Version No.			
4	1	2	1

ROLL NUMBER					

COMPUTER SCIENCE
HSSC-II

SECTION – A (Marks 15)

Time allowed: 20 Minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent. Deleting/overwriting is not allowed.

Do not use lead pencil.

حصہ اول لازمی ہے۔ اس کے جوابات اسی صفحہ پر دے کر ناظم مرکز کے حوالے کریں۔ کاٹ کر دوبارہ لکھنے کی اجازت نہیں ہے۔ لیڈ پنسل کا استعمال ممنوع ہے۔

Answer Sheet No. _____

ہر سوال کے سامنے دیے گئے، کریکولم کے مطابق درست دائرہ کو پر کریں۔ **Invigilator Sign.** _____

Fill the relevant bubble against each question according to curriculum: **Candidate Sign.** _____

	Question	A	B	C	D	A	B	C	D
1.	In a timeshare operating system, when the time slot assigned to a process is completed, the process switches from the current state to:	Suspended state	Terminated state	Ready state	Blocked state	○	○	○	○
2.	What is name of the operating system that reads and reacts in terms of actual time?	Real time system	Time sharing system	Distributed system	Batch system	○	○	○	○
3.	SDLC stands for:	Software development life cycle	System development life cycle	Software design life cycle	System design life cycle	○	○	○	○
4.	Which of the following performs cost/benefit analysis?	Analysis phase	Feasibility study	Design phase	Implementation phase	○	○	○	○
5.	C++ was primarily developed for:	WINDOWS	DOS	ANDROID	UNIX	○	○	○	○
6.	Which of the following is the address operator?	@	#	&	%	○	○	○	○
7.	Which of following is **NOT** a valid case in switch structure?	`case 'a':`	`case 123:`	`case 4.5:`	`case 0:`	○	○	○	○
8.	What will be last value of z in the following code: `for(int z=2; z<99;z+=2) cout<<;`	0	100	98	99	○	○	○	○
9.	What is the index number of last element of any array with 5 elements?	5	4	0	1	○	○	○	○
10.	Given the following: `int arr[3][4]={{12,0,5,10}, {7,8,19,30},{33,1,2,14}};` Which of the following statement replaces 19 with 50?	`arr[2][3] =50;`	`arr[1][2] =50;`	`arr[2][1] =50;`	`arr[19] =50;`	○	○	○	○

	Question	A	B	C	D	A	B	C	D
11.	The `strcmp( )` function will return _____if `string 1` is less than `string 2`.	-1	0	1	2	○	○	○	○
12.	Which symbol is used to denote dereference operator?	::	&	&&	*	○	○	○	○
13.	How many contractors a class may have?	Only 1	Maximum 2	Maximum 10	Infinite	○	○	○	○
14.	Which of the following functions is used to read data character by character from file?	write	get	put	read	○	○	○	○

15.	What will be the output of following statement?
	`double*p-total=&total;`
	`cout<<&p-total;`
		Address of total	Value of total	Value of p-total	Address of p-total	○	○	○	○

ROLL NUMBER					

COMPUTER SCIENCE HSSC–II

Time allowed: 2:40 Hours **Total Marks Sections B and C: 60**

NOTE: Answer any twelve parts from Section 'B' and any two questions from Section 'C'. Write your answers neatly and legibly.

SECTION – B (Marks 36)

Q. 2 Attempt any TWELVE parts. All parts carry equal marks. **(12 x 3 = 36)**

(i) Write down any three differences between Multitasking and Multiprocessing.

(ii) How is UNIX better than Windows? Give three reasons.

(iii) Why is Feasibility study important? Name different types of feasibility study.

(iv) What is static variable? Give any two properties of static variables.

(v) What is Preprocessor Directives? Give the syntax to use them in a program.

(vi) What is the use of Assignment Operator? How may it be used with Arithmetic Operators?

(vii) Write a C++ program using ***if control structure*** to find out the smallest value amongst A, B, C.

(viii) Differentiate for, while and do-while loops. Give any three differences.

(ix) What is an Array? Write down any two uses of arrays in daily life.

(x) Find the output of the following error free code if the user enters a value 3568.

```
#include<iostream>
using namespace std;
void main()
{ int no,res=0,r,n;
cout<< "Enter any positive number ::";
cin>>n;
no=n;
While(no>0)
{  r=no%10;
   res=res*10+r;
   no=no/10;    }
cout<< "\n The Result is ["<<n<<"] is :: ["<<res<<"]\n";  }
```

(xi) Write any three differences between function overloading and function overriding.

(xii) What is a constructor? Is it necessary to define a constructor in a class? Give a reason to support your answer.

(xiii) Rewrite the code after removing the errors.

```
int outer; innermost; s;
for(outer=5; outer>1; outer--)
{    for(s=1 s<5-outer s++)
cout<<" ";
for(innermost=1 innermost<outer innermost++) {
            cout>> "*";          }
cout<<endl;  }     }
```

(xiv) Write down any three differences between inline and virtual functions.

(xv) What is the difference between binary and text files? Write any three.

(xvi) Write down any three differences between reference and pointer.

SECTION – C (Marks 24)

Note: **Attempt any TWO questions. All questions carry equal marks.** **(2 x 12 = 24)**

Q. 3 **(a)** Explain different stakeholders related to system development life cycle with their roles.

(b) Explain inheritance and polymorphism in detail with daily life example.

Q. 4 **(a)** Write a C++ program using function to find quotient and remainder. The quotient and divisor values will be passing by reference to function to calculate quotient and remainder.

(b) Write down about the functions and its modes which is used for file opening in C++.

Q. 5 **(a)** Write C++ program to count vowels, consonants, digits and spaces in a string input by user. The output should look like as:

Enter any string: This is a 3454 flight number
Number of Vowels ::6
Number of Consonants ::13
Number of Digits :: 4
Number of White spaces ::5

(b) Describe the following functions of an Operating System.

(i) Process Management

(ii) File Management

(iii) Network Management