Solution

QUIZ 1 - a

Q1 - What is the output of the following C++ Code? Please assume that all pre-processor directives and main functions are there. Moreover, there are no errors in the code.

```
int p = 5, q = 8;
cout << "p: " << p << "\n\n" << "q: " << q << endl << p << "\n\n\n" << q << endl;
```

Q2 - Write a small piece of code to provide an example of Syntax Error in C++ Program. Provide a reasonable explanation for your answer.

Q3 - Make a flowchart for the following program statement, make sure to show all possible step that might be required.

Write a program that takes two integers as input and outputs the sum of their squares.

Question 1 Solution Space – Marking criteria – correct exactly same = 5 marks else zero
p: 5
q: 8
5
8
8

Question 2 – Solution Space – Correct example with C++ code is mandatory. = 5 marks. If c++ code is not given zero marks. If c++ code given but solution is not explained but c++ code is correct then 2.5 marks

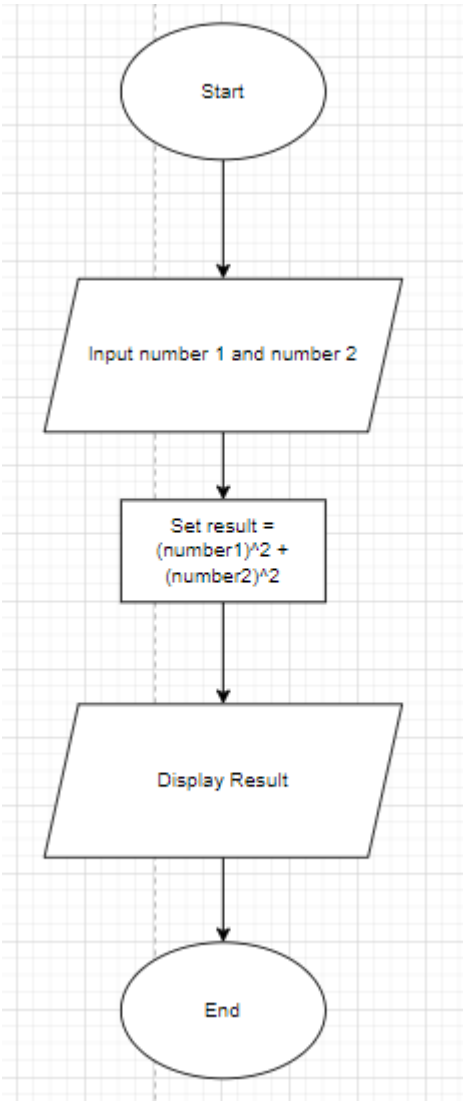
One of the possible solutions

```
#include<iostream>

using namespace std;

main()

{

      cout << "Hello World" (it is missing a semicolon hence syntax error)

}
```

Question 3 – Solution Space

One potential solution

Following steps in same flow are mandatory – students might have added few steps which is fine. If flow has these steps with correct notations, exact flow 5 marks. If flow is right and notations are wrong 2.5. if flow is incorrect, zero marks



QUIZ 1 – b

Q1 - What is the output of the following C++ Code? Please assume that all pre-processor directives and main functions are there. Moreover, there are no errors in the code.

```
int a = 1, b = 2, c = 3;
cout << a << "\n\n" << b << "\n\n" << c << endl << "Numbers: " << a << b << c << "\n"
<< "End" << endl;
```

Q2 - Write a small piece of code to provide an example of Logical Error in C++ Program. Provide a reasonable explanation for your answer.

Q3 - Make a flowchart for the following program statement, make sure to show all possible step that might be required.

Write a program that takes four integers as input and outputs the product of the sum of the first two and the sum of the last two.

