

Question Paper Preview

Notations :

- 1.Options shown in green color and with ✓ icon are correct.
- 2.Options shown in red color and with ✗ icon are incorrect.

Question Paper Name :	M Sc Computer Science 12th July 2024 Shift 2
Subject Name :	M.Sc. Computer Science
Creation Date :	2024-07-12 17:08:48
Duration :	90
Total Marks :	100
Display Marks:	No
Change Font Color :	No
Change Background Color :	No
Change Theme :	No
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Show Reports :	No
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M.Sc. Computer Science

Group Number :	1
Group Id :	50131497
Group Maximum Duration :	0
Group Minimum Duration :	90
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	100

PART A

Section Id :	501314166
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100
Number of Questions to be attempted :	100

Section Marks :	100
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	501314199
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 5013149961 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 1 Wrong Marks : 0

What is the output of the following C code?

```
#include<stdio.h>
main()
{ int k = 10, j;
  j= (k != (k == --k)) ? puts("True");puts("False");}
```

Options :

1. ✓ True
2. ✗ False
3. ✗ 0
4. ✗ 1

Question Number : 2 Question Id : 5013149962 Question Type : MCQ Option Shuffling : Yes
Correct Marks : 1 Wrong Marks : 0

How many times function fib(n) called if n = 5 ?

```
int fib(n)
{ if (n==0) return 0;
  else if ( n ==1) return 1;
  else return((fib(n-1) + fib(n-2)));
}
```

Options :

1. ✗ 13
2. ✗ 9
3. ✗ 11
4. ✓ 5

Question Number : 3 Question Id : 5013149963 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the output of the C code ?

```
#include<stdio.h>
int main()
{ int k=10, i =5;
  printf("the value of k is:\t", !!k, i|k);
}
```

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Options :

1. 1 15
2. 0 10
3. 1 5
4. 0 15

Question Number : 4 Question Id : 5013149964 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the output of the given C code?

```
#include<stdio.h>
main()
{ int a = 80, k=97;
  printf("a= %a, k=%b, c=%c,d=%d", a,k,80,97); }
```

Options :

1. ✘ a=garbagevalue, k=a, c=b,d=80
2. ✔

a=garbagevalue, k=1010000, c=a, d=80

3. ✘ a=%a, k=%b, c=a, d=97

4. ✘ a=%a, k=%b, c=garbagevalue, d=80

Question Number : 5 Question Id : 5013149965 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the output of the given C code snippet?

```
int main()
{
int a, b= -50;
a= -b--;
printf("a=%d, b=%d", a,b);
return 0;
}
```

Options :

1. ✔ a = 50, b = -51

2. ✘ a = -49, b = 49

3. ✘ a = 49, b = 49

4. ✘ Syntax error

Question Number : 6 Question Id : 5013149966 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the output of the following C Code snippet?

```
char name[ ]="MScinCS";
printf("%d", printf("%d", printf("%s", name)));
```

Options :

1. ✘ MScinCS

2. ✘

Syntax error

3. ✘ MScinCS77

4. ✔ MScinCS71

Question Number : 7 Question Id : 5013149967 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the output of the given function?

```
int func1(Node* head)
{ if (head == NULL) { return 0; }
  else { return 1 + func1(head->next); } }
```

Options :

1. ✘ Function returns all the nodes in the list

2. ✘ Function returns first node in the list

3. ✘ Function returns last node in the list

4. ✔ Function returns the total number of nodes in the list

Question Number : 8 Question Id : 5013149968 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Consider the following C program

```
main()
{
    char a[3][3] = { {'a','b','c'}, {'d','e','f'}, {'g','h','i'} };
    printf("%c\n", (a+0)[1][2]);
}
```

What would be the output of the above program?

Options :

1. ✘ h

2. ✘ d

3. ✔ f

4. ✘ g

Question Number : 9 Question Id : 5013149969 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the output of the following C function?

```
int val; char str[]="abc";  
val=strcmp(str,"bc");  
printf("%d",val);
```

Options :

1. ✘ Syntax error

2. ✘ 99

3. ✘ 1

4. ✔ -1

Question Number : 10 Question Id : 5013149970 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which one of the following is correct syntax for opening a file?

