



NADAR HR.SEC.SCHOOL, RAJAPALAYAM.

XI - COMPUTER SCIENCE - ENGLISH MEDIUM

SECOND MID ANSWER KEY 2024



1.	Which function is used to check whether a character is alphanumeric or not.	C)	isalnum()
2.	Which of the following is the scope operator?	D)	::
3.	If two strings are equal, then strcmp() function returns the value	A)	0
4.	By default, a string ends with which character?	C)	\0
5.	In c++ structure is declare using the keyword	C)	struct
6.	Which of the following is a user defined data type?	A)	class
7.	Which of the following is the process of creating new classes from an existing class	A)	Inheritance
8.	The member function defined within the class behave like functions	B)	inline
9.	How many number of destructors can a class in c++ contain?	D)	1
10.	Which of the following is not true with respect to function overloading?	B)	The return type is also considered a function
11.	What are importance of void data type. > To indicate the function does not return a value. > To declare a generic pointer.		
12.	What is the syntax to declare two – dimensional array? data-type array_name[row-size][col-size]; EXAMPLE : int a[3][3];		
13.	Write the disadvantages of OOP. > Size: Object Oriented Programs are much larger than other programs. > Effort: Object Oriented Programs require a lot of work to create. > Speed: Object Oriented Programs are slower than other programs, because of their size.		
14.	What is the difference between the class and object in terms of OOP? > A class specification just defines the properties of a class. To make use of a class, the variables of that class type have to be declared. > The class variables are called object. Objects are also called as instance of class.		
15.	Define data hiding. ❖ The data is not accessible to the outside world, and only those functions which are wrapped in the class can access it. ❖ This encapsulation of data from direct access by the program is called data hiding or information hiding.		
16.	What is function overloading? The ability of the function to process the message or data in more than one form is called as function overloading.		
17.	Operator Overloading Syntax <pre> ReturnType classname :: Operator Operator Symbol (argument list) { Function body } </pre>		
18.	Write about strcmp() function. ❖ The strcmp() function takes two arguments: string1 and string2. It compares the contents of string1 and string2 lexicographically. General Form: strcmp(String1, String2);		
19.	Header file: Header files provide function prototype and definitions for library functions. Data types and constants used with the library functions are also defined in them. A header file can be identified by their file extension .h . A single header file may contain multiple built-in functions.		
20.	Structure Assignment Structures can be assigned directly instead of assigning the values of elements individually. <pre> struct Student { int age; float height, weight; }mahesh; mahesh = {17, 164.5, 52.5}; </pre>		
21.	What is called anonymous structure? Give an example. A structure without a name/tag is called anonymous structure. Example: <pre> Struct { long rollno; int age; float weight; } student; </pre> ✓ The student can be referred as reference name to the above structure and the elements can be accessed like student.rollno, student.age and student.weight .		

