

Note: Each question carries equal marks. Students are required to attempt any five questions in all, taking at least one question from each unit.

UNIT - I

- Q.1. Explain in brief:
- (i) Why is java platform independent
 - (ii) What will be output of $i \ll 2$ and $i \gg 2$, where $\text{int } i = 12$.
 - (iii) static keyword in java.
 - (iv) super keyword in java
 - (v) finalize keyword in java
 - (vi) extends keyword in Java?
 - (vii) Wrapper Class
- Q.2. (a) Define an Exception and list various types of Exception. Write a program that will generate exception of type Null Pointer exception, Negative Array size Exception and Index out of bound Exception with the help of an example program.
- (b) Write a java program to calculate the area and perimeter of different shapes in Java to explain the concept of inheritance.

UNIT - II

- Q.3. (a) What are threads? What are daemon threads and user threads? What is main thread? Where is it present? What is its priority?
- (b) Explain Producer consumer problem in detail with suitable example
- Q.4. Differentiate between following with an example
- (i) Deadlock prevention & Deadlock avoidance
 - (ii) Input Stream and Output Stream
 - (iii) Interface and Abstract Class
 - (iv) alive, join, wait and sleep thread methods .
 - (v) Command line Argument with an example.

UNIT - III

- Q.5. (a) Difference between TCP and UDP protocol? How does TCP handshake works?
- (b) What are sockets? What are reserved ports? Explain some methods related to obtaining IP addresses in detail?
- Q.6. (a) Explain concept of IP addressing and corresponding Java methods. In which package are they present? How you access IP addresses for a machine behind a proxy?
- (b) Write a code showing handling of HTTP request and HTML generation. Do not forget to handle errors.

UNIT -IV

- Q.7. (a) What is an event object, event source and event listener? What are `handleEvent ()`, `processEvent ()` and `dispatchEvent ()` methods?
- (b) What are AWT Classes? How are they used? What are different layout managers in AWT? What is file dialog? Give its constructors.
- Q.8. (a) Write short note on Adapter and Inner Classes with example.
- (b) Which interface defines methods for handling mouse motion and clicks? Show an example using event programming that prompts user to click and it prints a random number.

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UNIT - I

- Q.1. Explain in brief:
- (viii) What is a package in java? What is its use?
 - (ix) Why do we need a HTML page to execute an applet?
 - (x) Difference between error and exception.
 - (xi) What is method overriding?
 - (xii) What is JVM
 - (xiii) final variable, final method and final class?
 - (xiv) Type conversion
- Q.2. (a) Explain Polymorphism in Java. How it is implemented? Write example programs for the same.
(b) What is an interface? How they are different Show how interface can be used to implement the concept of multiple inheritance in Java.

UNIT - II

- Q.3. (a) What are different methods available in File Class? How to handle directories? What are I/O Streams
(b) What do you mean by deadlock? What are the different necessary and sufficient conditions for having deadlock? How deadlock is prevented.
- Q.4. (a) Define Applet and how to create and execute applet program.
(b) Differentiate between following with an example
- (i) Thread classes and Runnable interfaces
 - (ii) Reading and Writing from file

UNIT - III

- Q.5. (a) Explain HTTP request and HTTP response. Write a program to established URL connection.
(a) Write an applet for simple calculator.
- Q.6. Write short note on following
- (a) Define Datagram Programming with example
 - (b) What do you mean by Domain Name System? Differentiate between an IP address and MAC address.

UNIT -IV

- Q.7. (a) Discuss the Handling multimedia data by using Java Applet with an example.
(b) Discuss the event handling mechanism in Java in detail.
- Q.8. (a) What are AWT Classes? How are they used? What are different layout managers in AWT? What is file dialog? Give its constructors.
(b) Write short note on delegation event Model

Attempt any five questions, selecting at least one from each unit. All carry equal marks.

Unit-I

1. What are various areas where internet is useful? Explain the following services provided by internet.
 - a) E-mail
 - b) FTP
 - c) TELNET
 - d) Chat & Bulletin Board
 - e) NNTP
2. Find similarities and differences between PPP account and shell account for internet access. Can you access following through a browser (i) Gopher (ii) Anonymous FTP, if yes give example and if not then why?
3. a) What do you mean by platform independent? How JAVA achieve platform independency? Explain JDK with examples.
b) Write JAVA code to add 20 command line arguments of integer type.

