

PROVISIONAL ANSWER KEY

Question 84/2024/OL

Paper Code:

Category 725/2023

Code:

Exam: Programmer

Date of Test 11-07-2024

Department Kerala Public Service Commission

Question1:-The contrapositive of the statement "If it is raining, then I get wet" is

A:-If I do not get wet, then it is not raining

B:-If I get wet, then it is raining

C:-If it is not raining, then I will not get wet

D:-It is raining only if I got wet

Correct Answer:- Option-A

Question2:-The expression $\left[\left\{ (A \cup B) \cap c \right\}^c \cup B^c \right]^c$ is equivalent to

A:- $A \cap B$

B:- $B \cap C$

C:- $A \cup B$

D:- $B \cup C$

Correct Answer:- Option-B

Question3:-The number of relations from $A = \{a, b, c\}$ to $B = \{1, 2\}$ is

A:-6

B:-36

C:-64

D:-32

Correct Answer:- Option-C

Question4:-The minimal element of the partially ordered set $A = \{x/x \text{ is a real number and } 0 \leq x < 1\}$ with the usual partial order \leq is

A:-1

B:-0

C:-0&1

D:-no element exists

Correct Answer:- Option-B

Question5:-A TV survey shows that 60% people see programme A, 50% see programme B, 50% see programme C, 30% see programme A and B, 20% see programmes B and C 30% see programmes A and C, and 10% do not see any programme. Find what % see programmes A, B and C.

A:-10

B:-20

C:-5

D:-25

Correct Answer:- Option-A

Question6:-The probability of drawing a spade from a pack of cards is

A:- $\frac{1}{52}$

B:- $\frac{1}{13}$

C:- $\frac{4}{13}$

D:- $\frac{1}{4}$

Correct Answer:- Option-D

Question7:-If a bag contains 8 white and 6 red balls, then the probability of drawing two balls of the same colour is

A:- $\frac{31}{91}$

B:- $\frac{41}{91}$

C:- $\frac{34}{91}$

D:- $\frac{43}{91}$

Correct Answer:- Option-D

Question8:-A problem in Physics is given to three students A, B, C whose chances of solving it are $\frac{1}{2}$, $\frac{3}{4}$, $\frac{1}{4}$ respectively, then the probability that the problem will be solved is

A:- $\frac{1}{3}$

B:- $\frac{1}{2}$

C:- $\frac{3}{32}$

D:- $\frac{3}{4}$

Correct Answer:- Option-C

Question9:-Suppose that a bag X contains 2 white and 3 red balls and a bag Y contains 4 white and 5 red balls. One ball is drawn at random from one of the bags and is found to be red, then the probability that it was drawn from the bag Y

A:- $\frac{20}{52}$

B:- $\frac{25}{52}$

C:- $\frac{27}{52}$

D:- $\frac{23}{52}$

Correct Answer:- Option-B

Question10:-If the correlation coefficient is -1, then the angle between the two regression lines is

A:-0

B:- π

C:-- π

D:-0 or π

Correct Answer:- Option-D

Question11:-If in a partially destroyed laboratory record of an analysis of a correlation data, the regression equations are given as $4x - 5y + 33 = 0$, $20x - 9y = 107$, then the coefficient of correlation between x and y is

A:-0.6

B:--0.6

C:-0.5

D:--0.5

Correct Answer:- Option-A

Question12:-If a sample of 200 items drawn from a large population, the mean is 65 and the SD is 8, then the 95% confidence limits for the population means are (critical value of $z=1.96$ for $\alpha = 0.05$)

A:-(63.8, 66.1)

B:-(63.8, 69.2)

C:-(62, 66.1)

D:-(62, 69.2)

Correct Answer:- Option-A

Question13:- $(X'+Y)(X+Y) =$

A:- $X+Y$

B:- X

C:- Y

D:-None

Correct Answer:- Option-C

Question14:-Write the minimized expression for the following logic function using K-map

$F(P,Q,R) = \sum m(0, 1, 2, 4, 6)$

A:- $P'Q'+Q'R'+QR$

B:- $P'Q'+R'$

C:- R'

D:-None

Correct Answer:- Option-B

Question15:-How many flip-flops are required for a mod-9 counter ?

A:-9

B:-18

C:-3

D:-4

Correct Answer:- Option-D

Question16:-What is the addressing mode of the instruction MOV AX, [BX] ?

A:-Direct addressing mode

B:-Register addressing mode

C:-Register indirect addressing mode

D:-Relative Addressing mode

Correct Answer:- Option-C

Question17:-What is the size of the pre-fetch queue in a 8086 microprocessor ?

