Madras University

M.C.A Programming in Pascal and C Question paper

Time: Three hours Maximum: 75 marks

PART A - [5 x 5 = Marks 25]

Answer ALL questions.
All questions carry equal marks.

1. (a) Write down the PASCAL expression for the following mathematical expression : sin (+ 45) + cos (+ 60) a b

Or

(b) Write a PASCAL program segment to find the quotient and remainder when an integer I is divided by an integer J.

2. (a) State the precedence rules for evaluating a Boolean expression in PASCAL.

Or

(b) How is a list created in PASCAL?

3. (a) Name and describe the four basic data types in C.

Or

(b) What is an escape sequence? Why is it used?

4. (a) How can a function return a pointer to its calling routine in C?

Or

(b) How is multidimensional array defined in terms of an array of pointers?

5. (a) What are the advantages of using a data file in C?

Or

(b) Explain the purpose of the library function feof?

PART B - [5 x 10 = Marks 50]

Answer any FIVE questions.
All question carry equal marks.

6. Given a 4 digit number representing a year, write a PASCAL program to find out whether it is a leap year.

7. Write a PASCAL program to obtain the product of two matrices A (3, 3) and B (3, 2)

8. Write a PASCAL program which will read a line and squeeze out all blanks from it and output the line with absolutely not even a single blank.

9. Write a PASCAL procedure to simulate a stack using a list structure.

10. Given an octal number of arbitrary length, write a C program to find its decimal equivalent.

11. Using pointer notation, write a C program to read a line of text and then print it out backwards.

12. Using structures variables, write a C program that will allow you to enter and maintain a computerised version of your family tree.

13. Write a C program wherein each character entered from a keyboard is tested to determined its case and is then written to the data file in the opposite case, that is, lowercase is converted to uppercase and uppercase is converted to lowercase.