Unit-II

4. a) Explain the concept of final, finalize, finally, constructor, destructor with example in context of JAVA.
b) Write Java code to pass parameter in your Applet.
5. Explain in detail Applet life cycle. Write a program to show the working of every function in Applet. Discuss how Applets are virus-free?
6. What are exceptions? Discuss various types of exceptions in Java-Programming? How you can handle them. Write Java code to handle your own Exception.

Unit-III

7. What are various stream classes in Java? Write Java code to read character from a file and write into another file.
8. Write AWT program in Java to find the sum, Multiplication and average of three numbers entered in three Text fields by clicking the corresponding Labeled Button. The result should be appearing in fourth text field.
9. a) Discuss how C++, JAVA , Applet-Prog and Servlet Programming are differ.
b) Show the benefit of Swing by taking suitable example.
10. Write short note on followings
 - a) Layout Managers
 - b) Packages
 - c) USENET
 - d) SMTP
 - e) Domain Name System.

Attempt any five questions. All carry equal marks.

1. Explain the following

- a) Telnet
- b) USENET
- c) FTP
- d) SMTP
- e) ARPANET

2. What are PPP account and shell account for internet access. Can you access following through a browser (i) Gopher (ii) Anonymous FTP, if yes give example and if not then why?

3. Differentiate

- a) Class and Object
- b) Run time and compile time polymorphism
- c) Array and Vector
- d) Applet and Servlet

4. a) Differentiate Multiple and Multilevel Inheritance? Can we achieve Multiple Inheritance in JAVA? Justify your answer.

b) Write Java code to find the area of square, rectangle, circle using constructor overloading.

5. a) What is the advantage of Multithreading in Java? Explain with example.

b) Write an Applet code which is totally virus free.

6. a) What are wrapper classes and why they are required? Justify by example.

b) Explain character and byte stream classes in Java with example.

7. a) What are static variables and static methods in java? How they are accessed?

b) Write java program to find the average of 20 inputted command line arguments.

8. Write Applet code to show all the activities of Mouse using MouseListener and MouseMotionListener.

9. Write Java code to demonstrate (i) Layout Managers (ii) Package (iii) Stream Tokenizers (iv) ActionListener

10. Explain with example

- a) AWT Control
- b) Applet Life Cycle
- c) Visibility Control
- d) JVM

Attempt any five questions selecting atleast one from each unit. Question 1 is compulsory. All carry equal marks.

1. Differentiate the following
 - a) Final, Finally and Finalize
 - b) Thread Synchronization
 - c) Java Swing
 - d) Applet Parameter Passing
 - e) Java Beans
 - f) JDBC

UNIT-I

2. Write Java code to find the Parameter of rectangle using the concept of a) Package b) Fuction over-riding c) Function Overloading
- 3) a) What are various types of exceptions in JAVA? Write Java code to handle your own exception.
b) What is Multithreading? What is its use? Discuss by using a suitable example.

UNIT-II

4. What are Character stream and byte stream in Java. Explain their utilities by suitable example. Discuss different wrappers classes with their advantages.
5. Discuss reading and writing from consol by suitable example. Write JAVA code to find the sum of two Integers entered through keyboard.

UNIT-III

6. What do you mean by AWT Classes in JAVA? Write Program to generate Odd numbers in TextField "T" while pressing Button "CLICK". Applet must be automatically refresh while pressing the Button.
7. Write Java Code to demonstrate the followings.
 - i) TextArea ii) Checkbox iii) Radio Button iv) Scrollbar v) Menu

UNIT-IV

8. Write Applet code to show all the activities of Mouse using Mouselistener and MouseMotionlistener classes. Write Java Code to draw a line using MousePressed and Mouse Released functions
9. Write JavaCode to Demonstrate the functionality of calculator using proper Layout.

Attempt any five questions selecting atleast one from each unit. Question 1 is compulsory. All carry equal marks.

