

Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/BCA/SEM-3/BCA-303/2013-14**

**2013**

**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) If your mail address is s@x.y.z.com then the domain name is
    - a) com
    - b) x.y.z.com
    - c) w
    - d) none of these.
  - ii) One common format for saving images is
    - a) .jpeg
    - b) .mp3
    - c) .wav
    - d) none of these.
  - iii) The protocol used in conjunction with SMTP to hold mail for host is
    - a) POP
    - b) PPP
    - c) FTP
    - d) both (a) & (b).
  - iv) Which is perspective anomaly ?
    - a) Cavalier
    - b) Vanishing point
    - c) Oblique
    - d) None of these.

3130

[ Turn over

CS/BCA/SEM-3/BCA-303/2013-14

- v) In homogeneous coordinate representation [ 4, 2, 0 ] represents a point
- a) lying at infinity
  - b) at ( 4, 2 )
  - c) at ( 4, 2 ) and at ( 2, 1 )
  - d) none of these.
- vi) 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  $P_2$ .
- vii) 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.
- viii) If we want to triple the size of an object twice in succession, the final size would be ..... times that of the original.
- a) 3
  - b) 6
  - c) 9
  - d) none of these.
- ix) One browser to execute Java servlet is
- a) access navigator
  - b) solaris
  - c) posix
  - d) none of these.
- x) Two successive reflections of a point equal
- a) clockwise rotation by  $180^\circ$
  - b) clockwise rotation by  $90^\circ$
  - c) clockwise rotation by  $270^\circ$
  - d) none of these.

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**GROUP - B**

**( Short Answer Type Questions )**

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

2. a) How many layers are there in TCP/IP model ? 2  
b) Describe connection-oriented and connectionless services provided by the transport layer. 3
3. Define the difference between IPv4 and IPv6. What is address space ? 4 + 1
4. Prove that the inverse of the rotation matrix is its transpose.
5. Write the tags for the following settings in HTML :
  - a) Image tag
  - b) Table
  - c) Text Hyperlink.
6. Write the general form of a scaling with respect to a fixed point  $P ( h, k )$ .
7. What is aspect ratio ? What do you mean by a resolution of a screen ? 2 + 3

**GROUP - C**

**( Long Answer Type Questions )**

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

8. a) Define the difference between Classful and Classless addressing. 5  
b) What is protocol ? Describe Java applet. 2 + 5  
c) Write a short note on SMTP protocol. 3

3130

3

[ Turn over

CS/BCA/SEM-3/BCA-303/2013-14

9. a) What is an IP address ? State different IP address classes. 1 + 4
- 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 ? 3
10. a) Write and explain Bresenham's algorithm for drawing a straight line. How does it remove the drawbacks of 'DDA' algorithm ? 3 + 3
- b) What is the difference between parallel projection and perspective projection ? 4
- c) Why are homogeneous coordinates used for transformation computations in computer graphics ? 5
11. Write short notes on the following : 5 × 3
- a) Raster scanning display
- b) FTP
- c) Server side programming
- d) DNS
- e) Shadow masking.
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