Hawassa University, Institute of Technology
Introduction to computing test =20% *Time allotted 1:30 hr*

*Name*_____ *ID*_____ *section*_____

Part I: choose the correct answer from the given alternatives and write it on the space provided.

Based on the following c++ program, answer questions 1 to 5.

```
Line 1:   #include<iostream>
Line 2:   using namespace std;
Line 3:   int main () {
Line 5:   char pressAletter;
Line 6:   cout<<"Press anycharacter"<<endl;
Line 7:   cin>>pressAletter;
Line 8:   switch (pressAletter) {
Line 10:  case 'A':{
Line 12:  int f=3, g=4, h, k;
Line 12:  h= (2*34/2+ (g++))-4*f+ (++f) +4/ (++g);
Line 13:  k=++f+g++;
Line 14:  cout<<"The value of f is: "<<f<<endl;
Line 15:  cout<<"The value of g is: "<<g<<endl;
Line 16:  cout<<"The value of h is: "<<h<<endl;
Line 17:  cout<<"The value of k is: "<<k<<endl;
Line 18:  break ;}
Line 20:  case 'B':
Line 21:  {int num=5, i=30;
Line 22:   do {
Line 24:      num*=4;
Line 25:        i++ ;}
Line 27:    while (i<=20);
Line 28:   cout<<"The value of a number is: "<<num<<endl;
Line 29:   break ;}
Line 31:   default:
Line 32:  cout<<"You do not have this option"<<endl ;}
Line 34:  return 0 ;}
```

____1. When the character A is pressed, what is the output of lines 14 &15?

A. 5 &7 B. 6 & 8 C. 4 & 6 D. 4 & 7 E.5 & 6

____2. When the character A is pressed, what is the output of lines 16 &17?

A. 22 & 11 B. 30 & 10 C. 22 &10 D.30 & 11 E.None

____3. When the character B is pressed, what is the output of line 28?

A. 0 B. 20 C.9 D. 4 E. None

____4. When any character except A and B is pressed, what is the output of this program?

A. 11 B. 20 C. 30 D. None

____5. What are the data types of this program?

A. Char B.int C. bool D. A &B E.ALL

____6.Which of the following retains the information it's storing when the system power is turned off?

A.CPU B. ROM C.RAM D. O/P peripherals

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____7. CPU and Memory are located on:-

A. Expansion board B. Mother board C. Storage device D. output device

____8. Which of the following is used for comments in C++?

A) // comment B) /* comment */ C) A and B D) // comment */

____9. After execution of the following fragmented code, what will be the value of angle?

int angle=13; if (angle<=10) angle=angle+10; else if (angle<=20) angle=angle+5; else angle= angle+3;

A. 16 B. 18 C. 20 D. 23 E. 33

____10. After execution of the following fragmented code, what will be the value of y?

int x=10; y=0; if (x > 0) y = y + 1; else if (x < 0) y = y + 2; else y = y + 5;

A. 1 B. 2 C.3 D. 5 E.8

Part II

Q1. What is the output of the following c++ program? [4pts]

```
#include <iostream>
using namespace std;
int main () {
  int sumOdd = 0;
  int sumEven = 0;
  int upperbound=10;
  int Difference;
    int number = 1;
  while (number <= upperbound) {
    if (number % 2 == 0) {
      sumEven += number;
    } else {
      sumOdd += number; }
    ++number;  }
  if (sumOdd > sumEven) {
    Difference = sumOdd - sumEven;
  } else {
    Difference = sumEven - sumOdd;}
  cout << "The sum of odd numbers is = " << sumOdd << endl;
  cout << "The sum of even numbers is = " << sumEven << endl;
  cout << "The difference is = " << Difference << endl;
  return 0;}
```

Q#1: Answer

Q2: Write a C++ program that adds odd numbers between 0 and 20 .(Use while loop) **[6 points]**