

Name :

Roll No. :

Invigilator's Signature :

CS/BCA/SEM-3/BCA-303/2011-12

2011

GRAPHICS AND INTERNET

Time Allotted : 3 Hours

Full Marks : 70

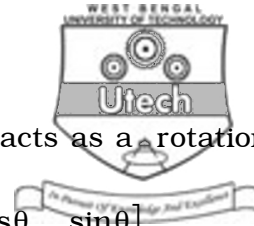
The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : $10 \times 1 = 10$
 - i) In homogeneous coordinate representation $[4, 2, 0]$ represents a point
 - a) lying at infinity
 - b) at (4, 2)
 - c) at (2, 0)
 - d) none of these.
 - ii) If P_0, P_1, P_2 be the control points (in sequential ordering) then the Bezier curve must pass through
 - a) P_0 and P_1
 - b) P_1 and P_2
 - c) P_2 and P_0
 - d) Points close to P_0, P_1 and P_2 .
 - iii) The total No. of pixels put "ON" for the line starting at (1, 1) and ending at (12, 7) would be
 - a) 7
 - b) 11
 - c) 12
 - d) more than 12.



- iv) A rotation matrix is any matrix that acts as a rotation of Euclidean space, represented as
- a) $\begin{bmatrix} \cos\theta & -\sin\theta \\ \sin\theta & \cos\theta \end{bmatrix}$ b) $\begin{bmatrix} \cos\theta & \sin\theta \\ -\sin\theta & \cos\theta \end{bmatrix}$
- c) $\begin{bmatrix} \cos\theta & \sin\theta \\ \sin\theta & \cos\theta \end{bmatrix}$ d) $\begin{bmatrix} -\cos\theta & \sin\theta \\ \sin\theta & \cos\theta \end{bmatrix}$.
- v) 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.
- vi) The class of the following IP address : 163.121.20.2 is
- a) CLASS A b) CLASS B
c) CLASS C d) CLASS D.
- vii) TCP is a/an
- a) Reliable connection oriented protocol
b) Unreliable connection oriented protocol
c) Reliable connectionless protocol
d) Unreliable connectionless protocol.
- viii) is a cryptographic protocol which provide secure communications on the internet.
- a) UDP b) TCP
c) SSL d) SMTP.
- ix) Socket address is
- a) Port address
b) IP address
c) Combination of (a) and (b)
d) None of these.
- x) Which of the following is a class B host address ?
- a) 130.4.5.6 b) 127.0.0.1
c) 192.0.12.100 d) None of these.



GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. Describe Java Applet.
3. Consider the three different master systems with resolution of 640×480 , 1280×1024 and 2560×2048 . What size of the frame buffers is needed for each of these systems to store 12-bits per pixel ? How much storage is required for each system if 24-bits per pixel are to be stored ?
4. Write short notes on SMTP and POP3 Protocols. $2\frac{1}{2} + 2\frac{1}{2}$
5. Write the tags for the following settings in HTML :
 - a) Background image
 - b) Table
 - c) Image insertion with height and width specification
 - d) Text hyperlink. $1 + 1 + 2 + 1$
6. What is an IP address ? State different IP address classes. $1 + 4$

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. a) Find the points required to plot to draw the circle with centre as (100, 90) and radius 10 using Bresenham's circle drawing algorithm.
- b) Briefly describe the main functional components and its functions of a CRT terminal with a proper diagram. $7 + 8$



8. i) Derive composite transformation matrix for
- a) two successive translation
 - b) two successive scaling and
 - c) general pivot point rotation.
- ii) What is understood by z-buffer algorithm ? (3 + 3 + 4) + 5
9. a) Differentiate two basic types of network security.
- b) What do you mean by E-commerce ? What are electronic payment standards and methods ?
- c) What is the need of Internet security ? 6 + 2 + 4 + 3
10. a) Define class A, B, C, D, E Networks.
- b) What is cookie ? Write stages of database connection using ASP.
- c) Write a short note on FTP. 5 + 5 + 5
11. a) Draw the Bezier curve by the control points (2,1), (3,2), (5,0) and (6,2).
- b) Discuss briefly about Cohen-Sutherland line clipping algorithm with suitable example.
- c) Write down the Mid-point sub-division algorithm.
- 5 + 5 + 5