A:-6 bytes

B:-8 bytes

C:-16 bytes

D:-32 bytes

Correct Answer:- Option-A

Question18:-How many address bits are required to address a location in a memory of size 512 KiloBytes ?

A:-8

B:-16

C:-9

D:-19

Correct Answer:- Option-D

Question19:-Name the policy when a cache performs a write operation on a shared memory block it marks all other copies of that block in other caches as invalid ?

A:-Write update

B:-Write invalidate

C:-Write back

D:-Write through

Correct Answer:- Option-B

Question20:-After the completion of a DMA transfer, the processor is noticed by

A:-Interrupt signal

B:-Acknowledge signal

C:-HOLD signal

D:-None

Correct Answer:- Option-A

Question21:-Which of the following register is used the holding instruction/data

read from memory ?

A:-Accumulator

B:-Program Counter

C:-Memory Data Register

D:-Memory Address Register

Correct Answer:- Option-C

Question22:-Which of the following CPU scheduling algorithm may lead to starvation ?

A:-FIFO

B:-Shortest Job First

C:-Round robin

D:-None of these

Correct Answer:- Option-B

Question23:-Which of the following is a deadlock detection method ?

A:-Wait-for graph

B:-Banker's Algorithm

C:-Resource allocation graph

D:-None

Correct Answer:- Option-A

Question24:-What kind of fragmentation will be there in fixed partitioned memory management ?

A:-Internal

B:-External

C:-Internal & External

D:-No Fragmentation

Correct Answer:- Option-C

Question25:-Which of the following disk scheduling algorithm is known as Elevator algorithm ?

A:-FCFS

B:-SCAN

C:-SSTF

D:-None

Correct Answer:- Option-B

Question26:-In the Readers-Writers problem, what kind of semaphore is typically used to ensure exclusive access in the shared resource for writers while allowing multiple readers to access the resource concurrently ?

A:-mutex

- B:-monitor
- C:-spin lock
- D:-None

Correct Answer:- Option-A

Question27:-Given the following sequence : {2, 3, 5, 6, 9, 11, 15}, which sorting algorithm will run in $O(n)$ time (n comparisons)

- A:-Insertion Sort
- B:-Selection Sort
- C:-Quick Sort
- D:-Merge Sort

Correct Answer:- Option-A

Question28:-What is the worst case running time of the following pseudocode functions in Big-Oh notation in terms of the variable n ?

```
int abc(int n, int m) {  
  if (m<2) return m;  
  if (n<1) return n;  
  else if (n<10)  
    return abc(n/m, m);  
  else  
    return abc(n-1, m);  
}
```

- A:- $O(\log n)$
- B:- $O(n)$
- C:- $O(n^2)$
- D:- $O(n \log n)$

Correct Answer:- Option-B

Question29:-Which in the following is a pre-order traversal of a valid BST ?

- A:-11, 17, 2, 7, 20, 25, 4
- B:-11, 4, 2, 7, 17, 20, 25
- C:-1, 7, 4, 25, 20, 17, 11
- D:-Both a, b are valid

Correct Answer:- Option-D

Question30:-Consider the following statements

A : Given an array of n integers, each belonging to $\{-1, 0, 1\}$, we can sort the array in $O(n)$ time in the worst case

B : The following array is a max heap : [10, 3, 5, 1, 4, 2].

Choose the correct option

A : True. Use counting sort

B : False. The element 3 is smaller than its child 4, violating the maxheap property

- A:-Only A is true
- B:-Only B is true

C:-Both A and B are true

D:-Both A and B are false

Correct Answer:- Option-A

Question31:-The preorder traversal sequence of a binary search tree is 30, 10, 15, 25, 23, 27, 40, 39, 35, 42. Which one of the following is the postorder traversal sequence of the same tree ?

A:-23, 27, 25, 15, 10, 35, 42, 40, 39, 30

B:-23, 27, 25, 15, 10, 35, 39, 42, 40, 30

C:-23, 27, 15, 25, 10, 35, 42, 39, 40, 30

D:-23, 27, 25, 15, 10, 30, 35, 42, 39, 40

Correct Answer:- Option-B

Question32:-Consider the following statements :

A : The problem of finding the shortest path from s to t in a directed, weighted graph exhibits optimal substructure.

