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QUARTERLY EXAMINATION-2019


STD: XI

SUBJECT: **Computer Science**

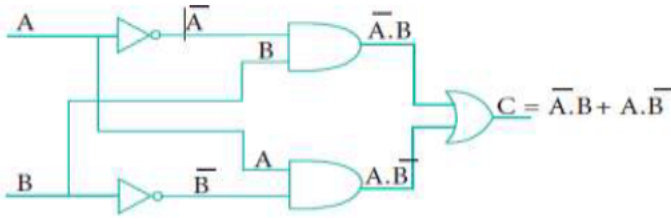
TENTATIVE ANSWER KEY

17.09.2019

MARKS: 70

Q.NO	SECTION-I	MARKS
1	c)Output	1
2	a)1000	1
3	d)A	1
4	c) 	1
5	a)50	1
6	d)PS/2	1
7	b)windows 8	1
8	a)F2	1
9	b)bjarne stroustrup	1
10	b)parallelogram	1
11	d)3	1
12	b)5	1
13	d)All of these	1
14	b)switch	1
15	b)x=display()	1

Q.NO	SECTION-II		MARKS
16	<ul style="list-style-type: none"> • Parallel Processing • Super conductors • Computers size was drastically reduced. • Can recognize Images and Graphics • Introduction of Artificial Intelligence and Expert Systems • Able to solve high complex problems including decision making and logical reasoning. 		2
17	This encoding system is not in the practice right now. This is 26 bit encoding system. This can handle 26 = 64 characters only		2
18	<p>The smallest individual unit in a program is known as a Token or a Lexical unit.</p> <p>C++ has the following tokens :</p> <ul style="list-style-type: none"> ▪ Keywords ▪ Identifiers (Variables) ▪ Literals (Constants) ▪ Operators ▪ Punctuators 		2
19	An operating system allows only a single user to perform a task at a time. It is called as a Single user and single Task operating system.		2
20	SAVE	SAVE AS	2
	The save command automatically saves the file using the same name, format and location, as when it was last saved or opened from. Save command opens a dialog box only first time saved.	The save as command opens a dialog box every time in which the user can change the name of the file, the format, as well as the location of where the file is saved if needed	
21	<p>Abstraction:</p> <ul style="list-style-type: none"> •A problem can involve a lot of details. Several of these details are unnecessary for solving the problem Only a few details are essential. •Ignoring or hiding unnecessary details and modeling an entity only by its essential properties is known as abstraction. 		2

22	<ul style="list-style-type: none"> • Modifiers can be used to modify the memory allocation of any fundamental data type. They are also called as Qualifiers. <p>(1) signed (2) unsigned (3) long (4) short</p>	2
23	<ul style="list-style-type: none"> • A large program can typically be split into smaller sized blocks called as functions. <p>Advantages: To reduce size and complexity of the program we use Functions</p>	2
24	 <p>$C = \bar{A}.B + A.\bar{B}$</p>	2
25	<p style="text-align: center;">SECTION-III</p> <p>Multimedia projectors are used to produce computer output on a big screen. These are used to display presentations in meeting halls or in classrooms.</p>	3
26	<ul style="list-style-type: none"> • A nibble is a collection of 4 bits Binary digits. • A bit is the short form of Binary digit which can be '0' or '1'. It is the basic unit of data in computers. • A collection of 8 bits is called Byte. A byte is considered as the basic unit of measuring the memory size in the computer. 	3
27	<ul style="list-style-type: none"> • In order to access the files created by other people, you should have the access permission. Permissions can either be granted by the creator of the file or by the administrator of the system. 	3
28	Welcome to programming in c++	3
30	<ul style="list-style-type: none"> • The process of converting one fundamental type into another is called as "Type Conversion" C++ provides two types of conversions. • Implicit type conversion • Explicit type conversion 	3