Options :

1. ✔ FILE *fopen(const *filename, const char *mode)

2. ✘ FILE *fopen(const *filename)

3. ✘ FILE *open(const *filename, const char *mode)

FILE open(const*filename)

4. ✘

Question Number : 11 Question Id : 5013149971 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following statements in C Language will not add 1 to a variable?

Options :

1. ✘ a++;

2. ✘ a+=1;

3. ✘ *p = *p+1;

4. ✔ *p++;

Question Number : 12 Question Id : 5013149972 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the output of the given C -code?

```
#include<stdio.h>
main()
{int issign, var1= 3;
  issign = (var1%2)==1?1:0; printf("%d", issign); }
```

Options :

1. ✔ 1

2. ✘ 0

3. ✘ 2

4. ✘

Question Number : 13 Question Id : 5013149973 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following function in C is used to read a block of data from a file?

Options :

1. ✘ fscanf()
2. ✘ fblock()
3. ✘ fseek()
4. ✔ fread()

Question Number : 14 Question Id : 5013149974 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is not a Storage class?

Options :

1. ✘ Auto
2. ✘ Extern
3. ✘ Static
4. ✔ String

Question Number : 15 Question Id : 5013149975 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following statement is true about the structures in C?

Options :

1. ✘ Storage class can be assigned to individual member
2. ✔ The scope of the member name is confined to the particular structure, within which it is defined
3. ✘ Individual members can be initialized within a structure type declaration
4. ✘ Only one of the member of structure can be assigned a value at particular time

Question Number : 16 Question Id : 5013149976 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the output of C++ code?

```
#include<iostream.h>
#define prod(x) cout<<#x""<<x;
{
int main()
int a=8, b=7;
prod(a*b);
return 0;
}
```

Options :

1. ✘ a+b = 7
2. ✘ 8
3. ✘ a+b = 56
4. ✔ Syntax error

Question Number : 17 Question Id : 5013149977 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following operators cannot be overloaded with either member functions or friend functions?

Options :

1. ✓ ::, :?

2. ✗ [], =

3. ✗ 0, []

4. ✗ :?, []

Question Number : 18 Question Id : 5013149978 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What property of the Array objects in Java script will return numeric value of the length of an array?

Options :

1. ✓ length

2. ✗ getLength

3. ✗ getLen

4. ✗ lengthOf

Question Number : 19 Question Id : 5013149979 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the tag name, attribute and value in the following line of HTML code?

``

Options :

1. ✓ a-tag name, href- attribute and page.html – value
2. ✗ a-attribute name, href-tag name and page.html –value
3. ✗ a-value, href-tag name and page.html –attribute
4. ✗ a-attribute name, href- value and page.html –attribute

Question Number : 20 Question Id : 5013149980 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which type of style sheets should be used for all HTML email?

Options :

1. ✓ Inline
2. ✗ Internal
3. ✗ External
4. ✗ Linked

Question Number : 21 Question Id : 5013149981 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Consider the following relation and the functional dependencies on it:

$R(A,B,C,D,E): A \rightarrow BC \quad CD \rightarrow E \quad B \rightarrow D \quad E \rightarrow A$

How many candidate keys are there for relation R?

Options :

1. ✓ 4

2. ✘ 8

3. ✘ 12

4. ✘ 16

Question Number : 22 Question Id : 5013149982 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Consider the following schedule:

S: r1(x) r4(y) w1(z) r4(z) w2(y) r3(y) w1(x) w2(x) w3(z) w4(x) w3(x)

Which of the following statements are true?

Options :

1. ✘ The schedule S is conflict serializable but not view serializable

2. ✔ The schedule S is view serializable but not conflict serializable

3. ✘ The schedule S is conflict serializable and view serializable

4. ✘ The schedule S is neither conflict serializable nor view serializable

Question Number : 23 Question Id : 5013149983 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Consider the tables :

Bills(bid; date; addrShipping; addrBilling; total),

Orders(bid; pid), and

Products (pid; category; price).

Which of the following views can be updatable in SQL?

Options :

1. ✘

```
create view all Dates(date) as
select date
from Bills;
```

```
create view highBills(bid, date, total) as
select bid, date, total
from Bills
where total > 1000;
```

2. ✓

```
create view hardwareBills(bid, date, total) as
select distinct B.bid, B.date, B.total
from Bills B, Orders O, Products P
where B.bid = O.bid and O.pid = P.pid
and P.category = 'hardware';
```

3. ✗

```
create bills from orders
```

4. ✗

Question Number : 24 Question Id : 5013149984 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Suppose that a database management system uses a B+-tree index of height 3 to index a relation. Assume that the leaves of the index hold tuples from the relation. In the worst case, what is the I/O cost (disk read and write operations) of inserting a single record into the relation using this B+-tree?

