PROBLEM SOLVING AND PROGRAMMING

Year: 2005 TEE: December	MCS011	Time 3 Full Marks 100

Note: Question 1 is compulsory. Answer any three from the rest.

Q.1(a): Write an algorithm and draw a corresponding flowchart to search a number in the given list of number in the given list of nubers and also display its position.: [10]

Q.1(b): Write a Menu driven program in C to add, substract and multiply two distances which are given in feet and inches. [e.g. 3 ft 9 inches + 2 ft 5 inches=6ft 2 inches]: [10]

Q.1(c): Write a recursive program in 'C' to find whether a given five digit number is a palindrome or not.: [10]

Q.1(d): Write a program in 'C' to print automorphic numbers. The automorphic number is a number in which the square of the number contains the numbers numbers in the end. Example: (a) 5,25 (b)6,36

Q.2(a): Design an algorithm and draw corresponding flowchart to find all the prime numbers between two given numbers 'm' and 'n', where m,n>0: [10]

Q.2(b): Design an algorithm and write a program using 'c' to compute transpose of a matrix.: [10]

Q.3(a): Write a program to process the marks for 4 courses in a semester. Each course contains 2 components namely internal assessment and external examination, students need to pass in both the components individually by acquiring at least 40% in oreder to decla: [10]

Q.3(b): Write the function to perform the following:
(i) To accept a string and print the rightmost 'n' charecters.
(ii) To accept any two string and check whether the first string is a substring of the second string.

Q.6(b): Describe HSAM, HISAM as the internal access methods for a hierarchical database illustrating their features and implications thereof in database performance.