

COMPUTER SCIENCE – 2000

Paper-2

(PRACTICAL)

(Planning Session : Two hours)

(Examination Session: one hour)

(Maximum Marks: 100)

INSTRUCTIONS

As it is a practical examination, the candidate is expected to do the following:

- (a) Write an algorithm for the selected problem.
- (b) Prepare an Input/Process/Output table indicating the required inputs for the problem. Also state the method/formula for solving the problem and mention the required output.
- (c) Write a program in C++, test run the program on the computer using the given test data and get a print out (hard copy) in the format specified in the problem alongwith the program listing.

*Solve any **one** of the following problems:*

- Q1. Write a program to print a rectangle with diamond shape gap exactly at the centre of the rectangle, using an input string with odd number of characters, not exceeding 20.

For example:

INPUT : H A P P Y – H A P P Y

OUTPUT : H A P P Y H A P P Y
 H A P P Y H A P P Y
 H A P P A P P Y
 H A P P P Y
 H A P Y
 H Y
 H A P Y
 H A P P P Y
 H A P P A P P Y
 H A P P Y H A P P Y
 H A P P Y H A P P Y

Q2. Write a program to input two valid dates, each comprising of day (2 digits), Month (2 digits) and year (4 digits) and calculate the days elapsed between the two dates.

Test your program for the following data values:

(i) FIRST DATE : DAY : 24
 MONTH : 09
 YEAR : 1960

 SECOND DATE : DAY : 08
 MONTH : 12
 YEAR : 1852

(ii) FIRST DATE : DAY : 10
 MONTH : 01
 YEAR : 1852

 SECOND DATE : DAY : 16
 MONTH : 10
 YEAR ; 1952

Q3. A file contains a list of names and telephone numbers in the following form

AJIT 281050
ANIL 462890
HRISHIKESH 524352
.
.
.

The names contain only one word and the names and telephone numbers are separated by white spaces. Write an interactive program to :

- (i) Create the above file.
- (ii) Display the contents in two columns.
- (iii) Search a telephone number for a given name (Assure no duplication of names).
- (iv) Exit the program.

(Note: The program must create a file for the first time)

Test your program using the following data :

AJAY 281050
AJIT 425382
ANIL 525122
AJHAR 528422
HRISHIKESH 524352
JAVAGAL 532673
MONGIA 691383
RAHUL 698114
ROBIN 524899
SACHIN 628266
SAURAV 708294
VENKATESH 492642

Test the (iii) option by searching the telephone numbers of :

- (a) AJHAR
- (b) SACHIN
