Total No. of printed pages = 3

PROGRAMMING USING C

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer any *five* questions.

1. (a) What are the different data types available in C ?   4

   (b) Explain the relational, logical and assignment operators in C language in brief.   6

   (c) Design and develop a C program to read a year as an input and find whether it is a leap year or not.   4

2. (a) Define algorithm and flowchart. Draw the flowchart to find the greatest number among three numbers.   2+2+4=8

[Turn over

6. (a) *What is the difference* between structure and union. Give an example. 4

   (b) What is pointer ? Explain how the pointer variable declared and initialized. 4

   (c) Write a C program to swap two numbers using call by pointers method. 6

7. (a) Write a brief note on the following :

   (i) fopen ( )

   (ii) fclose ( )

   (iii) fscanf ( )

   (iv) fprintf ( ) 2×4=8

   (b) Write a C program to create a data file "stu.dat" to keep the following data : 6

   Rollno, student name, age, department

(b) Explain switch statement with syntax and example. 6

3. (a) Discuss the different types of loops in C with syntax and example. 8

(b) What are the use of break and continue statement in loops ? Give one example of each. 6

4. (a) What is array ? Explain the declaration and initialization of one and two dimensional array with example. 2+2+2=6

(b) Write a C program to read a sentence and print the number of vowels and consonants in it. 4

(c) List any four string manipulation function. 4

5. (a) Differentiate (any *two*) : 2×3=6

(i) Local and global variable

(ii) Actual parameter and formal parameter

(iii) Unary operator and binary operator.

(b) What is recursive function ? Give an example. 5

(c) Define malloc and calloc function. 3