



BAHRIA UNIVERSITY¹

ISLAMABAD CAMPUS

Department of Computer Science

MidTerm Examination

BSCS [B]

(Spring 2023 Semester)

Paper Type: Descriptive

Course:	Computer Programming Lab	Date: 6-04-2023
Course Code:	CSC-113	Session: I
Faculty's Name:	Ms. Rabail Zahid	Max Marks: 35
Time Allowed:	90 minutes	Total Pages: 7

STUDENT'S NAME (IN FULL): _____

REG NO: _____ ENROLMENT No _____ CLASS _____

1. Write your full name and other particulars clearly and legibly. Write on both sides of the papers. No page to be torn and taken out of examination venue.
2. Read the instructions on the question paper and answer book carefully and understand.
3. Paper will commence at the exact time. Be punctual and be inside the examination hall at least 15 minutes before paper start time.
4. Be seated as per seating plan depicted in the Examination Admit Slip.
5. Students after the start of paper will not be permitted to go to washrooms/toilets or any other place outside the examination venue.

N. B: read carefully the instructions given overleaf

HALL NO: _____ INVIGILATOR'S SIGN: _____

INVIGILATOR'S NAME: _____

Instructions about the Paper

- I. There are total **SIX** questions. All questions are compulsory.
- II. The paper is closed book.
- III. The students are not allowed any helping material (books, tables, formulas, etc).
- IV. Use blue, black or blue-black ink only. Do NOT use lead pencil especially.
- V. Do not cheat.
- VI. **This is Answer Book. Solve the Paper on this Book only. Minus 5 Marks if Extra Sheet is Used.**

CLO	Question#	Total Marks	Obtained Marks	CLO	Question#	Total Marks	Obtained Marks
1	Question-1	4		2	Question-4	4	
2	Question-2	12		3	Question-5	6	
2	Question-3	4		3	Question-6	5	
Total / 35				Signatures			

Question # 1 (4 Marks)

Provide the answers to the given short questions. Explain the concept with suitable example where required.

a. What is the purpose of the continue statement in C++?

(2*2 marks)

b. What is the purpose of the “default ” case in a switch statement in C++ ?

Question # 2 (12 Marks)

a. What is the output for the following code codes in the corresponding output column. If there are any errors, then mention them clearly. Assume that the header files are included in each code’s snippet.

(6*2 marks)

	C++ Code	Output
1	<pre>int main() { bool flag = sizeof(int); cout<<flag<<endl; if (flag==true) { cout << "exit" << endl; } else { cout << sizeof('11') << endl; cout << sizeof("AB") << endl; cout << sizeof("Hello") << endl; } return 0; }</pre>	
2	<pre>int main() { int x=1; while(x<0) {</pre>	

	<pre> if(x%2==2) { cout<<x<<""; } x=x+2; } return 0; } </pre>	
3	<pre> int main() { int a=1, b=2, c=7, d=b; char ch1 = 'b'; a = (a + c) *(ch1 + d); cout<<a; return 0; } </pre>	
4	<pre> int main() { int a=1, b=3,c=2; a = 3 + (c =5); cout<<a<<b; return 0; } </pre>	
5	<pre> int main() { int x = 5, y = 10; int z = ++x * y--; cout<<(z+y); return 0; } </pre>	
6	<pre> int main() { int i, j, m, answer; m = 0; j = 4; while (m < 2) { for (i = 0; i < j; i++) { answer = i * m; cout << answer; } m = m + 1; cout << endl;} return 0; } </pre>	

Question # 3 (4 Marks)

a. Consider the following code segment

(4 marks)

	C++ Code	
1	<pre> #include<iostream> using namespace std; int main() { int num =1331 ; int result =0; while(num>0) { int dig =num%10; if(dig==3) { result =result*20+dig; } num=num/10; } cout<<result; return 0; } </pre>	<p>What is printed when :</p> <p>1. Num =30 _____</p> <p>2. Num =124= _____</p> <p>3. Num =1234_____</p> <p>4. Num=1331_____</p>

Question # 4 (4 Marks)

Write a C++ program to find HCF (Highest Common Factor) of two numbers. Use Do While Loop for this program

(4 marks)

Question # 5 (6 Marks)

A mobile phone service provider has three different subscription packages for its customers:

Package A: For \$39.99 per month 450 minutes are provided. Additional minutes are \$0.45 per minute.

Package B: For \$59.99 per month 900 minutes are provided. Additional minutes are \$0.40 per minute.

Package C: For \$69.99 per month unlimited minutes provided.

Write a program that calculates a customer's monthly bill. It should ask which package the customer has purchased and how many minutes were used. It should then display the total amount due.

Input Validation: Be sure the user only selects package A, B, or C.

Question # 6 (5 Marks)

Armstrong number is a number that is equal to the sum of cubes of its digits.

For example 0, 1,

153, 370, 371 and 407 are the Armstrong numbers.

$$1^3 + 5^3 + 3^3 = 153$$

Write a Program to find whether a number entered by the user is Armstrong or not.

Enrollment Number: _____

Best of Luck
