



General Certificate of Education
January 2010
Advanced Level Examination

Information and Communication Technology

INFO3/PM

Unit 3 The Use of ICT in the Digital World

Candidate Booklet for the January 2010 examination

To be given to candidates on or after 1 November 2009

Information and Guidance

- 1 On receipt of this booklet, you are advised to check carefully that it is complete and that no pages are missing or illegible. There should be four pages. If there are any problems you should consult your teacher.
- 2 The material contained in this booklet is provided for you to use in preparing for Section A of the INFO3 examination.
- 3 Prior to the examination, your teacher may give you assistance and advice to help you understand the content of this material.
- 4 You should use the time between receiving this material and the examination to familiarise yourself with its contents.
- 5 You are allowed to make comments or annotations on this copy of the material but you are **not** allowed to take this copy, or any other materials, into the examination.
- 6 A clean copy of this booklet will be provided in the examination with the INFO3 question paper so there is no benefit from learning the contents by rote.
- 7 The INFO3 examination is on **Wednesday 27 January 2010** (afternoon session).

Pharwel Ltd: A case study

Pharwel is an established manufacturer and distributor of medicines and drugs to hospitals and chemists. It employs around 1,200 staff, most of whom are based in the company headquarters. There are 250 home-based sales representatives who only visit the headquarters for monthly sales meetings.

Pharwel uses a company-wide information system that integrates the manufacturing, accounting, sales order processing and personnel functions of the company. This system was created by joining together a number of independent legacy systems which had their own servers and were connected to a number of client stations within each separate department. The current network allows access to all systems from any network station within the company. The manufacturing systems run continuously 24 hours a day, 7 days a week, apart from company shutdown periods.

In addition to the company-wide information system, there is a PC-based sales system used by the sales representatives. All sales representatives are provided with a company laptop, a portable printer and a mobile broadband device. The sales system is installed on each laptop.

The sales representatives visit hospitals, chemists and doctors' surgeries to obtain orders. The sales system contains details of all available products, including prices and quantity discounts, and uses this data to generate purchase orders. At the end of a sales visit, the sales representative prints the purchase order(s) on their portable printer for signature by the customer.

Each evening, using their mobile broadband device, the sales representatives send the orders to head office for overnight processing. At the same time, data on stock levels and products are updated on the laptops.

Pharwel has a small ICT department and although the company-wide information system was developed in-house initially, most of the staff involved have now left the company. The remaining staff are primarily concerned with maintaining the current systems.

Although these systems have served the company well over the years, they no longer meet the changing needs of the business. External consultants have just completed a review of the effectiveness of Pharwel's ICT operations in supporting the business needs.

Their initial report includes the following main points:

- The company-wide information system needs to be completely redeveloped to meet Pharwel's changing business needs. In the absence of any existing commercially available solution that meets all of the business needs, the consultants state that Pharwel has two options for the redevelopment of this system. One is to keep the development in-house. Alternatively, they could contract the work out to an external software supplier.
- After performing a risk analysis exercise, the consultants have concluded that Pharwel's backup and recovery systems need updating. They have also discussed recovery options with a specialist recovery company and two suggestions have been made. The first is the use of a "hot restart" facility, where a standby computer centre is immediately available for Pharwel to recover its systems and data. The second is the use of a "cold restart" facility, where an empty computer room is provided for Pharwel. With this option, Pharwel would be required to supply and install its own hardware prior to recovery of its systems and data.

Turn over ►

- There is a large and unmanaged backlog of maintenance tasks. The consultants suggest that, to help determine priorities, the maintenance tasks should be classified as “adaptive”, “corrective” or “perfective”.
- Some of the sales representatives use USB flash memory devices to share data and software with each other and customers, including staff at doctors’ surgeries. The consultants are concerned about the security issues involved and the possible effect upon the continued operation of the laptop PCs.

END OF CASE STUDY