This document consists of 20 printed pages.
Scenario 1
Questions 1 and 2

José runs a car rental business. Cars can be picked up from one garage and returned to another. Each car is fitted with a Satellite Navigation system (Sat Nav).
1  (a) Explain how a Satellite Navigation (Sat Nav) system operates.

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[3]

(b) Describe two benefits and two drawbacks of the use of Satellite Navigation (Sat Nav) by the car rental business.

Benefit 1 ...........................................................................................................................................
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Benefit 2 ...........................................................................................................................................
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Drawback 1 .........................................................................................................................................
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Drawback 2 .........................................................................................................................................
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[4]
José is thinking of introducing an intranet.

(a) Describe three ways this would be of use to him.

Way 1

Way 2

Way 3

[6]
(b) The intranet will be part of a Wide Area Network (WAN).

Give two features of a WAN.

Feature 1

Feature 2  

[2]
Scenario 2
Questions 3, 4 and 5

Peter likes watching films. Sometimes he watches a film on his home entertainment system.

At other times he arranges visits to the cinema. He will use an online cinema booking system with a secure method of payment. He will collect the tickets from a kiosk at the cinema.

The cinema booking system uses various methods to ensure the security of the personal data of its customers.
3 Describe, in detail, **four** features of a home entertainment system.

1. 

2. 

3. 

4. 

[4]
4 (a) (i) Give four items of information that Peter would input into the web page in order to book a cinema ticket, explaining why each one is needed.

1. .................................................................[4]

2. .................................................................

3. .................................................................

4. .................................................................

(ii) Apart from the information that Peter will have input, describe three items of information that will appear in the confirmation.

1. .................................................................[3]

2. .................................................................

3. .................................................................
(b) State **three** features which should be provided on the website for Peter to show him that there will be a secure transaction.

1. ................................................................................................................................. [3]

2. .................................................................................................................................

3. .................................................................................................................................

(c) Describe how the computer system produces the tickets.

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5 Describe **two** features of each of the following security methods:

(a) Encryption

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(b) Digital Certificate

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(c) Authentication

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Scenario 3
Question 6

Sarbjit is the director in charge of research at the International Medical Drug Corporation (IMDC). The corporation wishes to develop a new medical drug. Sarbjit carried out market research to find out how many people would use the drug. He had a choice of two types of market research: primary and secondary.

Having had favourable feedback, the corporation decided to carry out the necessary scientific research to make the drug.
6 (a) Explain the difference between primary market research and secondary market research.

(b) Describe three ways in which primary market research can be carried out.

1

2

3
(c) (i) State the type of computer that would be used in the scientific research.

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(ii) Describe how computer models would be used in the scientific research.

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Scenario 4
Questions 7, 8, 9 and 10

A number of doctors in a medical centre use an expert system to help diagnose patients’ illnesses.

The doctors would like to have a pharmacy with a computerised stock control system in the medical centre. The stock control software could be purpose-written or could be an off-the-shelf package.

The pharmacy staff will need to be trained in the use of the new stock control system.

The project, to set up a pharmacy within the medical centre, will be managed using project management software.
7 (a) Describe how the knowledge engineer would have collected information for the knowledge base of the doctors’ expert system.

[4]
(b) Describe **two** items of information that a doctor will enter into the expert system.

Item 1

Item 2

(c) Describe **two** outputs from the expert system.

Output 1

Output 2
8 Discuss the advantages of choosing an off-the-shelf package compared with choosing purpose written software.
9 (a) What is meant by each of the following?

Computer aided instruction (CAI)

Computer based learning (CBL)

Computer aided assessment (CAA) [3]
(b) Describe in detail three benefits and three drawbacks of using ICT for the training of the pharmacy staff.

(i) Benefits

1. .......................................................................................................................... [3]
2. ..........................................................................................................................
3. ..........................................................................................................................

(ii) Drawbacks

1. ..........................................................................................................................
2. ..........................................................................................................................
3. ..........................................................................................................................

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10 (a) Describe how a Gantt chart would help manage the setting up of the pharmacy within the medical centre.

(b) Describe one other aspect of project management software.