Options :

1. ✗ 4

2. ✓ 6

3. ✗ 8

4. ✗ 10

Question Number : 25 Question Id : 5013149985 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Consider a relation $R=(A,B,C,D,E)$ and functional dependencies it holds:

$A \rightarrow BC$, $CD \rightarrow E$, $B \rightarrow D$, $E \rightarrow A$. Which of the following decomposition is a loss less decomposition?

Options :

1. ✓ (A, B, C) and (A,D,E)
2. ✗ (A,B,C) and (C,D,E)
3. ✗ (B,C) and (A,D,E)
4. ✗ (A,B,D) and (A,C,E)

Question Number : 26 Question Id : 5013149986 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which class does not override the equals() and hashCode() methods, inheriting them directly from class Object?

Options :

1. ✓ java.lang.StringBuffer
2. ✗ java.lang.String
3. ✗ java.lang.Double
4. ✗ java.lang.Character

Question Number : 27 Question Id : 5013149987 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Java language has support for which of the following types of comment ?

Options :

1. ✓ block, line and javadoc
2. ✗ javadoc, literal and string
3. ✗ javadoc, char and string
4. ✗ single, multiple and quote

Question Number : 28 Question Id : 5013149988 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following statement is correct?

Options :

1. ✓ For positive numbers, result of operators `>>` and `>>>` are same
2. ✗ Java provides two operators to do left shift `<<<` and `<<`
3. ✗ `>>` is the zero fill right shift operator
4. ✗ `>>>` is the signed right shift operator

Question Number : 29 Question Id : 5013149989 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the output of the given java code snippet?

```
class C{  
public static void main (String[] args) {  
byte b1=33;          //1  
b1++;              //2  
byte b2=55;         //3  
b2=b1+1;           //4  
System.out.println(b1+""+b2);  
}}
```

Options :

1. ✘ Compile time error at line 2
2. ✔ Compile time error at line 4
3. ✘ 34, 56
4. ✘ Run time exception

Question Number : 30 Question Id : 5013149990 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

When the JVM runs out of memory, which exception will be thrown?

Options :

1. ✘ MemoryBoundException
2. ✔ OutOfMemoryError
3. ✘ OutOfRangeException
4. ✘ NullReferenceException

Question Number : 31 Question Id : 5013149991 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 1 Wrong Marks : 0

Which exception is thrown by read() method ?

Options :

1. ✘ Exception
2. ✘ FileNotFoundException
3. ✘ ReadException
4. ✔ IOException

Question Number : 32 Question Id : 5013149992 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following sequence of method calls take place when an applet begins?

Options :

1. ✘ init(), start(), create()
2. ✘ start(), init(), paint()
3. ✔ init(), start(), paint()
4. ✘ paint(), start()

Question Number : 33 Question Id : 5013149993 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 1 Wrong Marks : 0

On invoking repaint() method for a Component, which method is invoked by AWT ?

Options :

1. ✘ draw()

2. ✘ show()

3. ✔ update()

4. ✘ paint()

Question Number : 34 Question Id : 5013149994 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

XLL definition is used along with XML to specify the _____

Options :

1. ✘ Data types of the contents of XML document

2. ✘ Presentation of XML document

3. ✔ links with other documents

4. ✘ Structure of XML document

Question Number : 35 Question Id : 5013149995 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Given is the following schedule over transactions T_1 , T_2 :

T_1	T_2
read(A)	write(B)
read(B)	

Which of the following statements are true ?

Options :

1. ✔

This schedule possible under two-phase locking protocol only

2. ✘

This schedule possible under timestamp protocol only

3. ✘

This schedule possible under two-phase locking protocol and timestamp protocol

4. ✘

This schedule possible under neither two-phase locking protocol nor timestamp protocol

Question Number : 36 Question Id : 5013149996 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is an open source functional testing tool mainly used for Web service testing and supports multiple protocols such as HTTP etc.?

