

**2019**

*Full Marks : 60*

*Time : 3 hours*

*The figures in the right-hand margin indicate marks*

Answer from **all** the Sections as directed

**Section—A**

1. Fill in the blanks : *8×1*
- (a) DNS works on \_\_\_\_\_ layer.
  - (b) SSL stands for \_\_\_\_\_.
  - (c) Methods defined in an interface must be \_\_\_\_\_ and \_\_\_\_\_.
  - (d) The ability to take more than one form is called \_\_\_\_\_.
  - (e) The class at the top of exception class hierarchy is \_\_\_\_\_.
  - (f) The \_\_\_\_\_ is used to view and test an applet.
  - (g) \_\_\_\_\_ is a set of protocols for computer to computer communication across Internet.

( 2 )

- (h) Encryption and decryption are the functions of \_\_\_\_\_ the layer.
2. State whether the following statements are True or False : 8×1
- (a) Java bytecode are machine language instructions understood by JVM and usually generated as a result of compiling Java language source code.
  - (b) Threads run in a space that is separated from the application process space.
  - (c) IP address is a numeric address given to each computer connected to the Internet.
  - (d) Socket is used for networking.
  - (e) Applets are Java program executed by web browser.
  - (f) IIS is a web browser.
  - (g) UDP is a connection-oriented protocol.
  - (h) Default layout of an applet is flow layout.

9(201)

(Continued)

( 3 )

3. Choose the most appropriate choices : 8×1

- (a) What is not the use of 'this' keyword in Java?
  - (i) Passing itself to another method
  - (ii) Calling another constructor in constructor chaining
  - (iii) Referring to the instance variable when local variable has the same name
  - (iv) Passing itself to method of the same class
- (b) What happens to the thread when garbage collection kicks off?
  - (i) The thread continues its operation
  - (ii) Garbage collection cannot happen until the thread is running
  - (iii) The thread is paused while garbage collection runs
  - (iv) The thread and garbage collection do not interfere with each other

K/9(201)

(Turn Over)

( 4 )

- (c) What is the process of defining a method in terms of itself, that is a method that calls itself?
- (i) Polymorphism
  - (ii) Abstraction
  - (iii) Encapsulation
  - (iv) Recursion
- (d) Which of these methods of string class can be used to test two strings for equality?
- (i) `isequal( )`
  - (ii) `isequals( )`
  - (iii) `equal( )`
  - (iv) `equals( )`
- (e) A \_\_\_\_\_ is a TCP name for a transport service access point.
- (i) port
  - (ii) pipe
  - (iii) node
  - (iv) None of the mentioned
- (f) This topology requires multipoint connection
- (i) Star

201)

(Continued)

( 5 )

- (ii) Mesh
  - (iii) Ring
  - (iv) Bus
- (g) Multiplexing is used in
- (i) packet switching
  - (ii) circuit switching
  - (iii) data switching
  - (iv) None of the mentioned
- (h) In IPv4 Addresses, classful addressing is replaced with
- (i) classless addressing
  - (ii) classful addressing
  - (iii) classful advertising
  - (iv) classless advertising

#### Section—B

4. Answer any four questions : 4×3

- (a) Differentiate between any two of the following :
- (i)  `sleep( )` and `wait( )`
  - (ii) final and finally
  - (iii)  TCP and UDP.

K/9(201)

(Turn Over)

(6)

- (b) Write a program in Java to find the LCM of two integers with proper exception handling.
- (c) Briefly explain exception handling in Java.
- (d) Write short notes on any two of the following :
- (i) Garbage collector
  - (ii) Transmission media
  - (iii) Topology.
- (e) Explain type of IP address used in computer network.
- (f) Write a Java program to find the smallest number in an array of integers.

Section-C

4x6

5. Answer any four questions :

- (a) What is package in Java? What are the features of using package in Java? How to create and implement user defined package in Java?
- (b) What are the transmission modes? Explain the different types of transmission modes.

(Continued)

K/9(201)

(7)

- (c) Explain the protocols used in TCP/IP model (layerwise).
- (d) What is multithreading? Briefly describe how to create new thread with example.
- (e) Describe the different transmission media.
- (f) Write a program using Applet to find the factorial of a given number. Write an HTML page and test Applet.
- (g) Explain the various types of stream classes with examples.

\*\*\*

K/9(201)-400

Voc (H-3) - BCA (11)

Our question:

COPYRIGHT RESERVED VOC(H-3) — BCA (11)

Networking  
2018 +  
Java

Time : 3 hours

Full Marks : 60

Pass Marks : 27

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

The figures in the margin indicate full marks.

Answer from all the Sections as directed.

Section – A  
(Compulsory)

1. State 'True' or 'False' of the following :  $1 \times 12 = 12$
- F (i) FTP is an Internet-tools used for copying files from one computer to another.
- (ii) Applets are Java Programs that are executed by Web-browser.
- (iii) In fiber optics, the signal source is light waves.
- F (iv) HTTP is a basic Protocol of Internet.

