



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 نام مرکز کے حوالے کریں۔ کاٹ کر دوبارہ
کئے کی اجازت نہیں ہے۔ لید پینسل کا استعمال ممنوع ہے۔

Version No.			
4	1	2	4

0	0	0	0
1	●	1	1
2	2	●	2
3	3	3	3
●	4	4	●
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

ROLL NUMBER					

0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

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. Which of the following is FALSE about Destructor?	One class has one destructor	It has return type	It deallocates the memory	It cannot take arguments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. <code>ofstream</code> is a/an:	Class	Method	Command	Object	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. To read one character at a time from a file the following function is used:	<code>get ()</code>	<code>fputs ()</code>	<code>fgets ()</code>	<code>put ()</code>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Which of the following is the valid process state transition?	Blocked to Running state	Terminated to Running state	Running to Ready state	Ready to Blocked state	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Air traffic and Radar control systems are applications of:	Distributed operating system	Real-time operating system	Time sharing operating system	Embedded operating system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Which phase of SDLC is used to assess the strengths and weaknesses of a proposed system?	Testing phase	Design phase	Requirement Engineering phase	Feasibility phase	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Identify the method of system conversion in SDLC in which the new system is installed for small group of users:	Parallel	Phased	Pilot	Direct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. What will be displayed after executing the following code? <code>int a = 5, b = 10, c; c = ++a * b-- cout<<c;</code>	50	54	60	45	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Which of the following escape sequence is used to play beep sound?	<code>\b</code>	<code>\r</code>	<code>\\</code>	<code>\a</code>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Which of the following is correct statement if <code>n=10</code> ?	<code>if (10!=n) cout << "I am correct";</code>	<code>if (n>10) cout << "I am correct";</code>	<code>if (n==10) cout << "I am correct";</code>	<code>if (10=n) cout << "I am correct";</code>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Question	A	B	C	D	A	B	C	D
11.	What will be the output of the following program segment? <code>int c=1; for (; c<=3; c++) cout <<c<< " \t";</code>	1 3	1 2 3	2 3	1 1 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.	What will be stored in marks[4] in the following array definition? <code>int marks[5]={1,2,3};</code>	1	2	3	0	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13.	How many values a function can return at a time?	Two values	Three values	Four values	One value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14.	What will be generated by the following program segment? <code>float x=96.5, *Px; Px=&x; cout<< *Px ;</code>	96.5	Address of Px	Compile time error	Address of x	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15.	Which of the following pointers holds address of any data type and can be type-casted to any data type?	direct	void	NULL	float	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

—2HA-I 2312-4124 —

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) Why is operating system required for memory management? Give three reasons.
- (ii) Differentiate between process and thread. (Any 3 differences)
- (iii) Write down any three comparisons between batch processing and time-sharing operating system.
- (iv) Why is testing/ verification important in SDLC? Justify with at least three reasons.
- (v) The following C++ code has compile-time errors. (The line numbers written along the left column, are not part of the program code.) Correct at least six errors in the given code.

1	\\identify and correct errors
2	void main (void)
3	{
4	int a, b, s
5	char c = A;
6	cout<<"enter two numbers;
7	cin<<a<<b;
8	a + b = s;
9	cout<< "\\n"<<s<< "\\t"<<ch;
10	}

- (vi) What will be the values of following expressions?
 - (i) $S = 4 + 17 \% 2 - 1$
 - (ii) $(x > 0) \&\& (y < 0)$ where $x = 5, y = 5$
 - (iii) $n += 3;$ where $n = 17$
 $n * = 2;$
 $\text{cout} << n;$
- (vii) Write a C++ program that reads temperature in degree Fahrenheit and displays in degree Celsius by using formula: $C = (F - 32) / 5 * 9$
- (viii) (a) What will be the output of the following program segment?


```
for (a = 1 ; a < 10; a++)
{
    if (a > 3 && a < 7)
        continue;
    cout<<a<< "\\t";
}
```
- (b) Rewrite the following using if-else statement:
 $\text{rent} = \text{basic_pay} < 50000 ? \text{basic_pay} * 0.2 : \text{basic_pay} * 0.4;$
- (ix) Write down three differences between switch and else-if statements.
- (x) What does the following program segment display?


```
int values[ ] = {4, 17, 20, 9, 23 };
cout << values[2] << "\\n";
cout << ++values[0] << "\\n";
cout << values[1]++ << "\\n";
```
- (xi) What is the purpose of strcat () function? Give an example.
- (xii) How would the static variable be useful? Give example.
- (xiii) Write down any three advantages of function overloading.
- (xiv) Write down the purpose of asterisk (*) in the following statements:
 - (a) $\text{distance} = \text{speed} * \text{time};$
 - (b) $\text{int} * \text{ptr} = \&n;$
 - (c) $* \text{ptr} = 100;$
- (xv) Compare Private and Public access specifiers with respect to accessibility:
 - (a) In the same class
 - (b) In the derived class
 - (c) Outside the class
- (xvi) Write down the purposes of any three file opening modes.