B : It is possible for DFS on a directed graph with a positive number of edges to, produce no tree edges

Choose the correct option

A:-Only A is true

B:-Only B is true

C:-Both A and B are true

D:-Both A and B are false

Correct Answer:- Option-C

Question33:-An unordered list contains n distinct elements. The number of comparisons to find an element in this list that is neither maximum nor minimum is

A:- $\theta(1)$

B:- $\theta(n \log n)$

C:- $\theta(n)$

D:- $\theta(\log n)$

Correct Answer:- Option-A

Question34:-Suppose A, B, C, D, E are sorted arrays having lengths 20, 24, 30, 35, 50 respectively. They are to be merged into a single arrays by merging together two at a time. The number of comparisons in the worst case by the optimal algorithm

A:-358

B:-438

C:-568

D:-664

Correct Answer:- Option-A

Question35:-Consider the following statements

A : There exists an algorithm to build a binary search tree from an unsorted list in $O(n)$ time

B : On a connected, directed graph with only positive edge weights, Bellman-Ford runs asymptotically as fast as Dijkstra

Choose the correct option

A:-Only A is true

B:-Only B is true

C:-Both A and B are true

D:-Both A and B are false

Correct Answer:- Option-D

Question36:-What is the minimum number of nodes in a full tree of height 6 ?

A:-5

B:-13

C:-14

D:-127

Correct Answer:- Option-B

Question37:-The postorder traversal of a binary search tree is 1, 12, 4, 22, 18, 16. What is the new postorder traversal after the insertion of 10 and 14 ?

A:-1, 12, 4, 22, 18, 16, 14, 10

B:-1, 10, 12, 14, 4, 22, 18, 16

C:-1, 10, 14, 12, 4, 22, 18, 16

D:-1, 12, 4, 10, 14, 22, 18, 16

Correct Answer:- Option-C

Question38:-What is the scope of a variable declared with the 'static' keyword inside a function ?

A:-Local to the function, retaining its value between calls

B:-Local to the function, without retaining its value between calls

C:-Global to all functions

D:-None of the above

Correct Answer:- Option-A

Question39:-In C++, Access Rights of Derived Classes, with protected inheritance the minimum access level for the members of derived class that are inherited from the base class is

A:-all the members of base class is accessible by the derived class

B:-the derived class follow the same access permission as in the base class

C:-only the public members inherited from the base class can be accessed in the derived class as protected members

D:-none of the members of the class is accessible by the derived class

Correct Answer:- Option-C

Question40:-What is the output of the following code ?

```
#include <iostream>
using namespace std;
class Something{
char *name;
public:
Something(char*n) {
name=n, cout << "Creating"<< name << "\n";
}
~Something() {cout << "Destroying" << name << "\n";}
};
int main(int argc, char **argv) {
Something x("x"), y("y");
Something *z=new Something("z");
Something w("w");
{Something v("v");}
delete z;
}
```

A:-Creating x

Creating y
Creating z
Creating w
Creating v
Destroying v
Destroying w
Destroying z
Destroying y
Destroying x

B:-Creating x

Creating y
Creating z
Creating w
Creating v
Destroying v
Destroying z
Destroying w
Destroying y
Destroying x

C:-Creating v

Creating w
Creating z
Creating y
Creating z
Destroying v
Destroying z
Destroying w
Destroying y
Destroying x

D:-Creating x

Creating y
Creating z
Creating w
Creating v
Destroying x
Destroying y
Destroying z
Destroying w
Destroying v

Correct Answer:- Option-B

Question41:-What is the output of the following code ?

```
#include <iostream>
using namespace std;
class Employer {
char *name;
public:
    Employer(char *n) : name(n) {}
    void print(ostream&os) const {os << name;}
};
ostream & operator << {ostream & os, const Employer & e}{
    e.print(os); return os;
}
class RichGuy : public Employer {
    int stocks;
public:
    RichGuy(char*n, int s) : Employer(n), stocks(s) {}
    void print(ostream &os) const {
        Employer::print(os);
        os << "(this guy has " << stocks << " stocks!!)";
    }
};
int main(int argc, char **argv) {
    RichGuy bill("Bill Gates", 1576354987);
    cout << bill << "\n";
}
```

A:-Bill Gates

B:-Bill Gates (this guy has 1576354987 stocks!!)

C:-Error code

D:-RichGuy

Correct Answer:- Option-A

```
Question42:-#include
#include <match.h>
using namespace std;
class Function {
public:
    virtual double eval(double x) = 0;
    double derivative(double x, double e) {
        cout << "Function::derivative\n";
    }
};
```

```

return (eval(x+e)-eval(x-e))/(2*e);
}
virtual double derivative(double x) {return derivative(x,0.001);}
};
class Oscillating : public Function {
double a, b, c;
public:
Oscillating(double aa, double bb, double cc) : a(aa), b(bb), c(cc) {}
double eval(double x) {return a*sin(b*x+c);}
};
class Quadratic : public Function {
double a, b, c
public:
Quadratic(double aa, double bb, double cc) : a(aa), b(bb), c(cc) {}
double eval(double x) {return c+(b + a*x)*x;}
double derivative(double x) {return b + 2*a*x;}
};
int main(int argc, char *argv){
Oscillating f(2, 3, 4);
cout << f.derivative(2)<<"\n";
Quadratic q(5, 4, 5);
cout <<q.derivative(2)<<"\n";
}