UJ – 19/2

(Turn over)

- (v) The set of rules a computer must follow on a network is called a protocol.
- (vi) Client is a branches of server.
- (vii) A router can connect two LANs.
- (viii) Sockets are used for networking.
- (ix) Java compiler converts source code into byte code.
- (x) Star topology is extremely reliable.
- (xi) SMTP stands for small mail transfer protocol.
- (xii) The Import Statement tells the compiler where to search classes to compile a Java Program.

2. Fill in the blanks :  $1 \times 12 = 12$

- (i) VSAT stands for \_\_\_\_\_
- (ii) DHTML stands for \_\_\_\_\_
- (iii) A \_\_\_\_\_ is a collection of classes and interfaces.
- (iv) A WWW contains web pages residing in many computer linked together using HTTP

UJ – 19/2

(2)

Contd.

- (v) In OSI Network Architecture, the routing is performed by Network layer.
- (vi) Optical cables use a very thin glass or plastic fibre through which pulse of light travels.
- (vii) TCP / IP stands for \_\_\_\_\_
- (viii) MODEM converts digital signal to \_\_\_\_\_ signals.
- (ix) URL stands for \_\_\_\_\_
- (x) IP Address is of 32 bit.
- (xi) An IP Address consists of set of 4 integers.
- (xii) SLIP is the acronym for \_\_\_\_\_

#### Section – B

Answer any four questions of the following :

$$3 \times 4 = 12$$

3. (i) Explain the Java Applet Life Cycle with example. coaching note
- (ii) What is LAN Topology ? Explain the various types of topology with diagram. P-88
- (iii) Write a program in Java whether a given class note number is a prime number or not.

UJ – 19/2

(3)

(Turn over)

- (iv) Explain the features of Java Programming Language. *tutor notes*
- (v) What are the differences between the methods Sleep () and Wait () ?
- (vi) Explain the features of HTML.

### Section – C

Answer any four of the following :  $6 \times 4 = 24$

4. (i) Write a program using Applet to find the sum of the digits of a given number.
- (ii) Explain various OSI reference models. *elg notes*
- (iii) Explain the different components of JVM.
- (iv) What is Multi-threading ? Explain the various thread classes. *tutor & elg notes*
- (v) What is Telephone System ? Explain the various structures of telephone system. P-405
- (vi) Explain try block, catch block and throw block. *tutor* *clg.*
- (vii) Write short notes on the following :
- (i) Router
  - (ii) Microwave transmission
  - (iii) Bridges *Q-135*
  - (iv) MODEM *Q-136*

$$\begin{array}{r}
 1467 \\
 100 \\
 \hline
 1367 \\
 -11 \\
 \hline
 1378
 \end{array}$$

2017

Time : 3 hours

OK  
AWK

Full Marks : 60

Pass Marks : 27

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

*The figures in the margin indicate full marks.*

*Answer from all the Sections as directed.*

### Section – A

1. Fill in the blanks of the following :  $1 \times 8 = 8$

- (a) A subclass can call a constructor method defined by its super class by the use of the Private keyword.
- (b) Java byte code output from the JDK compiler will be placed into a file with .class extension.
- (c) A package is a collection of classes and interfaces.

- (d) Methods defined in an interface must be static and final.
- (e) The ability to take more than one forms is called Polymorphism.
- (f) URL stands for \_\_\_\_\_.
- (g) Transport layer is responsible for the process to process delivery.
- (h) Multiplexing is used in Transport Layer.
2. State whether the following statements are 'True' or 'False':  $1 \times 8 = 8$
- T (a) An exception is an object that is generated when a run time error occurs.
  - T (b) The component class is a subclass of Container class.
  - F (c) Instance variables are declared outside a class.
  - F (d) A class declaration can include both abstract and final modifiers.
  - T (e) Client is a Branches of server.

VT - 3/2

(2)

Contd.

- (f) The physical components, organization and configuration of a network is known as its hardware.
- (g) \_\_\_\_\_ is a company that provides ISP access to the internet. Telecommunications company
- (h) The set of rules a computer must follow on a network is called a Protocol.
3. Choose the most appropriate choice:  $1 \times 8 = 8$
- (a) In computer network nodes are :
    - (i) The computer that originates the data
    - (ii) The computer that terminates the data
    - (iii) The computer that routes the data
    - (iv) All of the mentioned
  - (b) Which multiplexing technique transmits digital signals ?
    - (i) FDM
    - (ii) TDM
    - (iii) WDM
    - (iv) None of the mentioned
- VT - 3/2 (3) (Turn over)

- (c) IPv6 addresses have a size of :
- (i) 32 bits
  - (ii) 64 bits
  - (iii) 128 bits
  - (iv) 265 bits
- (d) Application layer offers \_\_\_\_\_ service.
- (i) End to end
  - (ii) Process to process
  - (iii) Both of the mentioned
  - (iv) None of the mentioned
- (e) Electronic mail uses this application layer protocol :
- (i) SMTP
  - (ii) HTTP
  - (iii) FTP
  - (iv) SIP
- (f) Thread priority in Java is :
- (i) Integer
  - (ii) Float
  - (iii) Double
  - (iv) Long
- (g) Which operator is used by Java run time implementations to free the memory of an object when it is no longer needed ?
- (i) Delete
  - (ii) Free
  - (iii) New
  - (iv) None of the mentioned
- (h) Arrays in Java are implemented as :
- (i) Class
  - (ii) Object
  - (iii) Variable
  - (iv) None of the mentioned

### Section - B

4. Answer any four questions :  $3 \times 4 = 12$

(a) Explain the function of Modem with help of a suitable diagram.

