

Roll No.-----

Paper Code		
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प्रश्नपुस्तिका क्रमांक
Question Booklet No.

O.M.R. Serial No.

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प्रश्नपुस्तिका सीरीज
Question Booklet Series
B

B.C.A.(Fifth Semester) Examination, February/March-2022
BCA-502(N)

JAVA Programming and Dynamic Webpage Design

Time : 1:30 Hours

Maximum Marks-100

जब तक कहा न जाय, इस प्रश्नपुस्तिका को न खोलें

निर्देश : —

1. परीक्षार्थी अपने अनुक्रमांक, विषय एवं प्रश्नपुस्तिका की सीरीज का विवरण यथास्थान सही— सही भरे, अन्यथा मूल्यांकन में किसी भी प्रकार की विसंगति की दशा में उसकी जिम्मेदारी स्वयं परीक्षार्थी की होगी।
2. इस प्रश्नपुस्तिका में 100 प्रश्न हैं, जिनमें से केवल 75 प्रश्नों के उत्तर परीक्षार्थियों द्वारा दिये जाने हैं। प्रत्येक प्रश्न के चार वैकल्पिक उत्तर प्रश्न के नीचे दिये गये हैं। इन चारों में से केवल एक ही उत्तर सही है। जिस उत्तर को आप सही या सबसे उचित समझते हैं, अपने उत्तर पत्रक (O.M.R. ANSWER SHEET) में उसके अक्षर वाले वृत्त को काले या नीले बाल प्वाइंट पेन से पूरा भर दें। यदि किसी परीक्षार्थी द्वारा निर्धारित प्रश्नों से अधिक प्रश्नों के उत्तर दिये जाते हैं तो उसके द्वारा हल किये गये प्रथमतः यथा निर्दिष्ट प्रश्नोत्तरों का ही मूल्यांकन किया जायेगा।
3. प्रत्येक प्रश्न के अंक समान हैं। आप के जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।
4. सभी उत्तर केवल ओ०एम०आर० उत्तर पत्रक (O.M.R. ANSWER SHEET) पर ही दिये जाने हैं। उत्तर पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।
5. ओ०एम०आर० उत्तर पत्रक (O.M.R. ANSWER SHEET) पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाय।
6. परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी प्रश्नपुस्तिका बुकलेट एवं ओ०एम०आर० शीट पृथक—पृथक उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें।
7. निगेटिव मार्किंग नहीं है।

महत्वपूर्ण : —

प्रश्नपुस्तिका खोलने पर प्रथमतः जाँच कर देख लें कि प्रश्नपुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्ष निरीक्षक को दिखाकर उसी सीरीज की दूसरी प्रश्नपुस्तिका प्राप्त कर लें।

Rough Work / रफ कार्य

1. What should the return type of method where there is no return value ?
 - (A) Null
 - (B) Empty collection
 - (C) Singleton collection
 - (D) Empty String
2. Which of the below is false about java coding ?
 - (A) variable names should be short
 - (B) variable names should be such that they avoid ambiguity
 - (C) test case method names should be created as english sentences without spaces
 - (D) class constants should be used when we want to share data between class methods
3. How can we delete all files in a directory ?
 - (A) Files.delete(path)
 - (B) Files.deleteDir()
 - (C) Directory.delete()
 - (D) Directory.delete(path)
4. How can we get the size of specified file ?
 - (A) capacity(path)
 - (B) size(path)
 - (C) length(path)
 - (D) Path.size()
5. Which of this package is used for handling security related issues in a program ?
 - (A) java.security
 - (B) java.lang.security
 - (C) java.awt.image
 - (D) java.io.security

6. Which of the following is the correct way of implementing an interface A by class B ?
- (A) class B extends A{}
 - (B) class B implements A{}
 - (C) class B imports A{}
 - (D) None of the mentioned
7. What type of variable can be defined in an interface ?
- (A) public static
 - (B) private final
 - (C) public final
 - (D) static final
8. What will happen if we provide concrete implementation of method in interface ?
- (A) The concrete class implementing that method need not provide implementation of that method
 - (B) Runtime exception is thrown
 - (C) Compilation failure
 - (D) Method not found exception is thrown
9. Which class is used to generate random number ?
- (A) java.lang.Object
 - (B) java.util.randomNumber
 - (C) java.util.Random
 - (D) java.util.Object
10. Which of these is a superclass of all Adapter classes ?
- (A) Applet
 - (B) ComponentEvent
 - (C) Event
 - (D) InputEvent

