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# PGIIIS-N 1548 B-2K13

## M.Sc. IIIrd Semester(CBCS) Degree Examination

## Computer Science

## (Programming in JAVA)

## Paper -HCT-3.1

## (New)

Time : 3 Hours Maximum Marks :80

***Instructions:*** 1) Q. No. 1 in Section **A** is Compulsory.

2) Answer any **five** questions from Section **B**.

### Section-A

**1.** Answer the following: **(10x2=20)**

a) What is inheritance? What are its benefits?

b) What is a constructor? Why it is required?

c) What is Java UDP programming?

d) What is a destructor? Write a Java program to demonstrate it.

e) Differentiate between a local variable and a global variable. What are the problems that may occur due to global variables?

f) Differentiate between classes and objects.

g) What is a package? How name conflicts are resolved during package import?

h) Why is Java platform independent?

i) Differentiate between overloading and overriding.

j) What is AWT?

### Section-B

**2.** a) Explain various looping constructs in Java. What for break and continue used? **(6)**

b) Why Java is associated with Internet? Explain the process of compilation in Java. **(6)**

3 a) What is an exception? Explain in detail about exception handling in Java. **(6)**

b) List four differences between a Java applications program and Java applet program, with an example of each type of program. **(6)**

4. a) What is a stream? Explain the Various stream classes. **(6)**

b) Write an object-oriented program to sort an array of integers in Java. **(6)**

5. a) What is multithreaded programming? Explain how threads are created in Java. Explain the need of thread synchronization, with an example. **(6)**

b) What is a container? Explain how components are added to a container. What is a default layout of an applet? How can you Change it? **(6)**

6. a) Explain how a string class object can be created using an existing 'String Buffer' object. Also, explain how can you find the location of the last occurrence of 'a' in the string "Java Programming" **(6)**

b) Write a program in Java which creates a file reference and finds the following:

i) Path of the file;

ii) Whether file exists or not;

iii) Whether the file is Writable or not;

iv) Size of the file. **(6)**

7. a) Write a program to implement key board events. **(6)**

b) Write an AWT Program for handling mouse click, enter, press, drag and exit. **(6)**

8. Write notes any **two** of the following: **(6+6)**

a) Swing

b) RMI architecture

c) Interface

d) Polymorphism.

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# PGIIIS-N 1549 B-2K13

## M.Sc. IIIrd Semester (CBCS) Degree Examination

## Computer Science

## (Data Communications and Computer Networks)

## Paper -HCT - 3.2

## (New)

Time : 3 Hours Maximum Marks :80

***Instructions:*** 1) Q. No **1** in Section A is compulsory.

2) Answer any **five** questions from Section **B.**

### Section-A

**1.** Answer the following: **(10×2=20)**

a) What is a Computer network?

b) Define flow control.

c) State fiber optic cable losses.

d) Mention the types of errors.

e) What are CRC generator and checker?

f) What are the features provided by layering?

g) How can the routing be classified?

h) Define bit stuffing.

i) What are the two main categories of DNS messages?

j) How is HTTP similar to SMTP?

### Section-B

**2.** a) Discuss the OSI-ISO layered model. Discuss the functionalities of each layer. **(6)**

b) Describe the line coding process used for converting digital data to digital signals. **(6)**

**3** a) What is hamming distance? Explain simple parity check code C(5,4) with d min=1. How many bits can be corrected? **.(6)**

b) Describe HDLC. **(6)**

4. a) Explain 802.3 MAC frame format and frame length. **(6)**

b) Compare Ffow-based routing with Distance Vector Routing. **(6)**

5. a) What is the difference between open loop congestion control and closed loop congestion control? **(6)**

b) Explain different multiplexing techniques. **(6)**

6. a) Explain the three way handshake protocol to establish the transport level connection. **(6)**

b) What kind of file types can FTP transfer? What are the three FTP transmission modes? Explain. **(6)**

7. a) What are the two categories of encryption/decryption methods? What is the main difference between the categories? **(6)**

b) Write short note on symmetric-key cryptography. **(6)**

8. Write notes any **two** of the following: **(6+6)**

a) RS 232 Interfacing sequences.

b) IEEE 802.11

c) Routers

d) W W W

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# PGIIIS-N 1551 B-2K13

## M.Sc. IIIrd Semester (CBCS) Degree Examination

## Computer Science

## (Information Technology)

## Paper -OET-3.1

## (New)

Time : 3 Hours Maximum Marks :80

***Instructions:*** 1) Q. No. **1** in Section **A** is Compulsory.

2) Answer any **five** questions from Section **B**.