(b) Write a program in Java to find prime factors of a given number. Handle all exceptions.

(c) Write a Java program to replace each vowel in a string by a character 'z'.

VT - 3/2

(5)

(Turn over)

(d) Differentiate between the following :

(i) ~~=~~ and equals()

(ii) ~~this~~ and this()

(e) Write short notes on any two of the following :

(i) Multiplexer

(ii) Topology

(iii) TCP and UDP

(f) Write a Java program to accept a number through keyboard and display factorial of the number. Handle all exceptions.

### Section - C

5. Answer any four questions of the following :

$$6 \times 4 = 24$$

(a) What are three similarities and three differences between OSI and TCP reference models ?

(b) Differentiate between any two of the following :

(i) Half duplex and full duplex transmission

(ii) Analog and Digital Signal

(iii) Static and final keywords in Java

(c) Explain the various layers of TCP/IP Modal.

Also list the protocols used in each layer.

(d) Develop an applet that receives three numeric values as input from the user and then displays the largest of the three on screen. Write a HTML page and test the applet.

(e) ~~function view~~ What are threads ? Briefly describe the creation of threads. What are the different states of thread ?

(f) Explain the keyword final with respect to ~~function view~~ class, method and variable.

6

COPYRIGHT RESERVED Voc(H-3) — BCA (11)

2016

Time : 3 hours

Full Marks : 60

Pass Marks : 27

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

*The figures in the margin indicate full marks.*

*Answer any five questions in which*

*Q. No. 1 is compulsory.*

### Section – A

#### (Compulsory)

1. (a) State 'True' or 'False' :  $1 \times 12 = 12$
- (i) Java is an object-oriented programming language.
  - (ii) Java compiler is named Javae.
  - (iii) FTP is an internet-tools used for copying files from one computer to another.
  - (iv) Applets are Java programs that are executed by web browser.

AP – 8/3

(Turn over)

1. Write a program to explain the features of Java Programming.

two in  
ge.

- (v) Java compiler converts source code into byte code.
- (vi) Ethernet is not used in Bus topology.
- (vii) IP Address is of 32 bit.
- (viii) MODEM converts Digital signals to Analog signals.
- (ix) HTTP is a basic protocol of internet.
- (x) DNS works on Application Layer.
- (xi) Internet is a world wide network of computer.
- (xii) In fiber optics, the signal source is light waves.
- (b) Fill in the blanks of the following :  $1 \times 12 = 12$
- HTTP stands for Hyper Text Transfer Protocol.
  - A set of predefined rules, that governs data communication between two entities is known as Protocol.
  - XML stands for \_\_\_\_\_.
  - A world wide web contains web pages residing in many computers linked together using \_\_\_\_\_.
  - Java programming language does not permit Multiple inheritance.

AP - 8/3

(2)

Contd.

- (vi) Encryption and Decryption are the functions of \_\_\_\_\_ the layer.
- (vii) FDDI is a \_\_\_\_\_ Network.
- (viii) In OSI Network Architecture, the routing is performed by \_\_\_\_\_ layer.
- (ix) Optical fiber cable uses a very thin glass or plastic fiber through which pulses of light travel.
- (x) MAN refers to Metropolitan Area Network.
- (xi) NIC stands for \_\_\_\_\_.
- (xii) TCP stands for Transmission Control Protocol.

#### Section - B

2. Answer any four questions of the following :

$$3 \times 4 = 12$$

- (a) Write a program in Java whether a given number is a prime number. 2018
- (b) What is Topology ? Explain the various types of topology with diagram.
- (c) Explain the Java Applet life cycle with example. 2018
- (d) Explain form and input tag in HTML.
- (e) Explain different components of JVM. 2018
- (f) Write a program using applet to find the factorial of a number.

AP - 8/3

(3)

(Turn over)

3. Answer any two of the following : 10  
(a) What is a program? 2018

## Section - C

3. Answer any four questions of the following :  
 $6 \times 4 = 24$

- \*(a) Distinguish between package and interface.  
How is Interface implemented ? Explain with an example.
- \*(b) Explain try block, catch block and throw block.
- \*(c) Explain the function of transport-layer and network-layer of OSI Model.
- \*(d) Differentiate between Swing and AWT components.
- (e) Develop an Applet to find the sum of digits of a given number. Write an HTML page and test the Applet.
- \*(f) Describe radio waves, microwaves and infrared waves.
- (g) Write short notes on the following :
  - (i) MODEM
  - (ii) ROUTER
  - (iii) Java Architecture

