
| 30 DRAW “G50 R100 H50” |
| 40 END |

| C). 10 SCREEN 2 |
| 20 FOR K = 30 TO 180 |
| 30 CIRCLE (1,100),50 |
| 40 NEXT K |
11. Write a program to draw a star.
   10 CLS
   20 SCREEN 2
   30 LINE (360,140)-(320,70)
   40 LINE -(250,140)
   50 LINE -(395,95)
   60 LINE -(230,95)
   70 LINE -(360,140)

12. Define the COLOR statement. How many color backgrounds are available with color state?
   Ans: The COLOR statement is used to select display colors. There are 0-7 = 8 different colored backgrounds are available with color statement.

13. Define the Palette.
   Ans: the Palette statement contains a set of colors, which are used to change colors of LINE, CIRCLE, PSET and DRAW statements. It also used to change background colors. i.e. PALETTE 0,0 0,1 0,2 0,3 (4 different Background colors ) and 1,0 1,1 1,2 1,3 (4 different foreground colors)

14. Briefly discuss the PIXEL.
   Ans. PIXEL (Picture Element) is one dot on the screen. Your computer screen is made with over 1-million litter square of colors (pixels). You can determine any coordinate as pixel.

15. Write a program to produce five concentric circles of different radii.
   Ans. 10 CLS
       20 SCREEN 2
       30 FOR R = 20 TO 100 STEP 20
       40 CIRCLE (250,90), R
       50 NEXT

16. Write a program to draw a parallelogram by suing DRAW statement.
   Ans. 10 SCREEN 2
       20 PSET(250,50)
       30 DRAW “R55 E20 L55 G20”
       40 END