D 4519

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2007.

Annual Pattern — First Year

(Regulation 2004)

Civil Engineering

GE 1 X 02 — COMPUTER PROGRAMMING

(Common to All Branches)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the different components of computer?

2. Draw a flow chart to find the lowest of two numbers.

3. Write C assignment statements to evaluate the following equations

$$T = \frac{2ab}{a+b} g .$$

4. Write a C program to find the greatest of given 10 numbers.

5. What is the advantage of using register variable?

6. Give an example for enumerated data type.

7. What is the difference between structure and union?

8. What do you mean by dynamic memory allocation?

9. Define Stack and Queue.

10. What is the main advantage of linked list?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Discuss about different services provided by the internet. (12)

(ii) List the different categories of softwares. (4)

Or

(b) (i) Draw a flow chart to solve a quadratic equation

$A x^2 + B x + C = 0$ where $A \neq 0$. (10)

(ii) Draw a flow chart for finding the sum of first ten natural numbers. (6)

12. (a) (i) Write a C program to find the simple interest? Inputs are principal amount, period in year and rate of interest. (8)

(ii) Write a program to calculate the sum of remainders obtained by dividing with modular division operation by 2 on 1 to 9 numbers. (8)

Or

(b) Write a C program to evaluate the following series. (16)

$$x - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \cdots \frac{x^n}{n!}$$

13. (a) Write a C program to arrange the names in alphabetical order. (16)

Or

(b) (i) Illustrate the principles of different storage classes in C. (12)

(ii) Write a C program to find the factorial of a given number using recursion. (4)

14. (a) (i) Write a program to display array elements and their address using pointers. (8)

(ii) Write a program to assign pointer value to another variable and write program to add two numbers through their pointers. (8)

Or

(b) (i) Write a program to write data to a text file and to read it. (12)

(ii) Write note on self referential structures. (4)

15. (a) Implement a queue so that each element of the queue holds a list of integers. Write the functions add_Q and remove_Q for such a queue. (16)

Or

(b) Write a C program to insert a node in the beginning, middle and end of the linked list. (16)