```

A:-Function::derivative 5.03442-24

B:-Function::derivative -5.03442 24

C:-Function::quadratic 5.03442-24

D:-Function::eval-5.03442 24

Correct Answer:- Option-B

```

Question43:-#include
using namespace std;
class CSquare
class CRectangle{
    int width, height;
    public:
        int area()
            {return(width*height);}
        void convert (CSquare a);
};
class CSquare {
private:
    int side;
public:
    void set_side (int a)
        {side=a;}
    friend class CRectangle;
};
void CRectangle::convert (CSquare a) {
    width = a.side;
    height = a.side;
}

```

```

int main() {
    CSquare sqr;
    CRectangle rect;
    sqr.set_side(4);
    rect.convert(sqr);
    cout << rect.area();
    return 0;
}

```

A:-24

B:-18

C:-16

D:-28

Correct Answer:- Option-C

Question44:-you have two pairs: new() and delete() and another pair : alloc() and free(). Choose the correct difference between new() and malloc()

A:-new, delete, malloc and free are functions.

B:-we use brackets while calling new and malloc.

C:-need to allocate

D:-"new" will initialize the new memory to 0 but "malloc()" gives random value in the new allotted memory location

Correct Answer:- Option-D

Question45:-#include <stdexcept>

#include <limits>

#include <iostream>

using namespace std;

void func(int c)

```

{
    if(c<numeric_limits<char> :: max())
        throw invalid_argument("MyFunc argument too large.");
    else
    {
        cout<<"Executed";
    }
}

```

int main()

```

{
    try
    {
        func(256);
    }
    catch(invalid_arguments& e)
    {
        cerr <<e.what()<< endl;
        return -1;
    }
    return 0;
}

```

```
}
```

A:-Invalid arguments

B:-Executed

C:-Error

D:-Runtime error

Correct Answer:- Option-B

Question46:-What is the output of the java code given below :

```
import java.lang.*;
```

```
//bit operations
```

```
public class ShowBits {
```

```
    public static void main(String args[])
```

```
    {byte b = -5;
```

```
      for (int i = 7; i>=0; i--) {
```

```
        if ((b & 0x80)==0)
```

```
            System.out.println("bit" + i + "is 0");
```

```
        else
```

```
            System.out.println("bit" + i + "is 1");
```

```
        b<<=1;
```

```
    }
```

```
}
```

```
}
```

A:-bit 7is 1

bit 6is 1

bit 5is 1

bit 4is 1

bit 3is 1

bit 2is 0

bit 1is 1

bit 0is 1

B:-bit 7is 1

bit 6is 1

bit 5is 1

bit 4is 1

bit 3is 0

bit 2is 0

bit 1is 1

bit 0is 1

C:-bit 7is 1

bit 6is 1

bit 5is 1

bit 4is 1

bit 3is 1

bit 2is 1

bit 1is 1

bit 0is 1

D:-bit 7is 1

bit 6is 1

bit 5is 1

bit 4 is 1
bit 3 is 1
bit 2 is 0
bit 1 is 1
bit 0 is 0

Correct Answer:- Option-A

Question 47:- Find the wrong statement on Java exceptions

A:- If an appropriate catch clause is not found, the search continues until it reaches the block which encloses the entire method body

B:- If there is still no compatible catch clause, the search is widened to include the block containing the method call

C:- This search continues on outward, until eventually the exception is handled and eventually it stays in loop. It does not terminate.

D:- If there does not exist any handling for the exception, the Java environment will handle it for you. Java will terminate your program

Correct Answer:- Option-C

Question 48:- Present the following under the heads "Static Methods" and "Instance Methods" of java Thread Class

- i) getPriority();
- ii) setPriority();
- iii) start();
- iv) stop();
- v) sleep();
- vi) yield();
- vii) run();
- viii) isActive();
- ix) suspend();
- x) activeCount();
- xi) currentThread();
- xii) resume();
- xiii) join();

A:- Static Methods : v), vi), ix), x), xi),
Instance Methods : i), ii), iii), iv), vii), viii), xii), xiii)

B:- Static Methods : iii), iv), v), vii), ix),
Instance Methods : i), ii), vi), viii), x), xi), xii), xiii)

