National University of Computer and Emerging Sciences

FAST School of Computing **Spring-2023** **Islamabad Campus**

CS-0000: XXX (CS)

Serial No:

Sessional Exam-I

Total Time: 1 Hour

Total Marks: 60

Course Instructors

_____

Signature of Invigilator

_____ _____

Student Name Roll No. Section Signature

DO NOT OPEN THE QUESTION BOOK OR START UNTIL INSTRUCTED.

Instructions:

1. Attempt on question paper. Attempt all of them. Read the question carefully, understand the question, and then attempt it.
2. No additional sheet will be provided for rough work. Use the back of the last page for rough work.
3. If you need more space write on the back side of the paper and clearly mark question and part number etc.
4. After asked to commence the exam, please verify that you have **nine (9)** different printed pages including this title page. There are a total of **3** questions.
5. Calculator sharing is strictly prohibited.
6. Use permanent ink pens only. Any part done using soft pencil will not be marked and cannot be claimed for rechecking.

	Q-1	Q-2	Q-3	Total
Marks Obtained				
Total Marks	**40**	**10**	**10**	**60**

Question 01 [40 marks]

What would be the output produced by executing the following C++ codes? Identify errors, if any (either write output or error (syntax/runtime), **both will not be accepted**). All the code snippet contains #include<iostream> and using namespace std;

`int main()`
`{`
`int return=2000;`
`cout<<"Loan returned =" << return <<endl;`
`int length= 200.5;`
`cout <<"Length = " <<length;`
`char initial = 'a' ;`
`char newchar = initial-32;`
`cout<< newchar <<endl;`
`int ch=100;`
`cout<< (char)ch <<endl;`
`return 0;}`
	Output/Error:
	
	Error in line 3 & 4.
	Reason: "return" cannot be variable name.

`int A=89;`
`if(A>'A')`
`cout<<(int)'A'<<endl;`
`else`
`cout<<(char)A;`
	Output/Error:
	
	65

Question 02 [10 marks]

Complete the following program as mentioned in the instructions and print the output as required.

```
#include<iostream>
#include<bitset>
using namespace std;
int main()
{
unsigned short int n;
int bitposition;

cout<<"Enter a number"<<endl;
cin>>n;
cout<<"Enter position of bit you want to reverse"<<endl;
cin>>bitposition;
cout<<"Number & it\'s bit representation before conversion"<<endl;
cout<<n<<"  "<<bitset<16>(n)<<endl; //bitset will convert n into 16 bit binary.

/*In the following missing statements, write an expression to reverse a bit of
the input number n at given bit position.

_____________________________________________________________________________;


_____________________________________________________________________________;


_____________________________________________________________________________;

cout<<"Number & it\'s bit representation after conversion"<<endl;
cout<<n<<"   "<<bitset<16>(n)<<endl;
return 0;
}
```

ROUGH WORK

Note: anything written on this page will not be marked.