1. Differentiate the following

- a) Run time and compile time polymorphism
- b) Class and Interface
- c) Final, Finally and Finalize keywords
- d) Thread Synchronization
- e) Java Swing and Java Beans
- f) JDBC

UNIT-I

2. a) What are Multiple, Multilevel and hybrid Inheritance? Can we implement Multiple Inheritance in JAVA? Justify your answer with suitable example.

b) Discuss the role of static member functions and static class.

3. a) Discuss different types of Exceptions in JAVA. Write program to handle your own exception.

b) What is Multithreading? What is its use? Discuss by using a suitable example.

UNIT-II

4. Write Java code to read a txt file and copy to another file, also count characters, blank space and special characters in file.

5. Write short note on

Buffer and Buffer Management

Read/Write Operations with File Channel

Networking classes and Interfaces

UNIT-III

6. What are AWT Classes? Write Java Program to generate Even numbers and Odd Numbers in TextField “T1 and T2 respectively” while pressing Button “Even” and “Odd”.

7. What is Applet Life Cycle? Explain with suitable Java Program so that every Applet function works?

b) Write applet code to draw Smiling Face using graphics as shown?



UNIT-IV

8. Write Applet code to show all the activities of Mouse using Mouselistener and MouseMotionlistener classes.

9. Write Java code to demonstrate different Layouts in Java. Discusses the importance of Adaptor class while inheriting inbuilt interfaces.

Attempt any five questions selecting atleast one from each unit. Question 1 is compulsory. All carry equal marks.

1. Explain the following
 - a) JVM
 - b) Garbage collection
 - c) Packages
 - d) Access Specifiers
 - e) Thread Priorities
 - f) Constructor
 - g) I/O Stream

UNIT-I

2. a) What are Multiple, Multilevel and hybrid Inheritance? Can we implement Multiple Inheritance in JAVA? Justify your answer with suitable example.
b) Write java code to add 10 command line arguments.
3. What are different ways of code reusability in JAVA. Discuss in detail with suitable examples.

UNIT-II

4. a) Differentiate the keywords final, finally and finalize used in JAVA.
b) Differentiate multiprocessing and multithreading. Explain creating, resuming and stopping threads in JAVA.
5. Discuss different types of Exceptions in JAVA. Write program to handle your own exception.

UNIT-III

6. What are Character stream and byte stream in Java. Discuss various I/O methods provided by these streams. Write a program to Copy the text from one file to another using byte stream.
7. What are various types of Applets? Explain in detail Applet life cycle. Write Java code that shows the working of every applet function?

UNIT-IV

8. Discuss ActionListener and ItemListener interfaces in detail. Write your own code to demonstrate the respective functions these interfaces.
9. Write Applet code to design calculator using Layout manager and demonstrate proper working of “+”, “-”, “*”, “/” and “=” Buttons.

Attempt any five questions selecting atleast one from each unit. Question 1 is compulsory. All carry equal marks.

1. Write short note on the followings
 - a) Final, finally and finalize keywords
 - b) Local and Remote Applets
 - c) Class and Interface
 - d) Thread Priorities
 - e) Menu in Applet

UNIT-I

2. a) Can we achieve Multiple Inheritance in JAVA? Justify your answer with suitable example.
b) Write java program to find the sum of 5 inputted command line arguments.
3. Differentiate C++ and Java. How JAVA is truly object oriented language? Explain JVM in detail.

UNIT-II

4. Explain the concept of multithreading in java. Discuss thread priorities, thread synchronization and interthread communication.
5. Discuss different types of Exceptions in JAVA. Why it is necessary to remember all Exception where simple function (Exception e) is able to catch all types of exceptions. Justify with example.

UNIT-III

6. Explains with an example character stream and byte stream classes. What is their importance over normal classes? Write a program to Move the text from one text file to another using byte stream and character stream.
7. a) Explain in detail the Applet life cycle.
b) Design smiling face using Applet Graphics.

UNIT-IV

8. Discuss MouseListener and MouseMotionListener interfaces in detail. Write code to drag a line and rectangle using these interfaces.
9. Write java code to demonstrate the concept of checkbox and radio button using appropriate interface.