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BCA-303

GRAPHICS AND INTERNET

Time Allotted: 3 Hours

Full Marks: 70

*The questions are of equal value.
The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as
practicable. All symbols are of usual significance.*

**GROUP A
(Multiple Choice Type Questions)**

1. Answer any *ten* questions. 10×1 = 10
- (i) The init method of Applet is called
- (A) only once
 - (B) each time an applet's HTML document is displayed
 - (C) both (A) and (B)
 - (D) none of these
- (ii) The reflection matrix of a point P(x, y) about the straight line $y = -x$ is $\begin{bmatrix} 0 & ? \\ -1 & 0 \end{bmatrix}$. The "?" mark in the matrix is
- (A) 0
 - (B) 1
 - (C) -1
 - (D) none of these

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- (iii) To rotate an object about an arbitrary point, how many transformation matrices are needed?
(A) Three (B) Two
(C) One (D) Four
- (iv) Size of an object may change in which transformation?
(A) Scaling (B) Rotation
(C) Translation (D) Shearing
- (v) The total number of pixels put "ON" for the starting at (1, 1) and ending at (12, 7) would be
(A) 7 (B) 11
(C) 12 (D) more
- (vi) How many blocks are reserved for private addressing in Class B?
(A) 16 (B) 25
(C) 28 (D) 21
- (vii) 255.255.0.0 is the default mask for
(A) Class A (B) Class B
(C) Class D (D) Class C
- (viii) The protocol use in conjunction with SMTP to hold mail for host is
(A) POP (B) PPP
(C) FTP (D) Both (A) and (B)
- (ix) Graphics Driver is a type of
(A) Memory unit (B) Device driver
(C) VDU software (D) None of these
- (x) Aspect ratio is the ratio of
(A) image's width to its height (B) window to viewport height
(C) image's intensity levels (D) image's height to its width

GROUP B
(Short Answer Type Questions)

- Answer any *three* questions. 3×5 = 15
2. Define the following terms : 5×1
(i) Triad (ii) Aspect ratio (iii) Refresh rate
(iv) Interlacing (v) Bit plane
3. Describe the functionality of CRT system with the help of a suitable diagram. 5
4. What is Java Script? Describe its advantages. 1+4
5. What is an IP address? State different IP address classes. 5
6. Write the tags for the following settings in HTML : 1+1+2+1
(a) Background image
(b) Table
(c) Image insertion with height and width specification
(d) Text hyperlink.

GROUP C
(Long Answer Type Questions)

- Answer any *three* questions. 3×15 = 45
7. (a) Briefly describe the main functional components and its functions of a CRT terminal with a proper diagram. 7
(b) Discuss briefly about Cohen-Sutherland line clipping algorithm with suitable example. 8
8. (a) Derive composite transformation matrices for 3+3+4
(i) two successive rotations
(ii) two successive scaling
(iii) general pivot point rotation

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- (b) Obtain the transformed co-ordinates of vertices of triangle ABC, with A(0, 0), B(1, 1) and C(5, 2) after rotation about the point (-1, -1). 5
9. (a) Write mid-point circle drawing algorithm and generate coordinates for a circle of radius 12 cm with the centre located at (0, 0). 10
- (b) What is aspect ratio? What do you mean by a resolution of a screen? 2.5 + 2.5
10. (a) Write the tags for the following settings in HTML : 3×2
- (i) Image tag
 - (ii) Table
 - (iii) Text hyperlink.
- (b) What is cookie? What do you mean by e-commerce? How many types of e-commerce are there? 2+3+2
- (c) What are the differences between traditional business and e-business? 2
11. (a) How many layers are there in TCP/IP model? Describe connection-oriented and connectionless services provided by the transport layer. 2+3
- (b) Define the following terms : 2×5
- (i) Resolution
 - (ii) Aspect ratio
 - (iii) Refresh rate
 - (iv) Interlacing
 - (v) Bit Plane
12. Write short notes on *any three* of the following : 3×5
- (a) Raster scanning display system
 - (b) Shadow masking
 - (c) DNS
 - (d) FTP
 - (e) TCP / IP model
 - (f) Internet Security.