C:- Static Methods : v), vi), x), xi),
Instance Methods : i), ii), iii), iv), vii), viii), ix), xii), xiii)

D:- Static Methods : iii), iv), v), vi), vii),
Instance Methods : i), ii), viii), ix), x), xi), xii), xiii)

Correct Answer:- Option-C

Question 49:- The method that is not called during the life cycle of an applet is

- A:- init()
- B:- destroy()
- C:- main()

D:-stop()

Correct Answer:- Option-C

Question50:-What is the output of the following Vehicle.java code ?

```
class Vehicle{
void run(){System.out.println("Vehicle is running");}
public static void main(String args[]){
Bike2 obj=new Bike2();
obj.run();
} }
class Bike2 extends Vehicle{
void run(){System.out.println("Bike is running safely"); }
}
```

A:-Vehicle is running safely

B:-Bike is running safely

C:-None

D:-Error code

Correct Answer:- Option-B

Question51:-In a relational database, how does a super key differ from a candidate key ?

A:-Super Key contains multiple attributes, while candidate key contain single attribute

B:-A super key must contain only a single attribute, while a candidate key can contain multiple attributes

C:-A super key is always a primary key, while a candidate key cannot be a primary key

D:-A super key can contain redundant attributes, whereas a candidate key is a minimal set of attributes that uniquely identify a record

Correct Answer:- Option-D

Question52:-In an ER diagram, which of the following symbols will typically not be adjacent to each other directly ?

A:-Double Rectangle and Double Diamond

B:-Oval and Rectangle

C:-Rectangle and Diamond

D:-Oval and Double Diamond

Correct Answer:- Option-A

Question53:-Consider a relation R(A,B,C,D) with the following functional dependencies :

- $A \rightarrow B$
- $B \rightarrow C$
- $C \rightarrow D$

What is the highest normal form (NF) that the relation R satisfies ?

A:-First Normal Form (1NF)

B:-Second Normal Form (2NF)

C:-Third Normal Form (3NF)

D:-Boyce-Codd Normal Form (BCNF)

Correct Answer:- Option-B

Question54:-Consider a relation R(StudentID, CourseID, InstructorID, StudentName, CourseName, InstructorName) with the following functional dependencies:

1. StudentID → StudentName
2. CourseID → CourseName
3. InstructorID → InstructorName
4. StudentID, CourseID → InstructorID

After normalization, following tables created.

- Students Table: (StudentID, StudentName)
- Courses table: (CourseID, CourseName)
- Instructors Table: (InstructorID, InstructorName)
- Enrollment Table: (StudentID, CourseID, InstructorID)

Identify the level of normalization after the decomposition.

A:-1NF

B:-2NF

C:-3NF

D:-BCNF

Correct Answer:- Option-C

Question55:-Choose the correct statements regarding the use of NULL values in aggregate functions ?

A:-The SUM () function will include NULL values, and the AVG () function will exclude NULL values in its calculation.

B:-The COUNT(*) function will count all rows, including those with NULL values, and the AVG () function will exclude NULL values in its calculation.

C:-The SUM() and COUNT(<col_name>) functions will include NULL values in its calculation.

D:-The COUNT(*) and AVG () functions will consider all rows, including those with NULL values in its calculation

Correct Answer:- Option-B

Question56:-Based on the given relational schemas, choose the correct nested sub queries which will correctly return the names of employees who work in the 'sales' department ?

- Employees (EmpID, EmpName, Salary, DepartmentID)
- Departments (DepartmentID, DepartmentName)

A:-SELECT EmpName FROM Employees WHERE DepartmentID = (SELECT DepartmentID FROM Departments WHERE DepartmentName = 'Sales');

B:-SELECT EmpName FROM Employees WHERE DepartmentID IS (SELECT DepartmentID FROM Departments WHERE DepartmentName = 'Sales');

C:-SELECT EmpName FROM Employees WHERE EmpID = (SELECT EmpID FROM Employees WHERE DepartmentID = (SELECT DepartmentID FROM Departments WHERE DepartmentName = 'Sales'));

D:-SELECT EmpName FROM Employees WHERE EmpID IS (SELECT EmpID FROM Employees WHERE DepartmentID = (SELECT DepartmentID FROM Departments WHERE DepartmentName = 'Sales'));

Correct Answer:- Option-A

Question57:-Choose the false statements about DBMS views

A:-Simplify complex queries by encapsulating them in a single view.

B:-Enhance security by restricting access to specific columns or rows.

C:-Views involving complex queries, aggregates, or joins are directly updatable.

D:-The ability to index views depends on the DBMS and the specific view definition.

