B.Tech Degree I & II Semester (Combined) Examination June 2012

IT/CS/EC/CE/ME/SE/EB/EI/EE/FT 108 COMPUTER PROGRAMMING
(*2006 Scheme*)

Time : 3 Hours Maximum Marks : 100

PART A
(Answer *ALL* questions)

(8 × 5 = 40)

I. (a) Describe the structure of a 'C' program.
(b) How would you decide on the use of one of the three loops in 'C' for a given problem? Explain.
(c) Describe the two ways of passing parameters to functions. When do you prefer each of them?
(d) What is prototyping? Why is it necessary?
(e) What is a data structure? Why an array is called a data structure?
(f) What is a dynamic array? How is it created?
(g) Write a short note on User-Defined type declaration.
(h) What is a pointer? How is it initialized? Explain.

PART B

(4 × 15 = 60)

II. (a) Write a program that prints the even numbers from 1 to 100.
(b) Write a program that reads a character from key board and print it in reverse case.
(c) Write a program to calculate the average of a set of N numbers. (3 × 5=15)

OR

III. Explain the features and applications of three constructs for performing loop operations. (15)

IV. (a) Write a function that can be called to find the largest element of an *m* by *n* matrix. (5)
(b) Write a program to calculate the standard deviation of an array of values. (10)

OR

V. Explain automatic, external and static variable storage classes. Also write multi-function programs to illustrate each of them. (15)

VI. Write a program that reads a string from the key board and determines whether the string is a palindrome or not. (15)

OR

VII. Explain with a typical example the use of the following terms: (3 × 5=15)
(i) Nested structures
(ii) Array of structures
(iii) Union

VIII. (a) Write a program that uses a function pointer as a function argument. (7)
(b) Write a program that will receive a filename and a line of text as command line arguments and write the text to the file. (8)

OR

IX. (a) Explain in detail about 'C' preprocessor directives. (7)
(b) Describe typical applications of pointers in developing programs. (8)

***