31	<p>strlen(): The strlen() takes a null terminated byte string source as its argument and returns its length. The length does not include the null(\0) character. Example: char source[] = "Computer Science"; cout<<"\nGiven String is "<<source<<strlen(source); return 0; }</p> <p>isdigit()</p> <p>This function is used to check whether a given character is a digit or not. This function will return 1 if the given character is a digit, and 0 otherwise.</p> <p>Syntax:</p> <p>int isdigit(char c);</p> <p>strcat()</p> <p>The strcat() function takes two arguments: target and source This function appends copy of the character string pointed by the source to the end of string pointed by the target.</p> <p>Ex: strcat(target, source);</p>	3
32	<ul style="list-style-type: none"> Recycle bin is a special folder to keep the files or folders deleted by the user, which means you still have an opportunity to recover them. The user cannot access the files or folders available in the Recycle bin without restoring it. To restore file or folder from the Recycle Bin 	3
33	It is positive number, 1's complement apply only with negative number.	3
Q.NO	SECTION-IV	MARKS
34	<p>Impact Printers These printers print with striking of hammers or pins on ribbon. These printers can print on multi-part (using carbon papers) by using mechanical pressure. For example, Dot Matrix printers and Line matrix printers are impact printers.</p> <p>Non-Impact Printers These printers do not use striking mechanism for printing. They use electrostatic or laser technology. Quality and speed of these printers are better than Impact printers. For example Laser printers and Inkjet printers are non-impact printers.</p>	5
34 (b)	$C = \overline{A \oplus B}$ $= \overline{A \cdot B + A \cdot \overline{B}}$ $= \overline{AB + \overline{A} \overline{B}}$	5

Input		Output
A	B	C
0	0	1
0	1	0
1	0	0
1	1	1

35

Input operator:

- C++ provides the operator >> to get input. It extracts the value through the keyboard and assigns it to the variable on its right; hence, it is called as “**Stream extraction**” or “**get from**” operator.
- It is a binary operator i.e., it requires two operands. The first operand is the pre-defined identifier cin (pronounced as C-In) that identifies keyboard as the input device. The second operand must be a variable.

Example:

`cin >> num;`

Output Operator:

- C++ provides << operator to perform output operation. The operator << “**Stream insertion**” or “**put to**” operator. It is used to send the strings or variables on its right to the object on its left. << is a binary operator.
- The first operand is the pre-defined identifier cout (pronounced as identifies monitor as the standard output object. The second operand constant, variable or an expression.

- To send more than one value at a time, << operator should be used with constant/variable/expression. This is called **cascading of operator**.

`cout << “Welcome”;`












Pre-defined object cout sends the given string “Welcome” to screen.

35(B)

- This feature takes care of the data and application that are stored and processed on multiple physical locations across the world over the digital network (internet/intranet).
- The Distributed Operating System is used to access shared data and files that reside in any machine around the world. The user can handle the data from different locations. The users can access as if it is available on their own computer.

Advantages:

- A user at one location can make use of all the resources available at another location over the network.
- Many computer resources can be added easily in the network
- Improves the interaction with the customers and clients
- Reduces the load on the host computer.

Icon	Windows	Icon	Ubuntu
	My Computer		Files
	Recycle Bin		Trash
	Internet Explorer		Fire Fox
	MS-Word		LibreOffice Writer
	MS-Excel		LibreOffice Calc
	MS-PowerPoint		LibreOffice Impress
	Search Programs and Files		Search your computer

36

5

The for loop is the easiest looping statement which allows code to be executed repeatedly.

Syntax:

```
for (initialization(s); test-expression; update expression(s))
{
Statement 1;
Statement 2;
.....
} Statement-x;
```

- The initialization part is used to initialize variables or declare variable which are executed only once, then the control passes to test-expression.
- After evaluation of test-expression, if the result is false, the control transferred to statement-x.
- After evaluation of update expression part, the control is transferred to the test-expression part.

Example:

```
#include <iostream>
using namespace std;
int main ()
{
int i;
for(i = 0; i < 3; i ++ )
cout << "value of i : " << i << endl;
return 0;
}
```

36(or)

5

Local Scope:

- 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

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upon exit.

Example:

```
if (a > b)
{
int temp; //local to this if block//
temp = a;
a = b;
b = temp;
}
```

Function Scope:

- 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.

Program

```
void add(int x, int y)
{
int m=x+y; //'m' declared within function add()//
cout<<"\nThe Sum = "<<m;
}
int main ( )
{
int a, b ;
a = 10;
b = 20;
add(a,b);
return(0);
}
```

File Scope:

- A variable declared above all blocks and functions has the scope of a file. The life time of a file scope variable is the life time of a program.
- The file scope variable is also called as **global variable**.

