EEL 852
MAJOR

Date : .1.12.2006. ***Duration : 2 hour***
Time : 13:00 hrs. ***Max. Marks : 50***

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1. Identify errors, if any, in the following statements:

(a)
```
#include <iostream.h>
int main()
{  // prints "Hello, World!" :
   cout << "Hello, World! \n"
}
```

(b)
```
cout << "Enter n:  ";
cin >> n;
if (n < 0)
   cout << "That is negative. Try again." << endl;
   cin >> n;
else
   cout << "O.K.  n = " << n << endl;
```

(c)
```
while (n <= 100)
sum = n*n;
```

(d)
```
float x = 3.14159;
float* p = &x;
short d = 44;
short* q = &d;
p = q;
```

(2 X 4)

2. What will be the output of the following:

(a) m%++n (m=25, n=7)

(b) ++m – n– (m=25, n=7)

(c)
```
int main()
{  for (int i=0; i<8;i++)
   {      if (i%2 == 0) cout << i+1 << endl;
          else if (i%3 == 0) continue;
          else if (i%5 == 0) break;
          cout << "End of program. \n";
   }
   cout << "End of program. \n";
}
```

(d)
```
char* s1 = "ABCDE";
char* s2 = "ABC";
if (strcmp(s1, s2) < 0) cout << s1 << " < " << s2 << endl;
else cout << s1 << " <=  " << s2 << endl;
```

(2 X 4)

3. Write four different C++ statements, each substracting 1 from the integer n.

(2)

4. Write a program that uses a
   a. while loop
   b. for loop
   c. do ..... while loop

   to compute and print the sum of a given number of squares. For example, if 3 is input, then the program will print 14 ($1^2+2^2+3^2$). If 5 is input, it prints 55 ($1^2+2^2+3^2+4^2+5^2$).

(3 X 4)

5. Write a *int digit (int n, int k)* function which returns the k^{th} digit of the positive integer *n*. For example, if *n=29415*, then the call *digit (n, 0)* would return the digit 5, and the call *digit (n, 2)* would return the digit 4.

(5)

6. Create a class GRADE having two data members of float type such as Math_marks and Eng_marks. GRD1 and GRD2 are two objects of class GRADE. Write a complete C++ programme to add marks of GRD1 and GRD2 such that TGRD=GRD1+GRD2 by overloading the '+' operator. Display the Math_marks and Eng_marks of GRD1, GRD2 and TGRD.

(5)

7. Write a programme that reads text from a file named X and copies its contents to another file named Y such that the file Y is identical to the file X except that every sequence of consecutive blank spaces is replaced by a single blank space.

(5)

8. Write a *circle* class. Each object of this class will represent a circle, storing its radius and the *x* and *y* coordinates of its center as float. Include a default constructor, access functions, an *area()* function and a *circumference()* function.

(5)