2012

BCA

Anwita

ELEVENTH PAPER

Full Marks : 60

Pass Marks : 27

Time : 3 hours

The figures in the margin indicate full marks  
for the questions

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

SECTION—A

1. State True or False :  $1 \times 12 = 12$

- (a) Applets are Java programs that are executed by Web browser. ✓ T
- (b) Super-keyword is used for polymorphism. X F
- (c) Thread is a full-fledged process rather than light-weight process. ✓ F
- (d) Socket is used for networking. ✓ T
- (e) Hash tables are parts of Java.util package. ✓ T

12SA-500/197

(Turn Over)

3. ~~What are the features in Java to implement a learning language?~~

( 2 )

- (f) There are three types of methods used in Form tag of HTML. X
- (g) Currently IPv6 is used in Internet.
- (h) There are two types of protocol.
- (i) Default layout of an applet is flow layout.
- (j) IIS is a Web browser. X
- \* (k) TCP is a connectionless protocol. *false* F
- \* (l) UDP is a connection-oriented protocol. *false* F
2. Fill in the blanks :
- (a) Java is developed solely for machine independent  $1 \times 12 = 12$
- (b) JVM stands for Java virtual machine *Intended for general purpose*
- (c) Java compiler converts source code into byte code.
- (d) DNS works on application layer.
- (e) IP works on layer. *Layer Network*
- (f) Padding is a part of TDI/TH tag.
- (g) — is the smallest unit of executable code that performs a particular task.
- (h) Hybrid network topology is extremely reliable. *MESH*

2SA-500/197

(Continued)

Answer any four q  
(c) Explain  
Features of Java Programming Language

( 3 )

- (i) Secured version of HTTP is HTTP HTTPS
- (j) SSL stands for Secured socket layer
- (k) TCP/IP does not define presentation layer.
- (l) IP address is of 4 bits. 4 (3+bit)

#### SECTION-B

Answer any four questions :

$3 \times 4 = 12$

- \* (3) Explain various wireless media. \*
- \* (4) Explain the purpose of presentation layer. \*
- (5) Write a program in Java to find whether a given number is prime number. *intution notes*
- \* (6) Explain the features of Java programming language. \*
- (7) Explain various network topologies. \*
- \* (8) Explain Form and Input tags in HTML.

#### SECTION-C

Answer any four questions :

$6 \times 4 = 24$

- \* (9) Explain the Java applet life cycle with example. \*
- \* (10) Write a program using applet to find the factorial of a number.

12SA-500/197

( Turn Over )

following cable.  
Find the LCM of two integers  
of Java Programming Language.

( 4 )

\* (1) Explain the functions of network layer and data-link layer of OSI.

\* (2) What is Multithreading? Explain various thread classes.

(3) Explain TCP and UDP along with header formats.

14. Explain the following :

(a) Panel

TCP Layer 4

(b) Bridge

(c) Switch 550-1846

(d) Layout Manager

\*\*\*

2014

Full Marks 60

Pass Marks 27

Answer all sections

## Section-A

1. State True or False of the following :
  - (a) Java compiler is named Javae.
  - (b) Java is the extension of the source file in java.
  - (c) Multithreading process automatically removes objects that are not being referenced.
  - (d) Sleep is not a method of an Applets life.
  - (e) Update () method is used to remove the flickering effect.
  - (f) Grid layout is a default layout for the Applet.
  - (g) Servlet is a Java program where HTML tag are embedded in Java code or HTML responses are generated through Java.
  - (h) Applets are Java program that executed by web browser.
  - (i) Socket is used for networking.
  - (j) DNS works on application layer.
  - (k) Java compiler converts source code into byte code.
  - (l) Star topology is extremely reliable.
2. Fill in the blank :
  - (a) IP address is of ... 32-bit
  - (b) SSL stands for secure .....
  - (c) JVM stands for ..Java.....
  - (d) TCP/IP is the basic communication protocol of internet.
  - (e) A webserver is a server that serves up web pages upon request.
  - (f) Modem is a device that allow computers to communicate over telephone lines.
  - (g) The layer that handles error detection and error correction is Data.....
  - (h) Cat-5 cables support the highest bandwidth and faster transmission rate.
  - (i) Bits are packaged into frames at Data Link Layer Layer of OSL model.
  - (j) The Java programming language does not permits Inheritance.
  - (k) The Java language package is always imported by java.....
  - (l) Is text – based string conversion to numeric IP addresses.

## Section-B

Answer any four question:

3. Answer any four questions of the following:
  - (a) What are the feature of a coaxial cable.
  - (b) Write a program in Java to find prime the LCM of two integers.
  - (c) Explain the features of Java Programming Language.

- 19
- coaching class.*
- (d) Briefly explain exception Handling in Java.
  - (e) What are the differences between the methods sleep () and wait () .
  - (f) Explain features of HTML...