11. Which of these class contains the methods print() & println() ?
 - (A) System
 - (B) System.out
 - (C) BUfferedOutputStream
 - (D) PrintStream
12. Which exception is thrown be read() method ?
 - (A) IOException
 - (B) InterruptedException
 - (C) SystemException
 - (D) SystemInputException
13. What should not be done to avoid deadlock ?
 - (A) Avoid using multiple threads
 - (B) Avoid hold several locks at once
 - (C) Execute foreign code while holding a lock
 - (D) Use interruptible locks
14. Which of these statements is incorrect ?
 - (A) By multithreading CPU idle time is minimized, and we can take maximum use of it
 - (B) By multitasking CPU idle time is minimized, and we can take maximum use of it
 - (C) Two thread in Java can have the same priority
 - (D) A thread can exist only in two states, running and blocked
15. Which of this method is used to find out that a thread is still running or not ?
 - (A) run()
 - (B) Alive()
 - (C) isAlive()
 - (D) checkRun()

16. Which of these exceptions will occur if we try to access the index of an array beyond its length ?
- (A) ArithmeticException
 - (B) ArrayException
 - (C) ArrayIndexException
 - (D) ArrayIndexOutOfBoundsException
17. Which of these class is necessary to implement datagrams ?
- (A) DatagramPacket
 - (B) DatagramSocket
 - (C) All of the mentioned
 - (D) None of the mentioned
18. What is the process by which we can control what parts of a program can access the members of a class ?
- (A) Polymorphism
 - (B) Abstraction
 - (C) Encapsulation
 - (D) Recursion
19. Which of the following statements are incorrect ?
- (A) Public members of class can be accessed by any code in the program
 - (B) Private members of class can only be accessed by other members of the class
 - (C) Private members of class can be inherited by a subclass, and become protected members in subclass
 - (D) Protected members of a class can be inherited by a subclass, and become private members of the subclass

20. What is false about constructor ?
- (A) Constructors cannot be synchronized in Java
 - (B) Java does not provide default copy constructor
 - (C) Constructor can have a return type
 - (D) “this” and “super” can be used in a constructor
21. How can we take input text from user in HTML page ?
- (A) input tag
 - (B) inoutBufferedReader tag
 - (C) meta tag
 - (D) scanner tag
22. What type of protocol is HTTP ?
- (A) stateless
 - (B) stateful
 - (C) transfer protocol
 - (D) information protocol
23. How does applet and servlet communicate ?
- (A) HTTP
 - (B) HTTPS
 - (C) FTP
 - (D) HTTP Tunneling
24. The correct sequence of HTML tags for starting a webpage is :
- (A) Head, Title, HTML, Body
 - (B) HTML, Body, Title, Head
 - (C) HTML, Head, Title, Body
 - (D) HTML, Title, Head, Body

25. How to create a hyperlink in HTML ?
- (A) `javaTpoint.com`
 - (B) ``
 - (C) `javaTpoint.com`
 - (D) `<a> www.javatpoint.com<javaTpoint.com/a>`
26. `<input>` is :
- (A) A format tag
 - (B) An empty tag
 - (C) All of the above
 - (D) None of the above
27. An HTML program is saved by using the _____ extension.
- (A) .ht
 - (B) .html
 - (C) .hml
 - (D) None of the above
28. A program in HTML can be rendered and read by :
- (A) Web browser
 - (B) Server
 - (C) Interpreter
 - (D) None of the above
29. Which of the following tag is used to create a combo box (or drop-down box) ?
- (A) `<list>`
 - (B) `<select>`
 - (C) `<input type = "dropdown">`
 - (D) ``

30. What is the difference between servlets and applets ?
- i. Servlets execute on Server; Applets execute on browser
 - ii. Servlets have no GUI; Applet has GUI
 - iii. Servlets creates static web pages; Applets creates dynamic web pages
 - iv. Servlets can handle only a single request; Applet can handle multiple requests
- (A) i, ii, iii, are correct
(B) i, ii, are correct
(C) i, iii, are correct
(D) i, ii, iii, iv are correct
31. Which of the following is true about servlets ?
- (A) Servlets execute within the address space of web server
(B) Servlets are platform-independent because they are written in java
(C) Servlets can use the full functionality of the Java class libraries
(D) Servlets execute within the address space of web server, platform independent and uses the functionality of java class libraries
32. Which are the session tracking techniques ?
- i. URL rewriting
 - ii. Using session object
 - iii. Using response object
 - iv. Using hidden fields
 - v. using cookies
 - vi. Using servlet object
- (A) i, ii, iii, vi
(B) i, ii, iv, v
(C) i, vi, iii, v
(D) i, ii, iii, v

