D 42007 (Pages 2) Name.....

Reg. No.....

THIRD SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2007

CH 04 302—COMPUTER PROGRAMMING IN C

(Common for all except CS, IT and PT)

[2004 admissions]

Time : Three Hours Maximum : 100 Marks

Part A

Answer all *questions.*

1. (a) What is an algorithm ? Mention its advantages.
   (b) Discuss the methods to debug C program.
   (c) Differentiate while and dowhile statements with examples.
   (d) Write a C program to print sum of odd numbers and even numbers separately.
   (e) Explain ternary operator in C.
   (f) Write a C program using functions to check whether the given string is a palindrome.
   (g) Write notes on array of structures.
   (h) How will you define your own datatypes ?

(8 × 5 = 40 marks)

Part B

2. (a) (i) Write notes on Compilers and interpreters. (5 marks)
   (ii) Explain about basic Computer Organization. (10 marks)

Or

   (b) (i) What are the steps in developing an algorithm ? (5 marks)
   (ii) Write an algorithm to nead *n* numbers from the user and to print the largest and smallest number. Draw the flowchart also. (10 marks)

3. (a) (i) Explain the classes of operators in C. (10 marks)
   (ii) Write about C tokens. (5 marks)

Or

Turn over

(b) (i) What is a datatype ? Explain datatypes in C. (7 marks)

(ii) What is the meaning of the following symbols when used with *printf* and *scanf* statements.

(a) +. (b) –.

(c) 0. (d) blankspace.

(e) #. (8 marks)

4. (a) (i) Write a C program to perform

(i) find factorial of a number.

(ii) Generate fibonnaci series upto a given number.

Use switch statement. (10 marks)

(ii) What are the rules for nesting of loops ? (5 marks)

Or

(b) (i) Explain the purpose of recursive functions with example. (10 marks)

(ii) Write a C program to find average of n numbers using functions. (5 marks)

5. (a) (i) Write a C program that passes a three element integer array to a function, where the array elements are altered. (8 marks)

(ii) Explain about user defined datatypes. (7 marks)

Or

(b) (i) Write a C program for a singly linked list to store integer valves. You should be able to add, delete nodes and display values in the list. (10 marks)

(ii) Explain about types of files. (5 marks)

[4 × 15 = 60 marks]