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Section: B
Paper: OOP.

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Q(1)

(i) Ans: the Size of char array is greater than no of char in String, it is because the length property return the number of char objects, not the number of unicode characters. In your case, one of the unicode characters is represented by more than one char object (Surrogate pair).

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Page (2).

Ans (3)

Refrence veriable:

→ A refrence venable is a veriable that point to an object of a given class letting you access the value of an object.

→ A refrence veriable must initialize at a time of declaration.

→ the major use of Refrence veriable is that it provide an alias (alternative name) for any previously defined venable.

For example:

```
Int Student_age = 10;
Int &age = Student_age;
        //refrence veriable.
```

Ans (2)

Dynamic Initialization:

Dynamic initialization mean Initialization of object refer to initializing the object at run time.

Example:

Simple_Interest S1 (200, 7.5, 2);
(Dynamic initialization).

Ans (4)

Scope resolution operator (::).

-> it is used for Several reasons.

-> used to define function outside of class

-> used to access Static venable of class

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→ use to call the global variable instead of local variable.

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Ans(5)

* Advantages of function Prototype:

- enable the Compilers to provide stronger type checking.
- Because of prototype the Compiler can find and report any questionable type Conversion b/w arguments used to call function and types of its (function's) parameter.
- Due to prototype the Compiler can also catch d/f b/w the no of arguments used to call or

function and the no of parameter in function.

* function Prototype help to trap bugs before they occure.

~~it help the program is~~

~~wrak~~

* it help to verify that program is working correctly.

- x x ——— x x ——— x x ———

Ans (6)

We will make a function in ~~[illegible]~~ line, when the function are smaller that called often. In line function run a little faster then the normal function.

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(7)
Ans D/f b/w Inline function & macro preprocessor:

- the basic difference is that Inline function are parsed by the compiler whereas, the macros in a program are expanded by preprocessor.
- the keyword used for inline function. "Inline" while for & macro "#define".
- Inline function can define inside or outside of the class. while macro is alwary define at the starter of program.
- the compiler may not Inline and expand all function define inside class. while macro are also expanded.

the function that is Inline can access the member of the class where as macro can never access the member of class

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Ans (8)

The Default argument are used when we provide no argument or only few argument while calling a function. the default argument are used. during Compilation of program.

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Ans (9)

function overloading is having different function with same name and different parameter list. This is used to provide many

many options in term of passed peramenter

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Ans (10)

Dynamic binding:

* it allow us runtime looking up of virtual function.
* In more understand way it allow us to have virtual function in parent class which can be overriden in derived class.

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Ans (11)

(a) Class & object:

→ A class is a user defined data type that we use in our program, and it work as an object Constructor or a blueprint for Creating objects.

* Object are Instances of class. when class is define no memory is allocated but when object is created memory is allocated.

(a) Data abstraction & Data Encapsulation.

→ Data abstraction is a mechanism of exposing only the interfaces and hiding the implementation detail from User.

→ Dat encapsulation is a mechanism of binding the data and function that use Them

—— bx ———— c ——

(c) **In heratences**

it is one in which a new class is

is created that inherit the properties of the already exist class.

polymorphism:

polymorphism is that in which we can perform a task in mutiple form or way.

④ Dynamic Binding: it is the method of linking a procedure call to the relevant code that will be executed only at runtime.

⑤ message passing: it is the method of exchanging message b/w objects in OOP.

Ans (12)

```
# include < iostream >
Using namespace std;
Int main()
{
 int num[] = {1, 2, 3, 4, 5, 6};
num[1] == [1]num? cout << "Success" :
        cout << "Error";
 return 0;
};
```

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Ans (13)

The following are Errors in given Program.

Error	Correct
★ Void main()	★ Int main()
★ Int a-10 ;	★ Int a=10;
★ cout << circleArea(a) << " ;	★ Cout << circle Area(a) << " " ;

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Ans (14) Errors:

```
(a) char *Sp = (char*)Vp;
(c) Int * Sp = new Int;
(d) enum Uet{green, yellow, red};
(e) Const Int Sp = total;
(g) for (int i=1; i<10; i++)
        cout<<i<<"\n";
(h) float *p = new float[1101];
```

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Ans (16)

Errors:	Correct:
float fun( )	float fun (float a)
void main ( )	int main ( )
cout<<(int) fun( ) << ' ';	cout << (int) fun () << "\n";
Cout << (float) fun () << ' ';	Cout<<(float)fun (10.23)<< "\n";

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Ans (15)

Errors:

ⓐ parameters have no type

ⓑ b has no type

ⓒ This is correct one

ⓓ invalid sign ?

ⓔ Size has no type.

Ans 17:

```
# Include <lostream>
Using namespacee std;
Int a[5];
 Int discard=0;
for (int i=0; i<5; i++)
 a[i]=0
for (int i=0; i<10; i++)
 { Cout << "enter data:";
    Int Var;
   cin >>Var;
  if (Var>0 && Var<6)
   {
     Var =Var-1;
    a[Var]=a [Var]+1;
   }
    else
     discard++;
   }
```

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```
for (int i=0; i<5; i++)
{
   Cout << " event number" << i+1
  << " = " << a[i] << endl;
Cout << " Invalid discard are"
   << discard;
   return 0;
  }
  };
```