33. Which tag should be used to pass information from JSP to included JSP ?
- (A) Using `<%jsp:page>` tag
 - (B) Using `<%jsp:param>` tag
 - (C) Using `<%jsp:import>` tag
 - (D) Using `<%jsp:useBean>` tag
34. Which one is the correct order of phases in JSP life cycle ?
- (A) Initialization, Cleanup, Compilation, Execution
 - (B) Initialization, Compilation, Cleanup, Execution
 - (C) Compilation, Initialization, Execution, Cleanup
 - (D) Cleanup, Compilation, Initialization, Execution
35. Which one of the following is correct for directive in JSP ?
- (A) `<%@directive%>`
 - (B) `<%!directive%>`
 - (C) `<%directive%>`
 - (D) `<%=directive%>`
36. Java code is embedded under which tag in JSP ?
- (A) Declaration
 - (B) Scriptlet
 - (C) Expression
 - (D) Comment
37. How is the dynamic interception of requests and responses to transform the information done ?
- (A) servlet container
 - (B) servlet config
 - (C) servlet context
 - (D) servlet filter

38. Which of the below is not a session tracking method ?
- (A) URL rewriting
 - (B) History
 - (C) Cookies
 - (D) SSL sessions
39. Which option is true about session scope ?
- (A) Objects are accessible only from the page in which they are created
 - (B) Objects are accessible only from the pages which are in same session
 - (C) Objects are accessible only from the pages which are processing the same request
 - (D) Objects are accessible only from the pages which reside in same application
40. Which attribute uniquely identification element ?
- (A) ID
 - (B) Class
 - (C) Name
 - (D) Scope
41. “out” is implicit object of which class ?
- (A) javax.servlet.jsp.PrintWriter
 - (B) javax.servlet.jsp.SessionWriter
 - (C) javax.servlet.jsp.SessionPrinter
 - (D) javax.servlet.jsp.JspWriter
42. Which object stores references to the request and response objects ?
- (A) sessionContext
 - (B) pageContext
 - (C) HttpSession
 - (D) sessionAttribute

43. What is the priority of the thread in the following Java Program ?

```
class multithreaded_programing
{
    public static void main(String args[])
    {
        Thread t = Thread.currentThread();
        System.out.println(t);
    }
}
```

(A) 4

(B) 5

(C) 0

(D) 1

44. What are the types of unordered or bulleted list in HTML ?

(A) disc, square, triangle

(B) polygon, triangle, circle

(C) disc, circle, square

(D) All of the above

45. Encapsulation concept in java is :

(A) Hiding complexity

(B) Method hiding

(C) Hiding constructor

(D) None

46. If I want to have common functions in a class and want to defer implementations of some other functions to derived classes, then we need to use :
- (A) An interface
 - (B) An abstract class
 - (C) A static class
 - (D) None
47. Which of the following type of JDBC driver, uses database native protocol ?
- (A) JDBC-ODBC Bridge plus ODBC driver
 - (B) Native-API, partly Java driver
 - (C) JDBC-Net, pure Java driver
 - (D) Native-protocol, pure Java driver
48. What are the major components of the JDBC ?
- (A) DriverManager, Driver, Connection, Statement, and ResultSet
 - (B) DriverManager, Driver, Connection, and Statement
 - (C) DriverManager, Statement, and ResultSet
 - (D) DriverManager, Connection, Statement, and ResultSet
49. A _____ dictates the style of arranging the components in a container.
- (A) border layout
 - (B) grid layout
 - (C) panel
 - (D) layout manager
50. What is the listener used to handle the events of a text field ?
- (A) java.awt.ActionListener interface
 - (B) java.awt.event.ActionListener
 - (C) awt.event.ActionListener interface
 - (D) java.awt.event.ActionListener interface

51. Who invented java language ?
- (A) Dennis Ritchie
 - (B) James Gosling
 - (C) Larry Page
 - (D) Serge Page
52. Which component is used to compile, debug and execute java program ?
- (A) JVM
 - (B) JDK
 - (C) JIT
 - (D) JRE
53. When Overloading does not occur ?
- (A) More than one method with same name but different method signature and different number or type of parameters.
 - (B) More than one method with same name, same signature but different number of signature.
 - (C) More than one method with same name, same signature, same number of parameters but different type.
 - (D) More than one method with same name, same number of parameters and type but different signature.
54. Which of the following is not a wrapper class ?
- (A) String
 - (B) Integer
 - (C) Boolean
 - (D) Character

