

FACULTY OF ENGINEERING & INFORMATICS

B.E. I Year (Common to all branches) Examination, May/June 2012

PROGRAMMING IN C & C++

Time : 3 Hours]

[Max. Marks : 75

*Answer all questions from Part-A.  
Answer any five questions from Part-B.*

**Part A** — (Marks : 25)

1. What is the difference between a compiler and an interpreter?
2. What are symbolic constants in C? How do you declare them?
3. What is the difference between actual parameter and formal parameter?
4. If  $P$  is a pointer having address '2000' what are the values of  $P$  for the following:
  - (i)  $P = P + 2$  for `int * P`
  - (ii)  $P = P - 1$  for `float * p`
  - (iii)  $P = P + 10$  ; for `char * P`
5. What is the output of the following program?

```
# define MESS junk  
main ( )  
{ printf ( "MESS" ) ;  
}
```
6. What does EOF stand for and what does it indicate?
7. What is the difference between `delete` and `delete [ ]`?
8. For class `( Foo {})`; what default methods will the compiler generate for you?
9. What is a "pure virtual" member function?
10. What happens if an exception is not caught?

[P.T.O.]

**Part B** — (Marks : 50)

11. (a) Draw the flow chart to find largest number among three numbers.  
(b) Write a program to print the sum of the digits of given natural numbers.
  12. (a) Write a program in C to read a line of text and write it out backwards using the recursive function.  
(b) Write a program to sort given list of numbers using selection sort.
  13. (a) How are strings stored using pointer variables? Is it essential to declare length?  
(b) Write a program to count the number of lines in a text file.
  14. Write a C++ program to implement data class, whose values are Calendar dates. Equip your class with operations such as is before, adding or subtracting given number of days.
  15. (a) In what order are class constructors and class destructors called when a desired class object is created and deleted? Illustrate with an example.  
(b) What is the importance of ios\_base::flush in formatting IO?
  16. Write a program to overload >> << operators for reading and writing data to I/O stream.
  17. Write short notes on :
    - (a) Storage classes
    - (b) Templates and static members
    - (c) Representation of integer and floating point numbers.
-