



INDIAN SCHOOL DARSAIT

FIRST TERM EXAMINATION – SAMPLE PAPER II

COMPUTER SCIENCE (083)



Class: XI

Max. Marks: 70

General Instructions:

(i) All questions are compulsory.

1. Answer the following questions based on Data Representation:

- a) Explain Unicode. 1
- b) How is ASCII different from ISCII. 1
- c) Convert the following: $(ABCDE)_{16} = (?)_8$ 2
- d) Find the eight bit 2's complement of $(-42)_{10}$. 2
- e) Evaluate the following: (i) $(1111111.11111111)_2 \rightarrow (?)_{16}$ (ii) $(12.25)_8 = (?)_2$ 4

2. Answer the following questions based on Computer Fundamental:

- a) What is the unit of a memory? 1
- b) Explain the following types of software with an example: System, Utility and Application 3
- c) Differentiate between hardware and software. 2
- d) Expand ALU and CU. Also state their functions. 2
- e) Explain any 2 output devices. 2

3. Answer the following questions based on Getting Started with C++ and Data Handling:

- a) Define fundamental data types? 1
- b) Name the errors that are not detected by a compiler. 1
- c) How many bytes of memory are allocated for the following: i. char 1 ii. '\a' 1
- d) Point out the errors in the following program. Also rewrite the corrected code. 2

```
@include<iostream.h>
void main{
    int a;
    cin>a>>b;
    cout<<(a+b);}
```
- e) What do you mean by cascading I/O operators? Explain with examples. 2
- f) Explain the role and importance of the following with suitable examples in C++. 3
 - i) Keywords
 - ii) Identifiers
 - iii) Operators

4. Answer the following questions based on Operators and Expressions:

- a) Write the corresponding C++ expressions for the following mathematical expressions: 1
 - i. $\frac{1}{2}mv^2$
 - ii. b^2-4ac
- b) Evaluate the following expressions: 1
 - i. $a/b + c \leq 2ab$, if $a=5, b=2, c=1$?
- c) Construct logical expressions to represent the following conditions: 1
 - i. To check that an integer variable *digit* is between 1 and 100.
- d) Consider the expressions $a=4$ and $a == 4$, What will be the result of the two if the value of "a" is 6 initially? 2
- e) What will be the output of the following program (Assume the header files are included): 2

```
void main( ){
    int a=5;
    cout<< ++a <<" "<< ++a<<" "<< ++a<<endl;
    cout<<a++ <<" "<< a++<<" "<<a++<<endl;}
```

- f) Write a C++ program to accept a number from the user and check whether it is odd or not. If the number is odd, then display the double of the number and display the triple of the number otherwise. Use ternary operator to execute this program. 3
5. Answer the following questions based on Flow of Control:
- a) What is the difference between **if** and **switch** statement. 1
- b) Give the output of the following program (Assume header files are included): 2
- ```
void main(){
 int a=1, b=4, c=6;
 while(a<=5)
 {
 c*=4;
 b+=c;
 cout<< c<< ", " << b << endl;
 a+=2;
 }
}
```
- c) Replace the **for loop** given below by **while loop**: 2
- ```
int n=5, p=2 ;
for( int c=1; c<=n; c++)
    p = p* c;
cout<<p<<endl;
```
- d) Write a C++ program to find and display the sum and average of n numbers. 2
- e) Write a C++ program to input an integer and check whether it is Armstrong or not. 3
6. Answer the following questions based on Flow of Control and Arrays:
- a) Write a C++ program to input an integer and check if it's a palindrome. 2
- b) What is the number of elements and size of array (i) float **A[10][5]** (ii) **double a[10]** 2
- c) Write a program to accept a 1D array of size N and calculate the sum of odd elements. 3
- d) Write a program to accept an 1d array of size M and display minimum number in it. 3
7. Answer the following questions based on Arrays:
- a) Initialize an integer array to 5 numbers.. 1
- b) Find out the output for the following program snippet: 2
- ```
void main()
{
 int a[5]= { 15,100,115,20,25};
 int i, j,k=2,m;
 i = ++a[1] ;
 j= a[2]--;
 m= a[i];
 cout<<i<<j<<m<<k;
}
```
- c) Write a C++ program to accept a matrix of size MxN, and display the sum of all elements those are not divisible by 8. 3
- d) Write a C++ program to accept a matrix of size MxN , and find the sum of all odd and even elements. 4