



EASTERN UNIVERSITY, SRI LANKA
SECOND EXAMINATION IN SCIENCE (1996/97)
JUNE/AUGUST 2004
EXTERNAL DEGREE
EXMT 206 PASCAL PROGRAMMING

Answer four questions only

Time: 02 hours

Q1)

- a) Briefly describe the overall structures of a Pascal program. (20)
- b) Briefly describe the structured data types in Pascal. (20)
- c) What is the difference between "Write" and "Writeln" statement? (10)
- d) Determine which of the following are valid identifiers and for invalid identifiers, why they are invalid? (50)
- | | |
|--------------|-------------|
| i. Address | vi. my file |
| ii. 98mark | vii. reset |
| iii. mod | viii. fil4 |
| iv. 34_er_45 | ix. append |
| v. tr_45 | x. exit |

Q2)

- i. Briefly describe the control structures of a Pascal program and give suitable example of each of them. (35)
- ii. A company executive is given a rate of 25 Rs per mile for the use of car. The management has decided to pay a higher rate of 45 Rs per mile for sales department employees whose car engines are larger than 1500 cc in capacity. Write a Pascal program to print the traveling expenses of an executive given the mileage and the engine size. (65)

Q3)

- a) Briefly describe the repetition statement in Pascal program. (25)
- b) Write Pascal program segments (not entire programs) for the following problems.
- | | |
|---|------|
| i. Read three integer numbers and print the maximum of it. | (15) |
| ii. Read a positive number N and display its factorial. | (30) |
| iii. Read a number X and calculate the value of $1+x+x^2/2+x^3/3+ \dots +x^{10}/10$. | (30) |

Q4)

- i. A program is required to input from a keyboard, a series of integer values ending with a dummy value of zero and to output to the screen, the number input together with its second, third and fourth powers. (40)
- ii. Write a program to calculate the average height of boys and the average height of girls in a class. The program should read the sex code (1 for boys, 2 for girls) and the height of each boy and girl. The numbers of boys/girls in the class are not known. (60)

Q5)

- a) Define a **"RECORD"** data type to include the following fields to represent a student details in a Pascal program. (30)

ID NUMBER
NAME
ADDRESS
FACULTY
REGISTRATION DATE

- b) Write a Pascal program to read ten student records. (35)
- c) Write Pascal statement to read a student id number and to output his/her details. (35)

Q6)

- a) What are the differences between **"Sequential file"** and **"Random file"**? (15)
- b) Briefly describe all the TEXT file commands in Pascal. (20)
- c) A text file name "student.txt" is used to keep the marks for 20 students in two subjects. Each line of this file contains three values; index numbers and the corresponding two marks. Write a procedure which uses the above text file "student.txt" to display index number/numbers of students who got the highest average marks. (65)