Question 1 Solution Space – Marking criteria – correct exactly same = 5 marks else zero
1
2
3
Number: 123
End

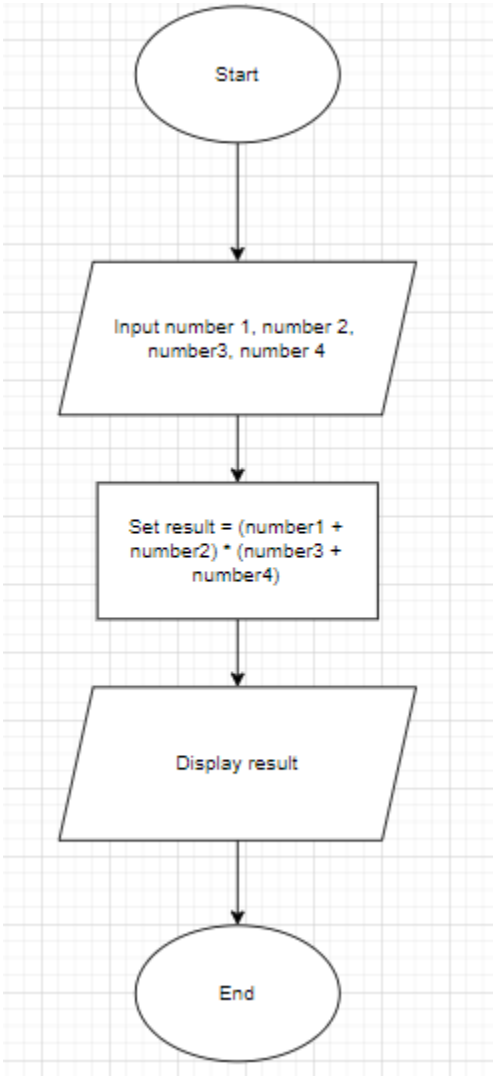
Question 2 –Solution Space – Correct example with C++ code is mandatory. = 5 marks. If c++ code is not given zero marks. If c++ code given but solution is not explained but c++ code is correct then 2.5 marks

This code is intended to calculate the average of three numbers, but there's a logical error:

```
#include <iostream>
using namespace std;

int main() {
    int num1 = 10;
    int num2 = 20;
    int num3 = 30;

    // Logical Error: Should divide by 3 instead of 2
    int average = (num1 + num2 + num3) / 2;

    cout << "Average: " << average << endl;
    return 0;
}
```

Following steps in same flow are mandatory – students might have added few steps which is fine. If flow has these steps with correct notations, exact flow 5 marks. If flow is right and notations are wrong 2.5. if flow is incorrect, zero marks

Question 3 – Solution Space



QUIZ 1 - c

Q1 - What is the output of the following C++ Code? Please assume that all pre-processor directives and main functions are there. Moreover, there are no errors in the code.

```
int m = 4, n = 9;
cout << "First number: " << m << endl << endl << "Second number: " << n << "\n\n" << m << "\n" << n << "\nDone" << endl;
```

Q2 - Write a small piece of code to provide an example of Runtime Error in C++ Program. Provide a reasonable explanation for your answer.

Q2 - Make a flowchart for the following program statement, make sure to show all possible step that might be required.

Write a program that takes two integers as input and outputs the difference of their squares.

Question 1 Solution Space – Marking criteria – correct exactly same = 5 marks else zero
First number: 4
Second number: 9
4
9
Done

Question 2 – Solution Space

Solution Space – Correct example with C++ code is mandatory. = 5 marks. If c++ code is not given zero marks. If c++ code given but solution is not explained but c++ code is correct then 2.5 marks

```
#include <iostream>
using namespace std;

int main() {
    int numerator = 10;
    int denominator = 0;

    // Runtime Error: Division by zero
    int result = numerator / denominator;

    cout << "Result: " << result << endl;

    return 0;
}
```

Following steps in same flow are mandatory – students might have added few steps which is fine. If flow has these steps with correct notations, exact flow 5 marks. If flow is right and notations are wrong 2.5. if flow is incorrect, zero marks

Question 3 – Solution Space