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SET B



**INDIAN SCHOOL MUSCAT
FIRST TERM EXAMINATION
COMPUTER SCIENCE**

CLASS: XI

Sub. Code: 083

Time Allotted: 3 Hrs

30.09.2018

Max. Marks: 70

General Instructions:

- **Answer all questions.**
- **Answer all the subdivisions of a question in sequence.**
- **Programming language is C++.**
- **Write programs neatly and clearly.**

1. a. What is the difference between CISC and RISC Computers? 1
- b. What is a Cache memory? Why it is considered crucial for a microprocessors performance? 1
- c. What is the difference between SRAM and DRAM? 1
- d. What are the basic characteristics of a Microprocessor? 1
- e. Explain Serial Port. 1
- f. What do you mean by Bluetooth? Explain. 1
- g. Explain i) USB Port ii) AGP Port 2
- h. Write a note on: 2
 - i) Blu Ray Disc
 - ii) CD's
2. a. What is the importance of main() function in C++? 1
- b. Explain the various ways of giving comments in C++. 2
- c. Explain the following terms with an example: 2
 - i) Token
 - ii) Run-time error
3. a. What do you mean by Dynamic initialization of a variable? Give an example. 1
- b. What do you mean by Access modifier const. Explain with an example. 2

- c. What are the advantages and disadvantages of floating-point numbers over integers? 2
4. a. What do you mean by implicit and explicit type conversion? 1
- b. Consider the following code snippet: 1
- ```
if(a>b)
 c=a;
else
 c=b;
```
- Convert this into equivalent C++ code using conditional operator.
- c. Differentiate between `=` and `==` in C++. Explain with example. 2
- d. Construct logical expressions to represent the following conditions: 2
- ch is an uppercase character
  - weight is greater than or equal to 115 but less than 125
- e. Write the output of the following: 2
- ```
int t, y, s=3;
y=(t=4, t+s);
cout<< s * t << '\t' << y;
```
 - ```
int p=50;
int s =++p + 20;
int t = p-- + 30;
cout<< "S=" <<s << "\n" << "T=" <<t;
```
- f. Write the corresponding C++ expressions for the following mathematical expressions: 2
- $|e^x - \cos x|$
  - $x^6 + y^3 - \frac{\tan^{-1} x}{y}$
5. a. What is "fall-through"? What is the significance of default clause in a switch statement? 1
- b. What is an Empty loop? Give an example. 1
- c. How are entry-controlled loops different from exit-controlled loops? 2
- d. Rewrite the following code using do...while loop: 2
- ```
for(int p=25; p<=500; p+=25)
    cout<< p << "\t";
cout<<"end of loop";
```

- e. Predict the output of the following C++ program: 2

```
#include<iostream.h>
void main()
{ char n1,n2;
for(n1='H'; n1>='A'; n1-= 2)
{ for(n2='A'; n2<=n1; n2++)
cout<<n2;
cout<<endl;
}}
```

- f. Rewrite the following program after removing the syntactical error(s), if any. 2

Underline each correction.

```
#include<iostream.h>
Void main{ }
{ int i=1; s=1;
for(; i<5; s*=i, ++i)
cout>>s;
}
```

- g. Rewrite the following code fragment using switch-case statement: 2

```
char code;
cin >> code;
if(code == 'S')
    cout<<"Summer ";
else if(code == 'W')
    cout<<" Winter ";
else if(code == 'R')
    cout<<" Rainy ";
else
    cout<<"Enter correct code";
```

6. a. Write a program to input three integers and print the largest of the three. 3

- b. Write a C++ program to generate the following pattern: 3

```
1
12
1 2 3
1 2 3 4
```

- c. Write a program to display the following series: 3

1 4 7 1040

- d. Write a program to input an integer and print the multiplication table of it till 10. 3
 For example: If the number accepted is 5, the table should be printed in the format
 $5 * 1 = 5$
 $5 * 2 = 10$ Upto $5 * 10 = 50$.

7. a. Write a program to accept monthly salary from the user. Find and display income tax with the help of following rules: 4

Monthly Salary	Income Tax
9000 or more	40% of monthly salary
7500 - 8999	30% of monthly salary
7499 or less	20% of monthly salary

- b. Write a menu driven program which displays the following menu: 4
 MENU

1. To reverse an integer
2. Check Odd or Even
3. Quit

The program reads a choice (1,2 or 3) from the user and perform the following:
 If choice is 1, read an integer and print the number in the reversed form.(eg. If number is 567, output is 765).

If choice is 2, reads a number and check whether it is odd or even.

If choice is 3, then the program should terminate.

Any other choice should display an error message.

The menu should keep on displaying till the user wants it.

- c. Write a program to accept an integer and check whether it is a prime number or not and display proper message as output. 4

- d. Write a program to accept the value of x and n and display the sum of the following series: 4

$$x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \dots + \frac{x^n}{n!}$$

End of the Question Paper