Name: Class: Mark:

1. Jack has started a business manufacturing parts for high performance cars. The business has 20 employees who work in manufacturing and 10 employees who work in the office with responsibilities for administration, sales and marketing. These employees each have their own computers.

Describe **two** roles of the operating system in the office employee’s personal computers. [4]

**Role 1:**

**Role 2:**

2. The manufacturing plant uses high precision, computer-controlled machines and robotics. These machines use a real-time operating system.

(a) Explain **one** reason why this type of operating system needs to be used. [2]

(b) The computers in the office allow more than one program to be run at a time.

(i) State what type of operating system needs to be used to accomplish this. [1]

(ii) Describe how it is possible for a computer with one CPU to run many programs   
at the same time. [5]

(c) The computers in the office have connected peripheral devices such as keyboards, monitors and mice  
  
Describe how the operating system manages peripheral devices. [4]

(d) The operating system used on the office computers provides a number of security features. Explain **two** of these features. [4]

**Feature 1:**

**Feature 2:**

[Total 20 marks]