55. What type of Java Programs can be run inside a Java supported Web Browser ?
- (A) Stand alone
 - (B) Struts
 - (C) Applets
 - (D) AWT
56. What is an Interpreter ?
- (A) An interpreter converts instructions line by line
 - (B) An interpreter converts source code to low-level code
 - (C) Interpreters are slow to execute
 - (D) All the above
57. Byte code is the result of :
- (A) Compiling a Java file
 - (B) Compiling a Class file
 - (C) Interpreting a Java file
 - (D) Interpreting a Class file
58. Which is the file extension used for a compiled Java class file ?
- (A) .j
 - (B) .java
 - (C) .class
 - (D) .cls
59. In a .java file, how many numbers of public types namely class, interface or abstract can be managed ?
- (A) 1
 - (B) 2
 - (C) 3
 - (D) Any number

60. Choose the correct statement about Java main method :
- (A) The main method is not a required method
 - (B) The main method must be declared public static void
 - (C) You can define program flow using the main method. The Java virtual machine calls the main method directly
 - (D) All the above
61. Java method signature is a combination of _____.
- (A) Return type
 - (B) Method name
 - (C) Argument List
 - (D) All the above
62. A “this” operator used inside a Java method refers to _____ variable.
- (A) Global variable
 - (B) Method local variable
 - (C) Instance variable
 - (D) None
63. The command-line arguments are passes at _____.
- (A) Runtime
 - (B) The time of executing a Java program
 - (C) The time of compiling a Java program
 - (D) None
64. To successfully overload a method in Java, the method names must be _____.
- (A) Same
 - (B) Different
 - (C) Same or different
 - (D) None

65. Java method overloading implements the OOPS concept_____.
- (A) Inheritance
 - (B) Polymorphism
 - (C) Encapsulation
 - (D) None
66. Which is the keyword used to implement inheritance in Java ?
- (A) Extends
 - (B) Implements
 - (C) Instanceof
 - (D) None
67. To stop or block inheriting a given class, the _____keyword is used before the class.
- (A) Static
 - (B) Private
 - (C) Final
 - (D) None of the above
68. An abstract class in Java can be created using the keyword_____.
- (A) Final
 - (B) Interface
 - (C) Abstract
 - (D) Static
69. An abstract class with 100% abstract methods is equivalent to_____.
- (A) Concrete class
 - (B) Virtual class
 - (C) Interface
 - (D) All the above

70. Choose a correct statement about Java Interfaces ?
- (A) Interface contains only abstract methods by default
 - (B) A Java class can implement multiple interfaces
 - (C) An Interface can extend or inherit another Interface
 - (D) All the above
71. All Interface variables are _____ by default in Java.
- (A) Public
 - (B) Final
 - (C) Public and final
 - (D) None
72. Which method must be implemented by a Java thread ?
- (A) run()
 - (B) execute()
 - (C) start()
 - (D) None
73. Which of these are types of multitasking ?
- (A) Process based
 - (B) Thread based
 - (C) Process and Thread based
 - (D) None of the mentioned
74. Which of these packages contains all the classes and methods required for even handling in Java ?
- (A) java.applet
 - (B) java.awt
 - (C) java.event
 - (D) java.awt.event

75. What is an event in delegation event model used by Java programming language ?
- (A) An event is an object that describes a state change in a source
 - (B) An event is an object that describes a state change in processing
 - (C) An event is an object that describes any change by the user and system
 - (D) An event is a class used for defining object, to create events
76. Which of these events will be generated if we close an applet's window ?
- (A) `ActionEvent`
 - (B) `ComponentEvent`
 - (C) `AdjustmentEvent`
 - (D) `WindowEvent`
77. Which of these keywords is not a part of exception handling ?
- (A) `try`
 - (B) `finally`
 - (C) `thrown`
 - (D) `catch`
78. When does Exceptions in Java arises in code sequence ?
- (A) Run Time
 - (B) Compilation Time
 - (C) Can Occur Any Time
 - (D) None of the mentioned
79. What does AWT stands for ?
- (A) All Window Tools
 - (B) All Writing Tools
 - (C) Abstract Window Toolkit
 - (D) Abstract Writing Toolkit