Correct Answer:- Option-C

Question58:-Select the statement which return the result of the following SQL query
SELECT E.EmpName, D. DepartmentName FROM Employees E JOIN Departments D ON E.DepartmentID = D.DepartmentID WHERE D.Location = 'New York' ;

A:-The query returns the names of departments located in 'New York' along with the names of all employees in those departments, even if the employees are not in 'New York'

B:-The query returns the names of employees who work in 'New York', regardless of the department they belong to

C:-The query returns the names of all employees along with the names of their departments, regardless of their location

D:-The query returns the names of employees and the names of their departments only for employees who work in departments located in 'New York'.

Correct Answer:- Option-D

Question59:-Analyse the following statements and identify the violation of ACID properties

i) A system crash occurs after a transaction is committed and the database does not reflect the changes made by the transaction

ii) Two transactions concurrently updating the same data cause the database to end up in an invalid state.

iii) A transaction fails to complete due to an error and all changes made by the transaction are rolled back.

iv) A transaction transfers funds from one account to another, and both accounts reflect the updated balances once the transaction is completed.

A:-i only

B:-i & ii

C:-ii & iii

D:-iv only

Correct Answer:- Option-B

Question60:-Based on the given scenario, identify the problem occurred.

Scenario : Suppose two transactions, T1 and T2, read the balance of a bank account. T1 reads the balance as \$2000 and plans to add \$200, while T2 reads the same balance and plans to subtract \$300. Both transactions read the balance before any updates are made. If T1 updates the balance to \$2200 and then T2 updates it to \$1700, the final balance will incorrectly reflect T2's update only.

A:-Lost Update Problem

B:-Dirty Read Problem

C:-Non-repeatable Read Problem

D:-Phantom Read Problem

Correct Answer:- Option-A

Question61:-Identify the trigger type suitable for the following scenario:

Scenario : Table orders has columns orderID, OrderDate, CustomerID, and OrderTotal, Additionally, there is a table Customers with columns CustomerID, CustomerName, and TotalSpent. Every time an order is inserted into the Orders table, the TotalSpent column in the Customers table should be updated to reflect the total amount spent by the Customer across all orders.

A:-BEFORE INSERT

B:-AFTER INSERT

C:-INSTEAD OF INSERT

D:-INBETWEEN INSERT

Correct Answer:- Option-B

Question62:-What are the Advantages of Using Stored Procedures ?

A:-Encapsulation of Business Logic and Performance Improvement

B:-Enhanced Security and Performance Improvement

C:-Consistency and Reliability

D:-All of the above

Correct Answer:- Option-D

Question63:-Which type of client server architecture enables increased security and increases scalability of clients ?

A:-Two tier client server architecture

B:-Three tier client server architecture

C:-Both of the above

D:-None of the above

Correct Answer:- Option-B

Question64:-In the following code, which is the missing character in the code ?

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<h1>My First Heading</h1>
```

```
<p>My first paragraph.</p>
```

```
<p>This is another paragraph.<p>
</body>
</html>
```

A:->

B:-<

C:-/

D:-\

Correct Answer:- Option-C

Question65:-What is the result of the following HTML Code ?

```
<!DOCTYPE html>
<html>
<body>
<table>
<tr>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>400</td>
<td>500</td>
<td>600</td>
</tr>
</table>
</body>
</html>
```

A:-100 200
400 500 600

B:-100 200 400
500 600

C:-100
200
400
500
600

D:-100 200
400 500
600

Correct Answer:- Option-A

Question66:-What is the type of selector used in this example ?

```
<!DOCTYPE html>
<html>
<head>
<style>
.center {
  text-align: center;
  color: red;
}
</style>
</head>
<body>
<h1 class="center">Red and center-aligned heading</h1>
</body>
</html>
```

A:-Id selector

B:-Class selector

C:-Universal Selector

D:-Grouping selector

Correct Answer:- Option-B

Question67:-What is the Style property to be set to make the text appear in the middle of the box ?

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
width : 320px;
height: 20px;
padding: 10px;
border: 5px solid gray;
margin:0;
}
</style>
</head>
<body>
<div>Flower</div>
</body>
</html>
```

A:-text-align : center;

B:-text-align : justify ;

C:-text-align-last: right

D:-text-align: left ;

Correct Answer:- Option-A

Question68:-What will the following javascript code do ?

```
<!DOCTYPE html>
<html>
<body>
<p id="demo">JavaScript can hide HTML elements.</p>
<button type="button"
onclick="document.getElementById('demo').style.display='none'">Click
Me!</button>
</body>
</html>
```

