

C 31677

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Name.....

Reg. No.....

**COMBINED FIRST AND SECOND SEMESTER B.TECH. (ENGINEERING)
DEGREE EXAMINATION, JUNE 2007**

EN 2K 108/PTCE/PTME/PTCH 2K 105—COMPUTER PROGRAMMING IN C

(Common to all Branches)

Time : Three Hours

Maximum : 100 Marks

Part A

Each question carries 5 marks.

- I. (a) Discuss high level and low level languages with examples.
(b) Explain Top-down modular programming.
(c) Write and explain the various basic data types used in C.
(d) Explain with examples simple and multiple ternary operators/conditional operators in C.
(e) Write the various bitwise operators used in C with their role.
(f) Write the difference between structure and union variables with examples.
(g) Write the various concepts in oop with their use.
(h) Distinguish structure and class.

(8 × 5 = 40 marks)

Part B

- II. (a) Write the various steps involved in computer programming. (8 marks)
(b) Write the flowchart to find the number of digits of an integer, which is taken as input. (7 marks)

Or

- (c) Explain the program design methods and their use. (8 marks)
(d) Write the flow chart to find the sum of the digits of an integer taken as input. (7 marks)
III. (a) Explain with example syntax, structure, limitage and use of switch . . . case statement in C. (8 marks)
(b) Write the various operators that are used in C. (7 marks)

Or

- (c) Explain with example various usage of for loop structure in C. (8 marks)
(d) Write a C program, which inputs 200 integers and find (i) number of even and odd integers and (ii) their sums respectively.

(7 marks)

Turn over

IV. (a) Write a program, which reads a matrix A and find $A^2 + 5I$, where I is the unit matrix.

(8 marks)

(b) Explain with examples, the various bitwise operators that are available in C and also write some of their use.

(7 marks)

Or

(c) Write a program, which (i) creates a linked list of structure with two components one real and another integer numbers ; (ii) delete the elements with real number of 11.5 and integer is even ; (iii) find the number of elements which have even integers as component.

(15 marks)

V. (a) Explain with complete examples the concept of overloading function and overloading operators in C++.

(15 marks)

Or

(b) Explain the concept of templates and its use in OOP. Also explain with example the constructors and destructors in C++.

(15 marks)

[4 × 15 = 60 marks]