Options :

1. ✘

Selenium

2. ✘

UTP

3. ✘

JUnit

4. ✔

soapUI

Question Number : 37 Question Id : 5013149997 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Given the following relations:

Vehicle (reg_no, make, colour)

Person (eno, name, address)

Owner (eno, reg_no)

Which one is correct relational algebra expression for the following query?

List the names of the persons who do not own any car.

Options :

$\Pi_{\text{name}}(\text{Person} \bowtie \Pi_{\text{eno}}(\text{Person}) - \Pi_{\text{eno}}(\text{Owner}))$

1. ✓

2. ✗ $\Pi_{\text{name}}(\Pi_{\text{eno}}(\text{Person}) - \Pi_{\text{eno}}(\text{Owner}))$

3. ✗ $\Pi_{\text{name}}(\text{Person} \bowtie \Pi_{\text{eno}}(\text{Person}) \cup \Pi_{\text{eno}}(\text{Owner}))$

4. ✗ $\Pi_{\text{name}}(\text{Owner} \bowtie \Pi_{\text{eno}}(\text{Person}) \cup \Pi_{\text{eno}}(\text{Owner}))$

Question Number : 38 Question Id : 5013149998 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following query will give third maximum salary in the emp table?

Options :

Select distinct sal from emp e1 where e1.sal = (select count(distinct sal) from emp e2 where e1.sal <= e2.sal)

1. ✗

Select distinct sal from emp e1 where 3 = (select count(distinct sal) from emp e2 where e1.sal <= e2.sal)

2. ✓

Select distinct sal from emp e1, emp e2 where e1.sal <= e2.sal

3. ✗

select distinct sal from emp e1 where 3 = (select count(distinct sal) from emp e2 where e1.sal >= e2.sal);

4. ✗

Question Number : 39 Question Id : 5013149999 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which normal form will be produced from an E-R model?

Options :

1. ✓ 1NF

2. ✘ 2NF

3. ✘ 3NF

4. ✘ 4NF

Question Number : 40 Question Id : 50131410000 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

If the E-R diagram is acyclic then which of the following statement is true?

Options :

1. ✔ Unique path between every pair of entity sets and thus unique relation between every pair of entity sets
2. ✘ Every pair of entity sets are unrelated to each other
3. ✘ Every pair of entity sets are related to each other in atleast two distinct ways.
4. ✘ E-R diagram cannot be acyclic

Question Number : 41 Question Id : 50131410001 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

In relational algebra, which of the following are unary operations?

Options :

1. ✘ Difference
2. ✘ Union
3. ✘ Product

Renaming

4. ✓

Question Number : 42 Question Id : 50131410002 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Let $r(R)$ and $s(S)$ are relations for the relation schemas $R(A, B, C)$ and $S(D, E, F)$. Which of the following is the equivalent SQL to the query $r \times s$?

Options :

1. ✗ Select * from r, s

1. ✗

2. ✓ Select distinct * from r, s

2. ✓

3. ✗ Select distinct A from r

3. ✗

4. ✗ Select distinct A, D from r, s

4. ✗

Question Number : 43 Question Id : 50131410003 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

A table has fields A, B, C, D, E with functional dependencies

$A \rightarrow C$,

$B \rightarrow D$, and $(A, B) \rightarrow E$

In terms of normalization, the table is in which form?

Options :

1. ✓ 1 NF

1. ✓

2. ✗ 2 NF

2. ✗

3. ✗ 3 NF

3. ✗

4. ✗ BCNF

4. ✗

Question Number : 44 Question Id : 50131410004 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

A data manipulation command that combines the records from one or more tables is called as

Options :

1. ✓ JOIN
2. ✗ SELECT
3. ✗ COMBINE
4. ✗ PRODUCT

Question Number : 45 Question Id : 50131410005 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

The _____ operation between two relations 'r' and 's' produces a relation with tuples which are in 'r' but not in 's' ?

Options :

1. ✗ Intersection
2. ✓ Set difference
3. ✗ Cartesian difference
4. ✗ Division

Question Number : 46 Question Id : 50131410006 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is not an ACID property of transactions?