22.	<p>List some of the features of modular programming.</p> <ul style="list-style-type: none"> ➤ Emphasis on algorithm rather than data. ➤ Programs are divided into individual modules. ➤ Each modules are independent of each other and have their own local data. ➤ Modules can work with its own data as well as with the data passed to it. ➤ Example: Pascal and C 																		
23.	<p>What are advantages of declaring constructors and destructor under public accessibility?</p> <p>Constructors and destructors are recommended to defined under public accessibility. This is because an object can be created in any function and can also destroy the created object.</p>																		
24.	<p>What is polymorphism?</p> <ul style="list-style-type: none"> • Polymorphism is the ability of a message or function to be displayed in more than one form. • Function overloading and operator overloading 																		
25. A)	<p>Explain Call by value method with suitable example.</p> <ul style="list-style-type: none"> • This method copies the value of an actual parameter into the formal parameter of the function. • In this case, changes made to formal parameter within the function will have no effect on the actual parameter. <p>Example:</p> <pre>#include<iostream> using namespace std; void display (int x) { int a=x*x cout<<"\n The Value inside the display function: "<<a; } int main() { int a, b; cout<<"\n Call by value method"; cout<<"\n Enter the Value for A: "; cin>>a; cout<<"\n\n The Value inside the main function: "<<a; return(0); }</pre> <p>Output: Call by value method Enter the Value for A: 5 The Value inside the display function: 25 The Value inside the main function: 5</p>																		
25. B)	<p>Explain scope of variable with example.</p> <ul style="list-style-type: none"> ❖ Scope refers to the accessibility of a variable. ❖ Local scope, Function scope, File scope and Class scope are four types of scopes in C++. <p>(1) Local Scope:</p> <ul style="list-style-type: none"> ➤ A local variable is defined within a block. A block of code begins and ends with curly braces { }. ➤ The scope of a local variable is the block in which it is defined. ➤ A local variable cannot be accessed from outside the block of its declaration. ➤ A local variable is created upon entry into its block and destroyed upon exit. <p>(2) Function Scope:</p> <ul style="list-style-type: none"> ➤ The scope of variables declared within a function is extended to the function block, and all sub-blocks therein. ➤ The life time of a function scope variable, is the life time of the function block. ➤ The scope of formal parameters is function scope. <p>(3) File Scope:</p> <ul style="list-style-type: none"> ➤ A variable declared above all blocks and functions (including main ()) has the scope of a file. The life time of a file scope variable is the life time of a program. <p>(4) Class Scope:</p> <ul style="list-style-type: none"> ➤ Variables defined in a class have a class scope. ➤ Data members are the data variables that represent the features or properties of a class. 																		
26. A)	<p>Write the differences between Object Oriented Programming and procedural programming.</p> <table border="1" data-bbox="118 1787 1544 2163"> <thead> <tr> <th data-bbox="118 1787 831 1816">Object Oriented Programming</th> <th data-bbox="831 1787 1544 1816">Procedural programming</th> </tr> </thead> <tbody> <tr> <td data-bbox="118 1816 831 1877">Objects are the basic unit of OOP.</td> <td data-bbox="831 1816 1544 1877">Programs are organized in the form of subroutines or sub programs.</td> </tr> <tr> <td data-bbox="118 1877 831 1937">It implements programs using classes and objects.</td> <td data-bbox="831 1877 1544 1937">Procedural means a list of instructions were given to the computer to do something</td> </tr> <tr> <td data-bbox="118 1937 831 1973">Emphasizes on data rather than algorithm.</td> <td data-bbox="831 1937 1544 1973">Emphasis on procedures.</td> </tr> <tr> <td data-bbox="118 1973 831 2009">It is easy to maintain and modify existing code.</td> <td data-bbox="831 1973 1544 2009">It is not easy to maintain and modify existing code.</td> </tr> <tr> <td data-bbox="118 2009 831 2069">Using data hiding and abstraction only necessary data will be provided thus maintains the security of data.</td> <td data-bbox="831 2009 1544 2069">There is no security for data.</td> </tr> <tr> <td data-bbox="118 2069 831 2105">Data can be accessed only by the member functions.</td> <td data-bbox="831 2069 1544 2105">All data items are global.</td> </tr> <tr> <td data-bbox="118 2105 831 2141">Suitable for large-scale software application.</td> <td data-bbox="831 2105 1544 2141">Suitable for small sized software application</td> </tr> <tr> <td data-bbox="118 2141 831 2163">Example: C++, Java, VB.Net, Python etc.</td> <td data-bbox="831 2141 1544 2163">Example: FORTRAN and COBOL.</td> </tr> </tbody> </table>	Object Oriented Programming	Procedural programming	Objects are the basic unit of OOP.	Programs are organized in the form of subroutines or sub programs.	It implements programs using classes and objects.	Procedural means a list of instructions were given to the computer to do something	Emphasizes on data rather than algorithm.	Emphasis on procedures.	It is easy to maintain and modify existing code.	It is not easy to maintain and modify existing code.	Using data hiding and abstraction only necessary data will be provided thus maintains the security of data.	There is no security for data.	Data can be accessed only by the member functions.	All data items are global.	Suitable for large-scale software application.	Suitable for small sized software application	Example: C++, Java, VB.Net, Python etc.	Example: FORTRAN and COBOL.
Object Oriented Programming	Procedural programming																		
Objects are the basic unit of OOP.	Programs are organized in the form of subroutines or sub programs.																		
It implements programs using classes and objects.	Procedural means a list of instructions were given to the computer to do something																		
Emphasizes on data rather than algorithm.	Emphasis on procedures.																		
It is easy to maintain and modify existing code.	It is not easy to maintain and modify existing code.																		
Using data hiding and abstraction only necessary data will be provided thus maintains the security of data.	There is no security for data.																		
Data can be accessed only by the member functions.	All data items are global.																		
Suitable for large-scale software application.	Suitable for small sized software application																		
Example: C++, Java, VB.Net, Python etc.	Example: FORTRAN and COBOL.																		

```

26. #include<iostream>
B) using namespace std;
int main()
{
int m1[5][5], m2[5][5], m3[5][5];
int i, j, row, col;
cout<<"\n Enter the number of rows: ";
cin>>row;
cout<<"\n Enter the number of columns: ";
cin>>col;
cout<<"\n Enter First Matrix Elements:\n";
for(i=0; i<row; i++)
{
for(j=0; j<col; j++)
{
cin>>m1[i][j];
}
}
cout<<"\n Enter Second Matrix Elements : \n";
for(i=0; i<row; i++)
{
for(j=0; j<col; j++)
{
cin>>m2[i][j];
}
}
cout<<"\n Difference of Two Matrices : \n";
for(i=0; i<row; i++)
{
cout<<"\n";
for(j=0; j<col; j++)
{
m3[i][j]=m1[i][j]-m2[i][j];
cout<<m3[i][j]<<"\t";
}
}
return 0;
}

```

27. **Mention the differences between constructor and destructor.**

Constructor	Destructor
The name of the constructor must be same as that of the class.	The destructor has the same name as that class prefixed by the tilde character '~'.
The constructor is executed automatically when the object is created.	The destructor is executed automatically when the control reaches the end of class scope to destroy the object.
A constructor can have parameter list.	The destructor cannot have arguments
The constructor function can be overloaded.	Destructors cannot be overloaded.
There can be any number of constructors in a class.	A class can have only one destructor.

27. **What are the rules for operator overloading? (Or) Write the Restrictions on Operator Overloading.**

- B)
- ❖ Precedence and Associativity of an operator cannot be changed.
 - ❖ No new operators can be created, only existing operators can be overloaded.
 - ❖ Cannot redefine the meaning of an operator's procedure. You cannot change how integers are added. Only additional functions can be given to an operator.
 - ❖ Overloaded operators cannot have default arguments.
 - ❖ When binary operators are overloaded, the left-hand object must be an object of the