	Question	A	B	C	D	A	B	C	D
11.	What will be generated by the following program segment? float x=96.5,y,*Px; Px=&x; y=*Px; cout<<y;	Address of x	96.5	Address of Px	Compile time error	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.	Which of the following pointer holds the address of any data type and can be type-casted to any data type?	float	direct	void	NULL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13.	Which of the following is TRUE about Destructor?	It can take arguments	One class has different destructors	It has no return type	It allocates the memory	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14.	ifstream is a/an:	Class	Object	Method	Command	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15.	When writing one character at a time to a file the following function is used:	put ()	get ()	fputs ()	fgets ()	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

—2HA-I 2312-8121 HA —

ROLL NUMBER					





COMPUTER SCIENCE HSSC-II

38

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) Why is operating system required for file management? Give three reasons.
- (ii) Write down the purpose of any three states of a process.
- (iii) Write down any three comparisons between multi-programming and multi-processing operating system.
- (iv) Why is feasibility important in SDLC? Justify with at least three reasons.
- (v) The following C++ code has compile-time errors. (The line numbers written along the left column, are not part of the program code.) Correct at least six errors in the given code.

```
1  \\identify and correct errors
2  void main (void)
3  {
4      int x, y, sum
5      char ch = A;
6      cout<<"enter two numbers;
7      cin<<x<<y;
8      x + y = sum;
9      cout<< "\\n"<<sum<< "\\t"<<c;
10 }
```

- (vi) What will be the values of following expressions?
 - (i) $X=5 + 19 \% 3 - 1$
 - (ii) $(a>0) \&\& (b<0)$ where $a = 5, b = 5$
 - (iii) $\text{num} += 5;$ where $\text{num} = 7$
 $\text{num} *= 3;$
 $\text{cout} << \text{num};$
- (vii) Write a C++ Program that reads base and height of a triangle and displays its area by using formula $\text{area} = \frac{1}{2}bh$.
- (viii) (a) What will be the output of the following program segment?

```
for (n = 9 ; n > 1; n--)
{
    if (n > 3 && n < 7)
        continue;
    cout<<n<< "\\t";
}
```

(b) Rewrite the following using **if-else** statement:

```
cout<<((marks >= 50)? "Pass" : "Fail");
```
- (ix) Write down three differences between break statement and exit() function.
- (x) What does the following program segment display?

```
int numbers[ ] = {5,18,30,19,43};
cout << numbers[2] + numbers[3]<< "\\n";
cout << numbers[0] << "\\n";
cout << numbers[1]++ << "\\n";
```
- (xi) What is the purpose of strcmp () function? Give an example.
- (xii) How would the default argument be useful? Give example.
- (xiii) What is an inline function? Write down any two advantages of inline function.
- (xiv) Differentiate between Reference and Dereference operators with an example.
- (xv) What is polymorphism? Give an example from daily life.
- (xvi) What are three characteristics of text files in C++?

SECTION – C (Marks 24)

Note: Attempt any TWO questions. All questions carry equal marks.

(2 x 12 = 24)

- Q. 3** (a) Write a C++ program that asks the user for a positive integer number and displays its multiplication table. The program keeps on entering positive integer number and displaying table of the entered number. The program terminates if entered number is zero.
- (b) Design a class named **average** that has member variables to hold two numbers and has two member functions. The **gets-data()** member function should get two numbers from the user and **display-average()** member function should find and display the average of two numbers. Demonstrate the class by writing a C++ program that creates an instance of that class.
- Q. 4** (a) Consider the following statements and complete the following table:

Line No.	Statement	Purpose
1	<code>#include<fstream.h></code>	
2	<code>fstream myfile;</code>	
3	<code>myfile.open("file2.txt" , ios::out);</code>	
4	<code>if (! myfile)</code>	
5	<code>cout<<"no such file";</code>	
6	<code>myfile<<ch;</code>	
7	<code>if (myfile.eof())</code>	
8	<code>myfile.close();</code>	

- (b) Write a C++ program that lets the user to enter a sentence and display the:
- (i) Number of uppercase letters stored in sentence
- (ii) Number of words in the sentence
- Q. 5** (a) Write down any four responsibilities of each of the following personnel involved in System Development Life Cycle:
- (i) Software Tester (ii) Programmer
- (b) Write a C++ program that input the number of rows and prints the pattern by passing parameter as reference to the function. The function should use nested loop to display pattern. The following pattern is sample for 5 rows.

```
*
**
***
****
*****
```

— 2HA-I 2312 HA —