Options :

1. ✘ Atomicity
2. ✘ Durability
3. ✘ Isolation
4. ✔ Concurrency

Question Number : 47 Question Id : 50131410007 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

For the following relation schema:

employee(employee-name, street, city)

works(employee-name, company-name, salary)

company(company-name, city)

manages(employee-name, manager-name)

What is the equivalent expression for the given SQL query :

```
select p.employee-name from employee p, employee r, manages m
```

```
where p.employee-name = m.employee-name and m.manager-name = r.employee-name  
and p.street = r.street and p.city = r.city
```

Options :

1. ✘ Displays the names of all employees in the database who live in the same cities as the companies for which they work.
2. ✔ Displays the names of all employees in the database who live in the same cities and on the same streets as do their managers.
3. ✘ Displays all companies located in every city in which 'Small Bank Corporation' is located.
4. ✘ Displays only the employee names of all cities

Question Number : 48 Question Id : 50131410008 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

R is a relation scheme with the following functional dependencies. $AD \rightarrow C$, $B \rightarrow A$, $C \rightarrow E$, $E \rightarrow BD$. Which of the following is not a candidate key of R?

Options :

1. ✘ AD
2. ✘ BE
3. ✘ CD
4. ✔ AB

Question Number : 49 Question Id : 50131410009 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What will be the values of x, m and n after execution of the following statements?
`int m =10, n=20; cout <<m++; cout << ++n;`

Options :

1. ✔ 10 21
2. ✘ 11 21
3. ✘ 10 20
4. ✘ 11 20

Question Number : 50 Question Id : 50131410010 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

A constructor that accepts _____ parameters is called the default constructor.

Options :

1. ✔ Zero

2. ✘ One

3. ✘ Two

4. ✘ Three

Question Number : 51 Question Id : 50131410011 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the output of C++ statement?

```
val = !(5 && !(0 || 4));
```

Options :

1. ✔ 1

2. ✘ 0

3. ✘ 5

4. ✘ 4

Question Number : 52 Question Id : 50131410012 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is the syntactically correct and complete function?

Options :

1. ✘

```
int func(int a, int b){ cout<< "Hello"}
```

2. ✘

```
func (int c){cin>>"c" }
```

3. ✔

```
int func( int a, int b) { a = a+b; return (a);}
```

4. ✘ `int func();`

Question Number : 53 Question Id : 50131410013 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the output of the given C++ code?

```
int x=0;
switch(x) {
case 0: cout<<"One";
case 1: cout<<"C++";
case 2: cout<<"CPGET2023"; }
```

Options :

1. ✘ One

2. ✔ OneC++CPGET2023

3. ✘ C++

4. ✘ CET2023

Question Number : 54 Question Id : 50131410014 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following statement is a valid syntax for typecast in C++?

Options :

1. ✔ `(char) a;`

2. ✘ `char (a);`

3. ✘ `type char(a);`

4. ✘ `char type(a);`

Question Number : 55 Question Id : 50131410015 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

In C++, what is the value returned by destructor function?

Options :

1. ✘ Pointer to object
2. ✔ Destructors do not return any value
3. ✘ True value
4. ✘ Non zero value

Question Number : 56 Question Id : 50131410016 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which header file contains the methods `setw()` and `get_time()`?

Options :

1. ✔ `iomanip.h`
2. ✘ `iomanip.h , stdio.h`
3. ✘ `iostream.h`
4. ✘ `iostream.h, iomanip.h`

Question Number : 57 Question Id : 50131410017 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Name the header file(s) required for successful compilation of the following C++ code?

```
void main()  
{ char String[20];  
  gets(String);  
  strcat(String,"CET2023EXAM");  
  puts(String);}
```

Options :

stdio.h, string.h

1. ✓

string.h

2. ✗

stdio.h

3. ✗

iostream.h

4. ✗

Question Number : 58 Question Id : 50131410018 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following code segment is an example of multiple inheritance?

Options :

```
class A {};  
class B {};  
class C : public A, private B {};
```

1. ✓

```
class A {};  
class B: public A {};
```

2. ✗

```
class A {};  
class B {};  
class C : private B {};
```

3. ✗

4. ✓

```
class A {};  
class B {};  
class C : public A, private B {};
```

Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.

