Write your answers in the D1 answer book for this paper.

1. The following list of eleven numbers is to be packed into bins of size 55

26 19 31 10 14 30 33 18 3 28 5

(a) Use the **first-fit** bin packing algorithm to pack the numbers into bins of size 55

(3)

(b) Use **quick sort** to sort the list into descending order, showing the result after each pass. You must clearly identify the pivots used.

(4)

(c) Apply the **first-fit decreasing** bin packing algorithm to pack the numbers into bins of size 55

(2)

(Total for Question 1 is 9 marks)