

1.2 SOFTWARE & SOFTWARE DEVELOPMENT · 1.2.1

Types of OS, BIOS, drivers & virtual machines

Original practice questions · 34 marks · about 45 minutes · spec 1.2.1(e)(f)(g)(h)

Instructions. Answer all questions. The number of marks is shown in brackets []. Quality of written communication is assessed in the extended-response question.

1 Total: 4 marks

This question is about embedded operating systems.

(a) Define the term *embedded operating system*. [2]

.....

(b) State **two** examples of devices that use an embedded operating system. [2]

.....

2 Total: 6 marks

Name **three** types of operating system, other than embedded, and state the purpose of each. [6]

.....

.....

.....

.....

.....

3 Total: 5 marks

A self-driving car uses a control system to react to its surroundings.

(a) State the type of operating system used in this control system. [1]

.....

(b) Explain why this type of operating system is needed for the car. [2]

.....

.....

(c) Explain what is meant by a multi-user operating system. [2]

.....

.....

4

Total: 6 marks

This question is about the BIOS.

(a) State what the abbreviation BIOS stands for. [1]

(b) Describe what the BIOS does when the computer is switched on. [3]

(c) Describe the effect of the BIOS being overwritten. [2]

5

Total: 5 marks

This question is about device drivers and virtual machines.

(a) State the purpose of a device driver. [1]

(b) Give one example of a device for which a home user would need a driver. [1]

(c) Explain one reason a programmer might use a virtual machine when developing software. [3]

Discuss the type(s) of operating system that would be most suitable for this device, justifying your answer. **[8]**

END OF QUESTIONS