Question Number : 59 Question Id : 50131410019 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the output of the JAVA code?

```
int a = 0;  
if(a>0 && a<10) a++;  
else a--;  
System.out.println(a);
```

Options :

1. ✘ 1
2. ✘ 0
3. ✔ -1
4. ✘ 2

Question Number : 60 Question Id : 50131410020 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the output of the following JAVA code for fun(2)?

```
public boolean fun(int a)  
{ int c = a% a++ + ++a - ++a;  
  system.out.println ( c);  
  boolean d = false;  
  return d; }
```

Options :

1. ✔ -1

2. ✘ 0

3. ✘ 1

4. ✘ False

Question Number : 61 Question Id : 50131410021 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which class is super class of every class in Java?

Options :

1. ✘ String class

2. ✔ object class

3. ✘ abstract class

4. ✘ arraylist class

Question Number : 62 Question Id : 50131410022 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is correct statement to import entire package 'pkg'?

Options :

1. ✘ import (pkg)

2. ✘ import *pkg

3. ✔ import pkg.*

4. ✘ import (pkg)*

Question Number : 63 Question Id : 50131410023 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following statement is correct?

Options :

1. ✘ `class B + class A {}`
2. ✘ `class B inherits class A`
3. ✔ `class B extends A {}`
4. ✘ `class B extends class A {}`

Question Number : 64 Question Id : 50131410024 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

The output of the given code segment is.....

```
int a[] = {4,6,8,10};  
int b[] = {1,3,5,7,9};  
a = b;  
System.out.println("a[1]="+a[1]);
```

Options :

1. ✘ 6
2. ✘ 4
3. ✘ 1
4. ✔ 3

Question Number : 65 Question Id : 50131410025 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the return type of the function `Math.random()` in Java?

Options :

1. ✘ void
2. ✘ Int
3. ✔ double
4. ✘ char

Question Number : 66 Question Id : 50131410026 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following statement about Java language is false?

Options :

1. ✘ `java.applet`: Contains classes for creating Applets.
2. ✔ `java.awt`: Contains utility classes which implement data structures like Linked List, Dictionary and support.
3. ✘ `java.net`: Contain classes for supporting networking operations.
4. ✘ `java.lang`: Contains language support classes.

Question Number : 67 Question Id : 50131410027 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What will be the output of the following Javascript code?

```
var string1 = "123";  
var intvalue = 123;  
alert( string1 + intvalue );
```

Options :

1. ✓ 123123
2. ✗ 123345
3. ✗ 123246
4. ✗ 123

Question Number : 68 Question Id : 50131410028 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following PHP functions can be used to get the current memory usage?

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Options :

1. `get_usage()`
2. `get_peak_usage()`
3. `get_memory_usage()`
4. `get_memory_peak_usage()`

Question Number : 69 Question Id : 50131410029 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the output of the following PHP code?

```
<?php
$username="ECET2023";
if(ereg("[^a-z]",$username))
echo"Username must be all lowercase!";
else
echo"Username is all lowercase!";
?>
```

Options :

1. ✘ Error
2. ✔ Username must be all lowercase!
3. ✘ Username is all lowercase!
4. ✘ No Output is returned

Question Number : 70 Question Id : 50131410030 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What are the four basic table tags in HTML table structure?

Options :

1. ✔ <table>, <tr>, <td>, <th>
2. ✘ <table>, <dl>, <dr>, <dh>
3. ✘ <table>,
, <bd>, <bh>
4. ✘ <table>, <col>, <row>, <h>

Question Number : 71 Question Id : 50131410031 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is correct to add a list item with the text "Exam" inside the in HTML script?

Options :

1. ✓ ` Exam `
2. ✗ ` Exam `
3. ✗ ` Exam `
4. ✗ ` Exam `

Question Number : 72 Question Id : 50131410032 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What will be the output of the following PHP code?

```
<?php
$total = "25 students";
$more = 10;
$total = $total + $more;
echo "$total" ;
?>
```

Options :

1. ✗ 25
2. ✓ 35
3. ✗ 25 total
4. ✗ Students

Question Number : 73 Question Id : 50131410033 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which JavaScript method for writing text can be used to add text to a specific HTML element?

Options :

1. ✓ `document.write()`
2. ✗ `alert()`
3. ✗ `window.confirm()`
4. ✗ `window.prompt()`

Question Number : 74 Question Id : 50131410034 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which HTML tag produces the biggest heading?