#### SECTION -C

4. Answer any four questions of the following:

- (A) Write a program using applet to find the factorial of a number.
- (B) Explain various OSI reference models.
- (C) Explain the different components models
- (D) Explain the various guided media with examples
- (E) What is multithreading? Explain the various thread classes.
- (F) write short notes on the following:
  - (i) Bridge
  - (ii) Repeaters
  - (iii) HUB
  - (iv) HTTP

*copy then P-436*

Voc (H-3) – BCA (11)

2016

Time : 3 hours

Full Marks : 60

Pass Marks : 27

#### Section -A

1. (a) State 'True' or 'False':
- i. Java is an object – oriented programming language.
  - ii. Java compiler is named Javae.
  - iii. FTP is an internet – tools used for copying files from one computer to another.
  - iv. Applets are Java Programs that are executed by web browser.
  - v. Java complier converts source code into byte code.
  - vi. Ethernet is not used in Bus topology.
  - vii. IP Address is of 32 bit.
  - viii. MODEM converts Digital signals to An.alog signals.
  - ix. HTTP is a basic protocol of internet.
  - x. DNS works on Application Layer
  - xi. Internet is a world wide network of computer.
  - xii. In fiber optics, the signal source is light waves

(b) Fill in the blanks of the following

- I. HTTP stands for .....
- II. A set of predefined rules, that governs data communication between two entities is known as .....
- III. XML stands for .....
- IV. A world wide web contains web pages residing in many computers linked together using .....
- V. Java programming language does not permit ..... inheritance.
- VI. Encryption and Decryption are the functions of ..... the layer.
- VII. FDDI is a ..... Network.
- VIII. In OSI Network Architecture, the routing is performed by ..... layer.
- IX. ..... Cable uses a very thin glass or plastic fiber through which pulses of light travel.
- X. MAN refers to .....
- XI. NIC stands for .....
- XII. TCP stands for .....

#### Section -B

2. Answer any four questions of the following :

- ~~A~~ A Write a program in Java whether a given number is a prime number.
- ~~B~~ B What is Topology ? Explain the various types of topology with diagram.
- ~~C~~ C Explain the Java Applet life cycle with example.
- ~~D~~ D Explain form and input tag in HTML.
- ~~E~~ E Explain different components of JVM.
- ~~F~~ F Write a program using applet to find the factorial of a number.

#### Section -C

3. Answer any four questions of the following :

- (a) Distinguish between package and interface. How is Interface implemented ? Explain with ~~tution~~ ~~tutton~~.
- (b) Explain try block, catch block and throw block.
- (c) Explain the function of transport - layer and network- layer of OSI Model.
- (d) Differentiate between swing and AWT components.

**2011****ATC**

Time : 3 Hours

Full Marks : 60

The figures in the margin indicate full marks for the questions

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

**SECTION-'A'**

**18. State True or False :**  $1 \times 12 = 12$

- i) Java is an object - oriented programming language.
- ii) Java byte codes are machine language instructions understood by JVM and usually generated as a result of compiling java language source code.
- iii) Java was developed as a programming language solely for the internet.
- iv) A panel in JAVA is generally not used to group many smaller components together.
- v) To handle events, we first associate the class with the appropriate listener interface.
- vi) The default layout of an applet is border layout.
- vii) A catch block can exist without the try block.
- viii) Threads run in a space that is separated from the application process space.
- ix) A protocol is a set of rules defining a standard of communication.
- x) Individual documents that make up a web site are called web pages.
- xi) HTTP is used for creating Web Pages for the WWW.
- xii) IP address is a numeric address given to each computer connected to the internet.

**19. Fill in the blanks :**  $1 \times 6 = 6$

- i) The ..... is used to view and test applets.
- ii) The ..... is a set of classes that allow you to create a graphical user interface and allow you to accept user input through the keyboard and the mouse.
- iii) ..... is a set of protocols for computer to computer communication across internet.

- iv) The programming language to create web page is .....  
v) For a computer to be connected to a LAN, you use a device called .....  
vi) ..... are devices, which converts digital signals into analog and vice-versa for transmission over telephone lines.

20. Match the following :

$1 \times 6 = 6$

- |                       |                                                                                                                           |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------|
| a) Java applet        | e) i) Move bits between machines                                                                                          |
| b) Java application   | f) ii) Smallest unit of executable code that performs a particular task                                                   |
| c) Subnet             | d) iii) To add image into web page                                                                                        |
| d) <IMG>              | c) iv) Carry message from host to host                                                                                    |
| e) Transmission lines | a) v) Applets are java programs that are executed by a java compatible web browser                                        |
| f) Thread             | b) vi) Applications are java programs that are designed to work on the local system and do not need a browser to execute. |

#### SECTION-'B'

21. Answer any four questions :

$3 \times 4 = 12$

1. Write a java program to find the smallest number in an array of integer.
2. Describe JAVA Virtual Machine
3. Write short notes on :
  - a) Frame
  - b) Panel
4. What is the disadvantage of networking ?
5. Describe radio waves, microwaves and infrared.
6. How many types of list tags are supported in HTML ? Describe them briefly.