### Section-A

**1.** Answer the following: **(2x10=20)**

a) What are topologies?

b) What is a domain name?

c) Mention any three search engines.

d) Mention Security Protocols relevant to the WWW.

e) What is surfing?

f) Define internet and intranet.

g) Define XML.

h) Differentiate between X links and HTML.

i) What is B2B model?

j) What is mobile commerce?

### Section-B

**2.** a) What are the principles applied to arrive at the 7 layers of the OSI? **(6)**

b) What is a LAN? Write down its advantages and limitations. **(6)**

**3** a) Explain why do we need IP addresses if MAC address is enough to identify the machine? **(6)**

b) Explain the applications of Internet technology. **(6)**

| | | | |
|---|---|---|---|
| **4.** | a) | What is Web page and how to build it? Explain. | **(6)** |
| | b) | Discuss on the properties of CSS. | **(6)** |
| **5.** | a) | Explain the role of XML in extended enterprises | **(6)** |
| | b) | Explain the structure of SOAP protocol. | **(6)** |
| **6.** | a) | Discuss advantages and disadvantages of E-Commerce. | **(6)** |
| | b) | Explain organizational trends of E - Business. | **(6)** |
| **7.** | a) | Explain three phases of CRM. | **(6)** |
| | b) | What is DTD tag? Explain how to declare an image tag in a DTD file. | **(6)** |
| **8.** | Write notes any **two** of the following: | | **(6+6)** |
| | a) | MAC addresses | |
| | b) | Internet Essentials and Internet Services | |
| | c) | Issues in Web site creations and Maintenance | |
| | d) | Cryptography and firewall | |

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# PGIIIS-N 1550 B-2K13

## M.Sc. IIIrd Semester (CBCS) Degree Examination

## Computer Science

## (Computer Graphics)

## Paper -SCT-3.1

## (New)

Time : 3 Hours Maximum Marks :80

***Instructions:*** 1) Q. No. 1 in Section **A** is Compulsory.

2) Answer any **five** questions from Section **B.**

### Section-A

**1.** Answer the following: **(10x2=20)**

a) What is Computer graphics?

b) What is graphics software? What are its classifications?

c) List out basic 3D transformations.

d) Define composite transformations.

e) List 2D primitives for filling rectangles.

f) Define aspect ration.

g) Define refresh buffer or frame buffer.

h) What is visible surface detection?

i) What is polygon clipping?

j) Define SRGP.

### Section-B

**2.** a) Explain Bresenham's line drawing algorithm with an example and write corresponding C program. **(6)**

b) What are the advantages of flat panel displays? Explain working of LCD display. **(6)**

**3** a) Explain mid-point circle algorithm and trace the algorithm for the radius r=10 and central point (x,y)=(2,2). **(6)**

b) Explain the ellipse clipping method with an example. **(6)**

4. a) Determine the transformation to shear the object square {(0,0), (10,0), (10,10), (0,10)} along:

   i) Y-direction with $Sh_y = 2$ related to $X_{ref} = 2$,

   ii) Both direction $Sh_x = 2$, $Sh_y = 3$. **(6)**

   b) Define a Bezier curve. Write the properties of the Bezier curve. **(6)**

5. a) Derive the mathematical steps involved in generating the rotation matrix for rotating an object about any other pivot point (x,y). **(6)**

   b) Explain window to view port mapping of 2-D objects. **(6)**

6. a) What is projection? Obtain mathematical description of perspective projection. Distinguish between persective and parallel projection. **(6)**

   b) Explain basic three dimensional transformations with an example. **(6)**

7. a) Explain ray tracing method for visible surface detection. **(6)**

   b) Explain procedure involved in viewing 3D objects in computer graphics. **(6)**

8. Write shorts on any **two** of the following: **(6+6)**

   a) Orthographic projection

   b) Illumination Models

   c) Quadratic surfaces

   d) Octrees and curved surfaces