A:-JavaScript can change the style of an HTML element

B:-JavaScript can hide HTML elements

C:-JavaScript can change HTML content

D:-JavaScript can change HTML attribute values

Correct Answer:- Option-B

Question69:-What is the use of myfunction in the following java script ?

```
<!DOCTYPE html>
<html>
<body>
<p id="demo">Click the button.</p>
<button onclick="myFunction()">Try it</button>
<script>
function myFunction() {
document.open("text/html", "replace");
document.write("<h2>Learning about the HTML DOM is fun!</h2>");
document.close();
}
```

```
</script>
</body>
</html>
```

A:-Function will replace the document with new content

B:-Function will replace the title of the document

C:-Function will replace the button name

D:-Function will replace the document color

Correct Answer:- Option-A

Question70:-What is the output of the following Code ?

```
<DOCTYPE html>
<html>
<body>
<?php
$y=3;
function myTest() {
$x = 5
echo $x + $y;
}
myTest();
echo $x + $y;
?>
</body>
</html>
```

A:-53

B:-35

C:-88

D:-83

Correct Answer:- Option-A

Question71:-What is the output of the following code snippet ?

```
<!DOCTYPE html>
<html>
<body>
<?php
$x = -1;
while($x < 5) {
echo $x;
$x++;
}
?>
```

</body>
</html>

A:-1234

B:--101234

C:-01234

D:-12345

Correct Answer:- Option-B

Question72:-What is the attribute value used in this XML, file given below ?

```
<?xml version ="1.0" encoding="UTF-8"?>  
<bookstore>  
<book category="cooking">  
<title>Everyday Italian</title>  
<autor>Giada De Laurentiis</author>  
<year>2005</year>  
<price>30.00</price>  
</book>  
</bookstore>
```

A:-book

B:-category

C:-cooking

D:-bookstore

Correct Answer:- Option-C

Question73:-What is a cookie ?

A:-Small file embedded on the server

B:-Created to identify a user

C:-To work a session

D:-Used to retrieve user input

Correct Answer:- Option-B

Question74:-Choose the correct option that describes this code the best.

```
<!DOCTYPE html>  
<html>  
<body>  
<button id="myBtn">Hi</button>  
<script>  
document.getElementById("myBtn").addEventListener("click",myFunction);  
function myFunction() {  
const element = document.getElementById("myBtn");  
element.innerHTML = "Hello";  
}  
</script>  
</body>  
</html>
```

A:-When the image button is clicked it changes to hello

B:-When the Hi button is clicked it changes to Hello

C:-When the hi button is clicked it changes to Hello

D:-When the Hello button is clicked it changes to Hi

Correct Answer:- Option-B

Question75:-The port numbers used by HTTP and HTTPs are _____ and _____

A:-80, 80

B:-80, 443

C:-25, 80

D:-80, 434

Correct Answer:- Option-B

Question76:-In slotted ALOHA, the vulnerable time is

A:-1* frame transmission time

B:-2* frame transmission time

C:-3* frame transmission time

D:-0.5* frame transmission time

Correct Answer:- Option-A

Question77:-The policy that is not adopted by open loop congestion control is

A:-Retransmission

B:-Window

C:-Backpressure

D:-Admission

Correct Answer:- Option-C

Question78:-How many usable host Ip addresses are there in a class B network with network mask of 255.255.0.0 ?

A:- 2^{16}

B:- 2^{32}

C:- $2^{32}-2$

D:- $2^{16}-2$

Correct Answer:- Option-D

Question79:-A bit-stuffing based framing protocol uses an 8-bit delimiter pattern of 01111110. If the output bit-string after stuffing is 011111001101, then the input bit-string is

A:-01111101101

B:-011111001101

C:-01101

D:-001101

Correct Answer:- Option-A

Question80:-Find the frequency of a signal if the period of the signal is 200ms

A:- $2 * 10^{-2} Hz$

B:- $0.5 * 10^{-2} KHz$

C:- $0.5 * 10^{-2} MHz$

D:- $2 * 10^{-2} KHz$

Correct Answer:- Option-B

Question81:-In DNS, the _____ domain is used to map an address to a name.

A:-Generic

B:-Inverse

C:-Country

D:-None of the above

Correct Answer:- Option-B

Question82:-_____ and _____ are protocols used for pulling messages from a mail server.

A:-POP3, HTTP

B:-POP3, SMTP

C:-SMTP, IMAP4

D:-POP3, IMAP4

Correct Answer:- Option-D

Question83:-SOAP is a light weight protocol based on

A:-HTML

B:-HTTP

C:-XML

D:-XSLT

Correct Answer:- Option-C

Question84:-In RMI, _____ acts a gateway for the client side object.