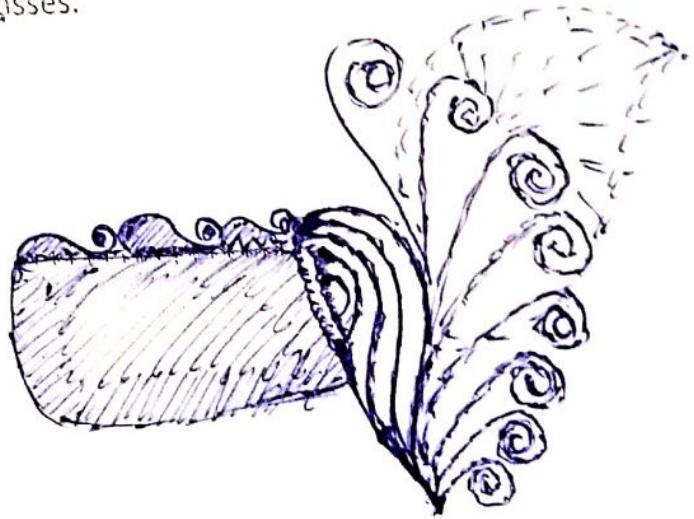
#### SECTION-'C'

22. Answer any four questions :

$6 \times 4 = 24$

1. Explain various OSI reference model
2. Explain different types of networking. Also explain wireless network.  
LAN, MAN, WAN

3. Write a program to design an applet having a textbox, a list box and a button on typing the text in the text-box and clicking on the button, the text should be added to the list box.
4. Explain try block, catch block and throw block.
5. Write short notes on :
- a) Bridge
  - b) Router
  - c) HUB
  - d) Multiplexor
6. What is thread ? Describe thread classes.



2010

ATC

Full Marks : 60

Time : 3 Hours

The figures in the margin indicate full marks for the questions

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

## SECTION-'A'

 $1 \times 12 = 12$ 

13. State True or False :

- i) The 'import' statement tells the compiler where to search for classes to compile a JAVA program.
- ii) In JAVA , inheritance is used for extending classes by adding new variables and methods and modifying inherited members.
- iii) Public members of a super-class are accessible only by methods of the super-class while private members of a super-class are accessible by all methods in the program.
- iv) The exceptions are objects in JAVA derived from java.io.throwable class.
- v) Input stream and output stream in JAVA are designed for character streams.
- vi) Try, throw and catch method detects, indicates and handles exception occurring during the execution of JAVA program.
- vii) Typecasting means explicit or implicit conversion of a data type to another data type.
- viii) Transmission from earth to satellite is known as downlink.
- ix) HTTP uses uniform resource locator to facilitate the access of documents (web pages) throughout the internet world.
- x) JPEG and MP3 are the two standards used for video compression.
- xi) Unguided media transports electromagnetic waves without using a physical conductor.
- xii) In HTML , images can be aligned left, right or centered using VALIGN attribute.

 $1 \times 6 = 6$ 

14. Fill in the blanks :

- i) In JAVA multi-line comment must begin with ..... and end with .....
- Symbol
- ii) In JAVA, through ..... it is possible to define two or more methods with same name within the class as long as they have different sets of parameters.
- iii) A class can be inherited by incorporating the definition of one class into another by using ..... keyword.
- iv) A set of pre-defined rules that governs data communication between two entities is known as .....
- v) The ..... layer in OSI model is responsible for source to destination delivery of a packet across different networks.
- vi) The ..... tag is used to incorporate a table in HTML document.

15. Match the following :

$1 \times 6 = 6$

- |                                           |                                                                   |
|-------------------------------------------|-------------------------------------------------------------------|
| a) Pipe                                   | i) physical or logical layout of devices in a network.            |
| b) Finalize.                              | ii) Transmission mode                                             |
| c) Stream                                 | iii) Transmission impairment                                      |
| d) Attenuation<br>or consumes information | iv) An abstraction that either produces                           |
| e) Duplex                                 | v) A method in each class that returns resources to the<br>System |
| f) Topology<br>threads                    | vi) Synchronized communication channel between                    |

#### SECTION-'B'

16. Answer any four questions :

$3 \times 4 = 12$

- 1. Briefly Explain exception handling in JAVA. *Ans 10*
- 2. Write a JAVA program to sort a list of five numbers.
- 3. Write short notes on FTP and SMTP protocols.
- 4. Write short notes on Frequency division multiplexing and Time division multiplexing .
- 5. Explain briefly :
  - a) DOCTYPE declaration
  - b) <FONT> tag
- 6. Differentiate between the following
  - a) == and equals ()

b) This and this ( )

### SECTION-'C'

$$6 \times 4 = 24$$

17. Answer any four questions :

1. Explain different components of JVM briefly.
2. Explain various transport layer protocols.
3. What is threads ? Briefly describe the creation of threads. What are the different states of a thread ?
4. What is MODEM ? Briefly describe its categories / types.
5. Develop an applet that receives three numeric values as an input from the user and displays the largest of the three on the screen. Write an HTML page and test the applet.
6. What is a list ? Explain briefly the types of lists in HTML.