80. Which of these is used to perform all input & output operations in Java ?
- (A) Streams
 - (B) Variables
 - (C) Classes
 - (D) Methods
81. Which of these is an incorrect statement ?
- (A) String objects are immutable, they cannot be changed
 - (B) String object can point to some other reference of String variable
 - (C) String Buffer class is used to store string in a buffer for later use
 - (D) None of the mentioned
82. Which of these method of class String is used to extract a single character from a String object ?
- (A) CHARAT()
 - (B) chatat()
 - (C) charAt()
 - (D) ChatAt()
83. Which of these methods is used to compare a specific region inside a string with another specific region in another string ?
- (A) regionMatch()
 - (B) match()
 - (C) RegionMatches()
 - (D) regionMatches()
84. What will s2 contain after following lines of Java code ?
- ```
String s1 = "one";
String s2 = s1.concat("two")
```
- (A) one
  - (B) two
  - (C) onetwo
  - (D) twoone

85. Which of these class object can be used to form a dynamic array ?
- (A) ArrayList
  - (B) Map
  - (C) Vector
  - (D) ArrayList & Vector
86. Which of these package contains classes and interfaces for networking ?
- (A) java.io
  - (B) java.util
  - (C) java.net
  - (D) java.network
87. Which of these method of httpd class is used to get report on each hit to HTTP server ?
- (A) log()
  - (B) logEntry()
  - (C) logHttpd()
  - (D) logResponse()
88. Which of these methods are used to find a URL from the cache of httpd ?
- (A) findfromCache()
  - (B) findFromCache()
  - (C) serveFromCache()
  - (D) getFromCache()
89. Which of these method is used to start a server thread ?
- (A) run()
  - (B) Start()
  - (C) runThread()
  - (D) startThread()

90. Host URL is written in html and simple text :
- (A) html
  - (B) text
  - (C) html/text
  - (D) text/html
91. Which thread will be executed first if two threads have same priority ?
- (A) They will fall in starvation and none will be executed
  - (B) Both will be executed simultaneously
  - (C) It depends upon operating system
  - (D) They will be executed on first come first serve basis
92. Which of these methods is a part of Abstract Window Toolkit (AWT) ?
- (A) display()
  - (B) paint()
  - (C) drawstring()
  - (D) transient()
93. Which of these methods can be used to obtain the command name for invoking ActionEvent object ?
- (A) getCommand()
  - (B) getActionCommand()
  - (C) getActionEvent()
  - (D) getActionEventCommand()
94. Which of these events is generated by scroll bar ?
- (A) ActionEvent
  - (B) KeyEvent
  - (C) WindowEvent
  - (D) AdjustmentEvent

95. Which of the following is an incorrect statement about packages ?
- (A) Package defines a namespace in which classes are stored
  - (B) A package can contain other package within it
  - (C) Java uses file system directories to store packages
  - (D) A package can be renamed without renaming the directory in which the classes are stored
96. Which of the following is advantage of using JDBC connection pool ?
- (A) Slow performance
  - (B) Using more memory
  - (C) Using less memory
  - (D) Better performance
97. How are java web applications packaged ?
- (A) jar
  - (B) war
  - (C) zip
  - (D) Both jar and war
98. How can we connect to database in a web application ?
- (A) oracle sql developer
  - (B) toad
  - (C) JDBC template
  - (D) mysql
99. Which of these statement is incorrect ?
- (A) Every class must contain a main() method
  - (B) Applets do not require a main() method at all
  - (C) There can be only one main() method in a program
  - (D) main() method must be made public
100. Which of the following is advantage of using PreparedStatement in Java ?
- (A) Slow performance
  - (B) Encourages SQL injection
  - (C) Prevents SQL injection
  - (D) More memory usage

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2. **This Question Booklet contains 100 questions, out of which only 75 Question are to be Answered by the examinee. Every question has 4 options and only one of them is correct. The answer which seems correct to you, darken that option number in your Answer Booklet (O.M.R ANSWER SHEET) completely with black or blue ball point pen. If any examinee will mark more than one answer of a particular question, then the first most option will be considered valid.**
3. Every question has same marks. Every question you attempt correctly, marks will be given according to that.
4. Every answer should be marked only on Answer Booklet (O.M.R ANSWER SHEET). Answer marked anywhere else other than the determined place will not be considered valid.
5. Please read all the instructions carefully before attempting anything on Answer Booklet (O.M.R ANSWER SHEET).
6. After completion of examination please hand over the Answer Booklet (O.M.R ANSWER SHEET) to the Examiner before leaving the examination room.
7. There is no negative marking.

**Note:** On opening the question booklet, first check that all the pages of the question booklet are printed properly in case there is an issue please ask the examiner to change the booklet of same series and get another one.