Example:

```
#include<iostream>
using namespace std;
int file_var=20; //Declared within File//
void add(int x, int y)
{
int m=x+y+file_var;
cout<<"\n The Sum = "<<m;
}
```

Class Scope:

- A class is a new way of creating and implementing a user defined data type. Classes provide a method for packing together data of different types.
- Data members are the data variables that represent the features or properties of a class.

Example:

```
class student
{
private :
```

```
int mark1, mark2, total;
};
```

(i) $(8BC)_{16} = (100010111100)_2$
(ii) $(6213)_8 = (110010001011)_2$

1) $-22_{10} + 15_{10}$

$$\begin{array}{r} 2 \overline{) 15} \\ 2 \overline{) 7 - 1} \\ 2 \overline{) 3 - 1} \\ \hline 1 - 1 \end{array}$$

$$= 1111_2$$

Binary equivalent of +22

8 bit format

1's complement

2's complement-22

$$\begin{array}{r} 2 \overline{) 22} \\ 2 \overline{) 11 - 0} \\ 2 \overline{) 5 - 1} \\ 2 \overline{) 2 - 1} \\ \hline 1 - 0 \end{array}$$

$$= 10110_2$$

$$= 10110$$

$$= 00010110$$

$$= 11101001$$

$$= \quad \quad +1$$

$$\underline{\underline{11101010}}$$

$-22_{10} + 15_{10} =$ Answer 2's complement form 11111001_2 is 2's complement of 7 which is the answer.

a) **-98**

$$\begin{array}{r} 2 \overline{) 98} \\ 2 \overline{) 23 - 1} \\ 2 \overline{) 11 - 1} \\ 2 \overline{) 5 - 1} \\ 2 \overline{) 2 - 1} \\ 2 \overline{) 1 - 0} \end{array}$$

Binary of $(98)_{10} = (1100010)_2$

Binary of $(98)_{10}$ in 8 bit format } = 01100010

1's complement of $(-98) = 10011101$

2's complement of $(-98) = 10011101$

$$2's \text{ complement of } (-98)_{10} = \underline{\underline{10011110}}$$

(iii) $(255)_{10} = (780)_{16}$

Reduced Instruction Set Computers (RISC):

- RISC stands for **Reduced Instruction Set Computers**. They have a small set of highly optimized instructions. Complex instructions are also implemented using simple instructions, thus reducing the size of the instruction set.
- Examples of RISC processors are Pentium IV, Intel P6, AMD K6 and K7.

Complex Instruction Set Computers (CISC):

- CISC stands for **Complex Instruction Set Computers**. They support hundreds of instructions. Computers supporting CISC can accomplish a wide variety of tasks, making them ideal for personal computers.
- Examples of CISC processors are Intel 386 & 486, Pentium, Pentium II and III, and Motorola 68000.

37
(B)

5

38(a)

5

38.(B)	<p>Digital Versatile Disc (DVD):</p> <ul style="list-style-type: none"> •A DVD (Digital Versatile Disc or Digital Video Disc) is an optical disc capable of storing up to 4.7 GB of data, more than six times what a CD can hold. DVDs are often used to store movies at a better quality. • A 12 cm diameter disc with single sided, single layer has 4.7 GB capacity, whereas the single sided, double layer has 8.5 GB capacity The 8 cm DVD has 1.5 GB capacity. •The capacity of a DVD-ROM can be visually determined by noting the number of data sides of the disc. <p>Electrically Erasable Programmable Read Only Memory (EEPROM)</p> <ul style="list-style-type: none"> •Electrically Erasable Programmable Read Only Memory is a special type of PROM that can be erased by exposing it to an electrical charge. Like other types of PROM, EEPROM retains its contents even when the power is turned off. •Comparing with all other types of ROM EEPROM is slower in performance <p>iOS - iPhone OS</p> <ul style="list-style-type: none"> •iOS (formerly iPhone OS) is a mobile Operating System created and developed by Apple Inc., exclusively for its hardware. •It is the Operating System that presently powers many of the company's mobile devices including the iPhone, iPad and iPod Touch. •It is the second most popular mobile Operating System globally after Android. 	5
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