NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF APPLIED SCIENCE
COMPUTER SCIENCE DEPARTMENT
DECEMBER EXAMINATIONS 2000

SUBJECT: SOFTWARE ENGINEERING
CODE: SCS 4101

INSTRUCTION TO CANDIDATES

This paper consists of seven (7) questions.
Answer any five (5) questions.
All questions carry equal marks
Code all your programs in C. All programs should be accompanied by a flow chart.

Time: 3 hours

QUESTION 1

a) Assume we have a file of records each containing a person's last name, first name, birth date, sex, height, weight and telephone number. Write a program that reads records from the file, stores them in an array and writes them out to screen.
[10]

b) Write a menu-driven program for your local cable TV company. Here is how to assess the charges. If you are within 2 miles outside the city limits, you pay $12 a month; 21 to 30 miles outside the city limits you pay $23 a month, 31 to 50 miles outside the city limits you may pay $34. No one outside the 50-mile limit gets the services. Prompt users with a menu for their residence distance from the city limits.
[10]

QUESTION 2

a) Write a program to read list of test scores and outputs the highest score, the lowest score and the average score.
[10]

b) You have to choose between two different Auto Mechanics with different rate structures. One charge a flat fee $20 plus $5 for each quarter hour. The other charges $18 for the first quarter hour and $5.75 for each quarter hour after that.
Any fraction of a quarter hour counts as a full quarter hour and so 1 hour 25 minutes counts as 6 quarter hours. Write a program that accepts the number of hours and minutes as input, displays the two charges and announces which is the cheaper of the two.
[10]