University of Wachemo

College of Engineering and Technology

Department of Information Technology

ITec3054: Advanced Programming

Model Exam 2015   Time Allowed: 2:00 hours Prepared by: Mr. Tsegay Mullu

Name:	ID:	Sec:

1. Which one of the following is **false** about TCP and UDP?

   A. TCP is guaranteed delivery, UDP is not guaranteed.

   B. TCP guarantees order of messages, UDP doesn't.

   C. TCP is slower compared to UDP

   D. TCP uses Port number, but UDP does not

   E. None

2. Which one of the following is **false** about Servlet?

   A. A servlet program to be executed it needs a web server with servlet engine

   B. A servlet is a server side script that provide a dynamic nature of a web

   C. A servlet is portable among operating systems

   D. A servlet can handle multiple requests concurrently

   E. None

3. Which is multithreaded programming?

   A. It's a process in which two different processes run simultaneously

   B. It's a process in which two or more parts of same process run simultaneously

   C. It's a process in which many different process are able to access same information

   D. It's a process in which a single process can access information from many sources

   E. None

4. The client and server communication on top of TCP (Transmission Control Protocol) have the following unordered steps. Hence, which one of the following is the **correct** order of these steps?

   i.   The server wait and accept for the client incoming connection request
   ii.   The client and server perform communication dialog

iii.   The server create a socket at specified port for incoming connection request

iv.   The server and client close the socket connection

v.   The client create a socket at specified server IP address and port number for connection request

A. i->iv->ii->v->iii

B. v->iii->ii->i->iv

C. iii->v->i->ii->iv

D. v->ii->i->iii->iv

E. None

5. Select all the incorrect statements about HashSet and LinkedHashSet

A. HashSet does not maintain the insertion order of the elements

B. LinkedHashSet maintains the ordering of the elements and guarantees insertion order

C. HashSet does not necessarily maintain the insertion order of the elements

D. HashSet and LinkedHashSet are the implementing classes of the Set interface

E. HashSet and LinkedHashSet are the implementing classes of the SortedSet interface

6. Select the valid thread state transition?

A. Ready to waiting

B. Waiting to running

C. Ready to running

D. Running to ready

E. None

7. Which tag is used to execute java source code in JSP?
A. Declaration Tag
B. Scriptlet tag
C. Expression tag
D. All
E. None

8. Which of these is synchronized?
A. TreeMap
B. HashMap
C. Hashtable
D. All
E. None

9. When we implement the servlet program in java, which method is mandatory to define the body command after overriding?

A. init() method

B. destroy() method

C. servlet() method

D. service() method

E. None

10. Which java package is used to implement the network based systems?

A. java.net package

B. java.rmi package

C. java.lang package

D. java.jdbc package

E. None

11. In java, an IP address is defined as an object, the instance of _____ class.
A. InteAddress
B. SocketAddress
C. IPAdress
D. All
E. None

12. The client in socket programming based on TCP protocol must know which information?

A. IP address of Server

B. Port number

C. Both IP address of Server and port number

D. Host name of the client

E. None

13. A types of JDBC statement which is responsible for executing a database stored procedure

A. Statement

B. CallableStatement

C. PreparedStatement

D. StoredStatement

E. None

14. A servlet implementation technique that can be used with any protocol

A. GenericServlet

B. HttpServlet

C. FTPServlet

D. CGIServlet

E. None

15. 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

   E. None

16. Which of the following is true about JSP?
   1. JSP technology is used to create web application
   2. The JSP pages are not easier to maintain than servlet
   3. JSP page consists of HTML tags and JSP tags
   A. 1 & 2
   B. 1 & 3
   C. 2 & 3
   D. All
   E. None

17. Which of the following is false about Set interface java collection
   A. A Set collection can contain duplicate elements
   B. A Set collection cannot maintain element order
   C. A Set object can be instantiated from HashSet sub-class
   D. A Set object can be instantiated from TreeSet sub-class
   E. None

18. Which types of IO stream is used to perform read based communication on top of TCP protocol

   A. DataInputStream

   B. DataOutputStream

   C. DataReadStream

   D. DataWriteStream

   E. None

19. Which collection interface restricts duplicate elements?
   A. Set
   B. List
   C. Map
   D. All of the above
   E. None

20. Which one of the following is false about the java servlet life cycle?

   A. In servlet init() method will be called only once during the lifetime of the servlet

   B. The service () method will be called only once during the life time of the servlet

C. The destroy method will be called only once during the lifetime of the servlet

D. None of the above

E. None

21. The ASP and JSP technologies are quite similar in the way they support the creation of Dynamic pages, using HTML templates, scripting code and components for business logic.