Options :

1. ✗ `<h7>`
2. ✗ `<H1>`
3. ✓ `<h1>`
4. ✗ `<h2>`

Question Number : 75 Question Id : 50131410035 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the correct JavaScript syntax to change the content of the HTML element below?

```
<p id="demo">This is a demonstration.</p>
```

Options :

1. ✗ `demo.innerHTML = "Hello World";`

2. ✘ `document.getElementById("p").innerHTML = Hello World";`

3. ✔ `document.getElementById("demo").innerHTML = Hello World";`

4. ✘ `document.getElementByName("p").innerHTML = HelloWorld";`

Question Number : 76 Question Id : 50131410036 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 1 Wrong Marks : 0

What is the output of following statement in Javascript?

```
var a=1; var b = "1"; var c, d;  
if (a == b) { c = 1;} else {c =0;}  
if (a ===b){ d = 0;} else { d =1;}
```

Options :

1. ✘ `c = 1 and d = 1`

2. ✔ `c=1 and d = 0`

3. ✘ `c =0 and d =1`

4. ✘ `c =0 and d =0`

Question Number : 77 Question Id : 50131410037 Question Type : MCQ Option Shuffling : Yes

Correct Marks : 1 Wrong Marks : 0

What will be the value of 'a' after the following code is executed

```
#define square(x) x*x  
a = square (5+6)
```

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Options :

1. 25
2. 121
3. 36
4. 41

Question Number : 78 Question Id : 50131410038 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

The function prototype is defined as

Options :

1. ✓ Return type of function
2. ✓ Declaration of function
3. ✗ Definition of the function
4. ✗ Recursive Function

Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.

Question Number : 79 Question Id : 50131410039 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which type of constructor initialize the values from an existing object of a class to new instantiated object of the same class?

Options :

1. ✗

Default constructor

- 2. ✘ Parameterized constructor
- 3. ✔ Copy constructor
- 4. ✘ Dynamic constructor

Question Number : 80 Question Id : 50131410040 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following operators can use friend functions for overloading?

Options :

- 1. ✔ ==
- 2. ✘ []
- 3. ✘ ()
- 4. ✘ ->

Question Number : 81 Question Id : 50131410041 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is correct for the given code snippet?

```
int i;  
for(i=0; i<10000000; i++);
```

Options :

- 1. ✘ Syntax error
- 2. ✔ Time delay loop

3. ✘ Conditional selective loop

4. ✘ Selective loop

Question Number : 82 Question Id : 50131410042 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

How to define target in new page in HTML?

Options :

1. ✘ `Click Here`

2. ✔ `Click Here`

3. ✘ `Click Here<t/a>`

4. ✘ `Click Here`

Question Number : 83 Question Id : 50131410043 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which package consists the BufferedReader and Scanner classes?

Options :

1. ✔ `java.io, java.util`

2. ✘ `java.io`

3. ✘ `java.util`

4. ✘ `java.sys`

Question Number : 84 Question Id : 50131410044 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which access specifier makes all the data members and functions of base class inaccessible by the derived class?

Options :

1. ✘ Public
2. ✔ Private
3. ✘ Protected
4. ✘ Both private and protected

Question Number : 85 Question Id : 50131410045 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

To declare a virtual function in C++ , which of the following syntax is correct?

Options :

1. ✔ `virtual int func();`
2. ✘ `virtual func(){}`
3. ✘ `int virtual func();`
4. ✘ `int func() virtual;`

Question Number : 86 Question Id : 50131410046 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

The inorder and postorder traversal of tree is 425163 and 452631. What is the preorder traversal of the given binary tree?

Options :

1. ✘ 435361
2. ✔ 124536
3. ✘ 452361
4. ✘ 215463

Question Number : 87 Question Id : 50131410047 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Selection sort procedure places a largest unplaced value into its final position. Consider the given sequence 5,1,3,4,6,2. What is the sequence of number after completing second iteration?

Options :

1. ✘ 5,1,3,4,2,6
2. ✔ 2,1,3,4,5,6
3. ✘ 2,3,4,1,5,6
4. ✔ 2,1,3,4,5,6

Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.

Question Number : 88 Question Id : 50131410048 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

How many distinct binary search trees can be created out of 4 distinct keys?

Options :

1. ✘ 12

2. ✘ 4

3. ✔ 14

4. ✘ 24

Question Number : 89 Question Id : 50131410049 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

The following numbers are inserted into BST in the following sequence

90,65,35,40,95,20,50,10,15,45,18

What is the depth of the tree and number of leaf nodes in the tree?