\*\*\*\*\*

# Java + Networking

PART - III

HIII/VC/CA (ATC)/3003

2007

ATC

Time : 3 Hours

Full Marks : 60

The figures in the margin indicate full marks for the questions

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

## SECTION-'A'

1. Fill in the blanks :  $1 \times 14 = 14$

- i) SAP is acronym for .....
- ii) To inherit a class, you simply incorporate the definition of one class into another by using the..... keyword.
- iii) In JAVA all arrays are allocated at ..... time.
- iv) Novell Netware is ..... software
- v) Fibre optics cables are of ..... types.
- vi) There are ..... , ..... , and ..... transmission impairments.
- vii) TCP/IP does not contain ..... and ..... layers which is available in OSI.
- viii) Package is a collection of .....
- ix) Protected access control applies only when ..... Is invoked.
- x) When a member is declared ..... it can be accessed before any objects of its class are created, without reference to any object.
- xi) ..... function can be used to obtain the character at a specified index within a string.
- xii) Definition of a class can be incorporated into another by ..... Keywords.
- xiii) Wireless transmission generally uses ..... As medium.
- xiv) Internet is also called as information .....

$1 \times 10 = 10$

2. Multiple choice :

- i) Which of the following are keywords :
  - a) Switch
  - b) Integer
  - c) Default
  - d) Boolean
- ii) Which of the following are not keywords :
  - a) NULL
  - b) Implements
  - c) Protected
  - d) Extended
  - e) String
- iii) Which of the following classes are available in java.lang package ?
  - a) Stack
  - b) String
  - c) StringBuffer
  - d) Random
  - e) Object
- iv) Following protocol are defined / working at physical layer of TCP/IP :
  - a) FTP
  - b) IGMP
  - c) ICMP
  - d) None of these.
- v) A device that accepts a serial stream of bits as input and produces a modulated carrier as output or vice versa is called :
  - a) Repeater
  - b) Booster
  - c) Modem
  - d) Line
- vi) Statements written within finally block are executed :
  - a) One without try
  - b) Once with each catch
  - c) Every time with try
  - d) None of these.
- vii) Throws cum throw following which no. of exceptions :
  - a) One
  - b) Two

- c) Three
  - d) Any no.
- viii) Try must be followed by following statement :
- a) Catch
  - b) Finally
  - c) No such Restriction
  - d) Any other statement other than try
- ix) JPEG stands for :
- a) Joint Picture Express Group
  - b) Joint Picture Extent Group
  - c) Joint Picture Expert Group
  - d) None of these.
- x) Wireless uses following as medium for communication :
- a) frequence
  - b) Air
  - c) Light
  - d) Sound

#### SECTION-'B'

$3 \times 4 = 12$

3. Answer any four questions :

1. Explain Exception Handling in JAVA. What is use of throws.
2. Describe various layout Managers.
3. Write short notes on following :
  - a) Interface
  - b) Access modifiers
  - c) Threading
  - d) Java.util
4. Explain various functions of string class.
5. Explain how input/output operation is performed in java from standard input/output device and file.
6. Explain various table tags used in HTML with example.

#### SECTION-'C'

4. Answer any four questions.

$$6 \times 4 = 24$$

1. Write a program to accept a number through keyboard and display factorial of the no.
2. Develop an applet program to find sum of digits of a given number. Write also HTML page.
3. Explain wireless transmission and various types of waves.
4. Explain various types of transmission impairments.
5. Explain telephone system and various services available on telephone.
6. Explain Abstract Class. What is use of Interface & Runnable.
7. Explain TCP/IP reference model with various protocols working in each layer.

# Java + Networking

PART - III

HIII/VC/CA (ATC)/3003

2008

ATC

Time : 3 Hours

Full Marks : 60

The figures in the margin indicate full marks for the questions

Candidates are required to give their answer , in their own words as far as practicable

## SECTION-'A'

5. Fill in the blanks :

1 X 12 = 12

- i) SLIP is the acronym for .....
- ii) An IP address consists of set of ..... integers.
- iii) The network layer in OSI model is concerned primarily with the ..... activity.
- iv) In ..... multiplexing frequency spectrum is divided among logical channels, with each user having exclusive possession of some frequency band.
- v) Physical layout of the network is referred to as .....
- vi) Gateway works on ..... Layer of OSI reference model.
- vii) ..... are systematically similar to classes, but they lack instance variables, and their methods are declared without any body.
- viii) The ..... Variables is essentially a constant.
- ix) A thread is created either by sub-classing the ..... Class or implementing the ..... interface.
- x) All exception types are sub-classes of the built in class .....
- xi) ..... Are small application that are accessed on an internet server, transported over the internet automatically installed, and run as part of a web document.
- xii) JAVA C translates java source code into .....

1 X 12 = 12

6. Multiple choice :

- i) Which of the following is not a transmission media :
- Coaxial cable
  - Satellite
  - Modem
  - Fiber optic cable
- ii) A voice telephone uses the following transmission mode :
- Simplex
  - Half duplex
  - Full duplex
  - None of these.
- iii) Layers that interacts with the user in the OSI model referred to as
- Session layer
  - Application layer
  - Network Layer
  - None of these.
- iv) In Bus Topology, the transmission is :
- Unidirectional
  - Bidirectional
  - Switching transmission
  - None of these.
- v) Switched Multi Megabit Data Services ( SDMS ) is an example of :
- LAN
  - MAN
  - WAN
  - None of these.
- vi) HTTP works on :
- Application layer
  - Transport layer
  - Internet layer
  - Network Access Layer
- vii) When an object is run, which one of these methods is executed first ?
- destroy()
  - init()
  - main()
  - start()