A. True

B. False

C. All

D. None

22. Which of the following is true about List interface java collection?

A. a List collection can contain duplicate elements

B. a List collection cannot maintain element order

C. a List object can be instantiated from ArrayList sub-class

D. a List does not support item synchronization

E. None

23. Which one of the following is **not true** about client server communication on top of User Datagram Protocol?

A. A message is transferred from source machine to destination based on information contained that packet

B. Packet delivery is not guaranteed

C. Destination address is accessed from established socket

D. Packets may arrive to the destination in any order

E. None

24. Assume in Wachemo University there are 1000 Instructor academic staffs and this year government increase their salary based on their academic position. Hence, based on this case study answer below questions (i) and (ii)

25. To do so the system should update the salary of instructors based on query given below

String sql = *"UPDATE Instructor_info set Salary = ? where ins_id = ? and position = ?";*

Therefore, which JDBC interface is more efficient and effective to execute above given sql statement

A. CallableStatement

B. Statement

C. PreparedStatement

D. A and C

E. None

26. Based on Question No. 26, which method is **not able** to execute the above sql statement (update statement)

A.   executeQuery(String sql)

B.   executeUpdate(String sql)

C.   execute(String sql)

D.   All above choice

E.   None

27. Which one of the following is **false** about GET and POST request methods?

A. POST method is designed for posting information to the server

B. POST method used for large parametrized requests and larger forms

C. The *doGet()* method is the corresponding method for POST request

D. GET requests have length restrictions

E. None

28. JSPs eventually are compiled into Java servlets, you can do as much with JSPs as you can do with Java servlets.

A. True

B. False

C. all

D. None

29. What is the output of the following program?

```java
public class Question_7_1 {

  public static void main(String[] args) {

    ArrayDeque<Integer> deque =

       new ArrayDeque<Integer>();

    deque.push(1);

    deque.push(2);

    deque.push(3);
```

```
        deque.poll();

        System.out.println(deque);

    }

}
```

A. [1, 2, 3]
B. [1, 2]
C. [2, 1]
D. An exception occurs at runtime
E. None

30. Which one of the following is **not true** about ResultSet in JDBC?

   A. ResultSet is a logical view of row and column data of the actual database that meets the criteria of requested SQL query

   B. The SQL statement executer function execute() of statement object may return a ResultSet

   C. Despite the number of rows in a result set return from manipulated query, at a time only one row is accessible

   D. To access the values of fields in database from ResultSet possible to use either columnIndex or columnName

   E. None

31. Which of the following are the advantages of Java Servlet over the other common server extensions?

   A. Java servlets are faster than other server extensions like CGI scripts.

   B. Java servlets use a standard API that is supported by many browsers.

   C. Java servlets are portable between server and operating system.

   D. All of the above

   E. None

32. Which of the following are the valid scopes in JSP?
   A. request, page, session, application
   B. request, page, session, global
   C. response, page, session, application
   D. request, page, context, application
   E. None

33. Which types of IO stream is used to perform read based communication on top of TCP protocol
   A. DataInputStream
   B. DataOutputStream
   C. DataReadStream
   D. DataWriteStream

E. None

34. The life cycle method of a servlet which is responsible for handling all incoming requests from the client side

A. init() method

B. destroy() method

C. service() method

D. getError() method

E. None

35. The _____ class is used to create datagram packets.

A. DatagramPacket

B. DatagramSocket

C. DatagramSocket or DatagramPacket

D. All

E. None

36. A Map can contain duplicate keys
A. True
B. False
39. Which method is called internally by Thread start () method?

A. execute()

B. launch()

C. run()

D. main()

E. None

37. Which of the following object of java.sql package is responsible to manage the registering and unregistering of database drivers from underlying system.

  A. Java.sql.Connection

  B. Java.sql.Statement

  C. Java.sql.DriverManager

  D. Java.sql.ResultSet

  E. None

38. Which collection class maintains insertion order?
  A. TreeSet

B. HashSet

C. LinkedHashSet

D. All of the above

E. None

39. Which method will contain the body of the thread in Java?

A. main()

B. start()

C. execute()

D. run()

E. None

40. Which one of the following is **false** about client server communication on top of User Datagram Protocol?
A. A message is transferred from source machine to destination based on information contained that packet
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D. Packets may arrive to the destination in any order
E. None

41. Which one of the following is **not true** about client server communication on top of User Datagram Protocol?

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E. None

42. The steps given below are a set of unordered activities used in java database connectivity in any underlying system. Hence, write the correct order of these activities based on their label

a. Establish the Connection

b. Execute a query

c. Load the JDBC driver

d. Create a Statement object

e. Process the results

f. Define the Connection URL

g. Close the connection

A. c->f->a-> d -> b ->e -> g

B. c->f->d->b->a->e->g

C. c->f->a-> d -> e ->b -> g

D. c->f->a-> e -> d ->b -> g

E. None

43. Which interface provides key-value pair?

A. List

B. Set

C. Map

D. Collection

E. None

44. Which one of the following is **true** about port number and IP address?
A. Port number is an identification given for computer machines
B. IP address is an identification given for servers with in a machine
C. Only IP address is required to establish TCP based client server communication
D. Port number is represented in dotted quad format
E. None

45. Which Interface does not allow duplicates?
A. List
B. Set
C. Map
D. SortedMap
E. None

46. Which one of the following **not true** about TCP protocol?
A. It stands for Transmission Control Protocol
B. It is connection oriented types of protocol
C. It does not allow reliable communication between two applications

D. Connection establishment is a pre-condition for communication between client and server using TCP protocol

E. None

47. Which of these is synchronized?

A. ArrayList

B. LinkedList

C. Vector

D. All of the above

E. None

48. Which of these maintains insertion order?
   A. List
   B. Set
   C. All
   D. None

49. Which class is responsible for managing the loading and unloading of database drivers from the underlying system

   A. Connection

   B. DriverManager

   C. Statement

   D. ResultSet

   E. None

50. What is maximum thread priority in Java

   A. 12

   B. 5

   C. 10

   D. 8

   E. None