Options :

1. ✘ Depth 7 leaf nodes 4

2. ✘ Depth 4 leaf nodes 5

3. ✔ Depth 6 leaf nodes 3

4. ✘ Depth 7 leaf nodes 5

Question Number : 90 Question Id : 50131410050 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Given the infix representation of an expression, give the postfix representation of the same expression.

Infix expression : $((a+b) * (c-d)) / (x+y)$

Options :

1. ✘ $ab^*+cd-xy+ /$

2. ✘ $xy+cd-ab+*/$

3. ✘ $ab-cd+*xy+/*$

4. ✔ $ab+cd-*xy+/*$

Question Number : 91 Question Id : 50131410051 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

The following list is input to a bubble sort algorithm 28, 3,9,6,12,1,45,32,29,15,40 ,5. Which of the following is not a valid intermediate list?

Options :

1. ✘ 3,9,6,12,1,28,32,29,15,40,5,45

2. ✔ 3,6,9,12,1,28,32,29,15,5,40,45

3. ✘ 3,9,6,12, 1,28,29,15,32,5,40,45

4. ✘ 3,9,6,1, 12,28,29,15,32,45,40,5

Question Number : 92 Question Id : 50131410052 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Q1 and Q2 are queues where only Q2 is empty, S1 and S2 are two empty stacks, which of the following statement is correct to reverse the contents of Q1?

Options :

While Q1 is non empty, pop from Q1 push into Q2, Then While Q2 is non empty, pop from Q2 and push into Q1

1. ✘

While Q1 is non empty, pop from Q1 and push into S1. Then while S1 is non empty, pop from S1 and push into S2, Then while S2 is non empty, pop from S2 and push into Q1

2. ✘

3. ✓ While Q1 is non empty, pop from Q1 and push into S1. Then While S1 is non empty, pop from S1 and push into Q1.

Q1 contents are pushed into Q2

4. ✘

Question Number : 93 Question Id : 50131410053 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

For a graph G with 6 vertices and 14 edges and minimum spanning tree cost is 32. What is the minimum cost if the cost of the edges are doubled in G?

Options :

1. ✘ 43

2. ✘ 46

3. ✓ 42

4. ✘ 60

Question Number : 94 Question Id : 50131410054 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following statement is true?

Options :

1. ✘ Recursive programs are efficient

2. ✘ Binary search using a linear linked list is efficient

3. ✓ As the number of entries in a hash table increases, the number of collisions increases

4. ✘ The worst case complexity for Quick sort is $O(n)$

Question Number : 95 Question Id : 50131410055 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Consider hash table with 10 buckets and uses linear probing to resolve collisions and the hash function $H(x) = x \pmod{10}$. If the values 43, 165, 62, 123, 142 are inserted in the table. How many collisions occur?

Options :

1. ✔ 2

2. ✘ 3

3. ✘ 4

4. ✘ 5

Question Number : 96 Question Id : 50131410056 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following statement is True?

Options :

1. ✔ The diameter of a connected, undirected graph $G = (V, E)$ is the length (in number of edges) of the longest shortest path between two nodes.

2. ✘ Adjacency list and Adjacency matrix are the tree representation methods

3. ✘ Depth first search is tree traversal technique

4. ✘ A vertex with zero degree is called as pendant vertex

Question Number : 97 Question Id : 50131410057 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

The operations used to insert and delete in stacks are termed as _____

Options :

1. ✘ Front and rear
2. ✔ Push and pop
3. ✘ Push and peep
4. ✘ Rear and POP

Question Number : 98 Question Id : 50131410058 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

What is the height of an AVL tree data structure?

Options :

1. ✔ $O(\log h)$ where h is height of tree
2. ✘ $O(n \log h)$ where h is height of tree
3. ✘ $O(h)$ where h is height of tree
4. ✘ $O(n*h)$ where h is height of tree

Question Number : 99 Question Id : 50131410059 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

The data structure where an insertion can perform at one end and deletion at other end is called as _____

Options :

1. ✘

Stack

2. ✓ Queue

3. ✗ Dequeue

4. ✗ List

Question Number : 100 Question Id : 50131410060 Question Type : MCQ Option Shuffling : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is two-way linked list?

Options :

1. ✓ Doubly linked list

2. ✗ Singly linked list

3. ✗ Circular linked list

4. ✗ Linear linked list