A:-RMI registry

B:-Skeleton

C:-Stub

D:-Web server

Correct Answer:- Option-C

Question85:-DES uses a key generator to generate sixteen _____ bit round keys.

A:-48

B:-16

C:-32

D:-128

Correct Answer:- Option-A

Question86:-In an RSA cryptosystem, the numbers 3 and 11 are used to generate public and private keys. If the public and the private keys are 3 and 7, what is cipher text obtained when 6 is encrypted using public key ?

A:-18

B:-30

C:-27

D:-42

Correct Answer:- Option-A

Question87:-Which of the following is not a higher-layer protocol defined as part of SSL ?

A:-SSL handshake protocol

B:-SSL change cipher spec protocol

C:-SSL alert protocol

D:-SSL connection protocol

Correct Answer:- Option-D

Question88:-A system call that is used to send TCP SYN packets is _____

A:-Listen

B:-Socket

C:-Bind

D:-Connect

Correct Answer:- Option-D

Question89:-Assume that the size of an organic type software product has been estimated to be 32,000 lines of source code

Constants	a_1	a_2	b_1	b_2
values	2.4	1.05	2.5	0.38

Constants a_1, a_2, b_1, b_2 has values shown in the table for an organic software. The effort required to develop the software product, using COCOMO model is

A:- $2.4 \times (32)^{1.05}$

B:- $2.5 \times (32)^{0.38}$

C:- $2.4 \times (32000)^{1.05}$

D:- $2.5 \times (32000)^{0.38}$

Correct Answer:- Option-A

Question90:-Which software development model has no provision to go back to

modify artifacts produced during an earlier phase ?

A:-Classical waterfall model

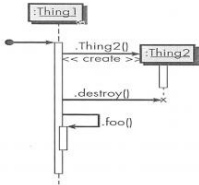
B:-Agile software development model

C:-Evolutionary model

D:-Incremental development model

Correct Answer:- Option-A

Question91:-The UML figure given below shows the example of a



A:-Class Diagram

B:-Object Diagram

C:-Activity Diagram

D:-Sequence Diagram

Correct Answer:- Option-D

Question92:-Which among the following statements are correct with respect to Use Case Diagrams

- Describes how a user interacts with the system by defining the steps required to accomplish a specific goal.
- It provides a big picture of the functionality of the system.
- Shows the structural relations among entities.
- Shows the temporal order of the message passing among objects.

A:-Only (i)

B:-Only (i & ii)

C:-Only (i, ii & iii)

D:-All of the above

Correct Answer:- Option-B

Question93:-In general which among the following phases consumes the maximum efforts in a software development life cycle

A:-Requirement analysis

B:-Design

C:-Coding

D:-Testing

Correct Answer:- Option-D

Question94:-If you do want to indicate how the actions are divided among the participants, you can decorate an Activity Diagram with

- Fork Node
- Join Node
- Swimlanes

- A:-Only (i)
- B:-Only (ii)
- C:-Only (iii)
- D:-All of the above

Correct Answer:- Option-C

Question95:-Cyclomatic Complexity has a foundation in graph theory and provides you with a useful software metric in

- A:-Boundary value analysis
- B:-Coupling
- C:-Cohesion
- D:-Path testing

Correct Answer:- Option-D

Question96:-Which among the following does not come under non-functional requirements ?

- i. Design and implementation constraints
- ii. Maximum number of concurrent users.
- iii. External interfaces

- A:-Only (i)
- B:-Only (ii)
- C:-Only (iii)
- D:-None of the above

Correct Answer:- Option-D

Question97:-If it would be possible to identify the specific design component which implements a given requirement, and test cases that test a given requirement, we call it as

- A:-Functionally correct
- B:-Traceable
- C:-Testable
- D:-Functionally equivalent

Correct Answer:- Option-B

Question98:-Which among the following attributes are considered as highly desirable for a good SRS Document ?

- A:-Over-specification
- B:-Wishful thinking
- C:-Implementation-independent
- D:-Forward references

Correct Answer:- Option-C

Question99:-In transform analysis, the Data Flow Diagram is to divided into following types of parts.

- i. Input
- ii. Branching
- iii. Processing
- iv. Output

A:-Only (i & iv)

B:-Only (ii & iii)

C:-Only (i, ii & iv)

D:-Only (i, iii & iv)

Correct Answer:- Option-D

Question100:-Beta testing refers to

- i. The system testing performed by the customer to determine whether to accept the delivery of the system.
- ii. The system testing carried out by the test team within the developing organisation.
- iii. The system testing performed by a select group of friendly customers.

A:-Only (i)

B:-Only (ii)

C:-Only (iii)

D:-All of the above

Correct Answer:- Option-C