- ii) Which of these layout manager would make it impossible to layout two buttons side by side :
- Border layout
  - Card layout
  - Flow layout
  - Grid Bag Layout
- ix) To convert string object to numeric object, one can use :
- tostring()
  - valueof()
  - parsedatatype()
  - none of these.
- x) Which keyword protects a class in a package from classes outside the package :
- Private
  - Protected
  - Final
  - None of these.
- xi) Which exception is throw by read() method of input stream class :
- Exception
  - File not found exception
  - Read exception
  - IO Exception
- xii) The concept of multiple inheritance is implemented in java by :
- Extending two or more classes
  - Extending one class and implementing one interface
  - Implementing two or more interfaces
  - All the above

#### SECTION-'B'

3 X 4 = 12

7. Answer any four questions:

- Briefly Explain various modes of data transmission , giving examples for each.
- What do you understand by a Router ? What is the difference between Gopher and WAIS.
- What is Protocol ? Differentiate between TCP and UDP protocols, what facility the FTP protocol provides to the user
- a) What do you mean by package  
b) describe various access attributes that can be met in java  
c) Explain classpath

5. Explain call-by-value and call-by-reference of methods by giving suitable examples.
6. Develop an applet that receives three numeric values as input from the user and then displays the largest of the three on screen. Write a HTML page and term applet.

### SECTION-'C'

8. Answer any four questions :

$6 \times 4 = 24$

1. Explain the different methods used in wireless transmission.
  2. Explain TCP/IP reference model and its relative difference with OSI model ?
  3. What is multiplexing ? Explain Frequency division multiplexing, Wave Division Multiplexing and Time Division Multiplexing .
  4. a) What are the two general forms of the super keyword. Explain with examples.  
b) Differentiate between static and final.
  5. what do you mean by Exceptions in java ? Explain giving suitable example the try catch and finally block.
5. Write short notes on any three :
- a) Applet
  - b) Interface
  - c) Java architecture
  - d) This keyword
  - e) AWT

\*\*\*\*\*

2009

**ATC**

Time : 3 Hours

Full Marks : 60

The figures in the margin indicate full marks for the questions

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

**SECTION-'A'**

9. Fill in the blanks :  $1 \times 12 = 12$
- i) JPEG is the acronym for .....
  - ii) Communication is in ..... Mode, where both the devices or station can transmit and receive simultaneously .
  - iii) ..... topology consists of more than one topology .
  - iv) ..... are set of rules governing communication in a network model .
  - v) The OSI model consists of..... (number of) layers .
  - vi) .....is a set of techniques that allows simultaneous transmission of multiple signals across a single data link .
  - vii) The required class libraries must be included in the JAVA program by using ..... statement .
  - viii) JVM is the acronym for .....
  - ix) The ..... Is automatically called immediately after the object is created .
  - x) The ..... Variable in JAVA is essentially a constant .
  - xi) The ..... tag is used to define the column heading in the table tag .
  - xii) The ..... Tag is used to create a hyperlink in HTML .

ate true or false :

- i) TCP and UDP are transport layer protocols
- ii) Infrared waves is an example of guided media .
- iii) In the Ring Topology , the signals travel in one direction .
- iv) The Application layer in OSI model is responsible for the process to process delivery of a message .
- v) Frequency Division multiplexing is an analog technique which is used when the bandwidth of a link is greater than the combined bandwidth of signals to be transmitted.
- vi) The process of loss of energy of a signal during transmission is called Distortion .
- vii) Method overloading allows several methods of same name to be defined as long as they have different set of parameters .
- viii) A super-class variable can reference a subclass object .
- ix) A class member declared as private is not accessible to its subclass .
- x) Each class in Java has finalizer method that returns resources to the system .
- xi) The exceptions are objects in JAVA derived from java.lang.throwableclass .
- xii) Restart method resumes the execution of a suspended thread .

#### SECTION-'B'

11. Answer any four questions :

$3 \times 4 = 12$

1. Give a brief account of various transmission impairment .
2. Write short notes on :
  - a) Radio waves transmission
  - b) Microwave transmission
3. What is topology ? Give a brief account of various topologies .
4. Write a java program to accept a number from the keyboard and display its factorial .
5. Write a Java program to accept a number through the command line and check whether it is a prime number . Handle all the possible exceptions .
6. i) what do you mean by HTML .  
ii) Discuss the structure of HTML document .  
iii) Enumerate the types of lists in HTML with examples .

**SECTION-'C'**

12. Answer any four questions :  $6 \times 4 = 24$
1. Explain various guided media with examples.
  2. Explain OSI model briefly.
  3. Write short notes on :
    - a) Repeaters
    - b) Bridges
    - c) Routers
    - d) Gateways
  4. Write a Java program to generate the following series :  
 $1 - 1/3 + 2/5 - 3/7 + \dots \dots \dots$  upto n terms where n will be accepted by user.
  5. Differentiate between swing and AWT component.
  6. Develop an applet to find sum of the digits of a given number. Write an HTML page and test the applet.

\*\*\*\*\*