1. Nov/2021/Paper_11/No.6

Computers are often used, together with sensors, to control devices in the home.

Evaluate, by weighing up the advantages and disadvantages, the use of control technology in the home.

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2. Mar/2021/Paper_12/No.10

Analyse the use of real-time processing when used in the computer control of car park barriers.

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3. June/2021/Paper_11/No.4

Describe how the data from an air pollution monitoring system is collected and prepared, ready for processing by a computer.

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4. June/2021/Paper_12/No.2

Sensors are used in both monitoring and control applications.

(a) Tick the most accurate statement referring to the use of technology to monitor weather conditions.

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Readings from sensors are not processed before being output.	
A sound sensor is the sensor most frequently used in a weather station.	
Rainfall is measured using a computerised measuring stick.	
Graphs can be produced automatically from a weather monitoring system.	

[1]

(b) Tick the most accurate statement referring to the use of technology when used in systems which control traffic lights.

	✓
An actuator is the most important input device in such a system.	
The timing sequence of the traffic lights is randomly generated.	
An induction loop is used to detect the presence of an automobile.	
Traffic light systems use moisture sensors to detect the presence of pedestrians.	

[1]

(c) Describe the inputs, processing and outputs involved in the cooking of a meal using a microprocessor-controlled oven. Include the devices required in your answer.

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5. Nov/2020/Paper_11/No.3

A city suffers from the lack of fresh air because of its heavy traffic. A local government agency uses sensors to monitor the level of pollution in the air. The computer system monitors a number of physical variables.

(a) Describe how this system collects and processes this data.

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(b) Compare and contrast the use of monitoring systems with the use of control systems.

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6. Nov/2020/Paper_13/No.3

A city suffers from the lack of fresh air because of its heavy traffic. A local government agency uses sensors to monitor the level of pollution in the air. The computer system monitors a number of physical variables.

(a) Describe how this system collects and processes this data.

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(b) Compare and contrast the use of monitoring systems with the use of control systems.

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7. June/2020/Paper_11/No.11

Mary has been put in charge of the computerised school weather station. At the moment the system has a monitor to show the outputs. She wants to replace the monitor with a printer.

By weighing up the advantages and disadvantages, evaluate the system having a monitor rather than a printer.

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8. June/2020/Paper_11/No.13

Computers are often used for environmental monitoring applications such as pollution in rivers.

Evaluate, by weighing up the advantages and disadvantages, the use of computers rather than humans in such scenarios.

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9. June/2020/Paper_13/No.4

Chung and Fai both work at the Vacation Hotel. Chung told Fai that the hotel had just installed a car park barrier system to prevent local shoppers from using the car park. He told her that the manager had said that it was a computer-controlled system. Pressure sensors have not been used and it is impossible for the barrier to lower itself on to a car.

Describe, in detail, how such a system would operate both for a guest arriving at the hotel and for a guest leaving the hotel.

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