The questions on this worksheet have been taken from the OCR A-Level Computer Science Sample Paper

"3-a-day" A-Level Exam Practice (010)

Question 1

(b) (i) Explain two advantages of this monitoring system having its operating system stored in ROM.

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..... **[2]**

(ii) The monitoring system also has RAM. Describe what happens to the contents of RAM and ROM when power to the monitoring system is removed.

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..... **[2]**

Question 2

(d) The smartwatch contains ROM and RAM.

(i) State **two** ways in which ROM differs from RAM.

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..... **[2]**

(ii) Give an example of what the ROM on the smartwatch might hold.

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..... **[1]**

Question3

2 A tank of water contains tropical fish. The water must be maintained at a constant temperature. A computer system is used to maintain the required temperature of the water.

(i) State **one** input device that will be used in the system and give its purpose.

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..... **[2]**

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Answer 1

	(b)	**(i)**	• ROM is quick to start up so the system can be started up quickly (in an emergency) (1). • ROM cannot be altered so there is no chance of the OS being accidentally or maliciously changed (on what is a safety critical system) (1).	**2 AO2.1 (2)**	Up to 2 marks for valid identification and description that demonstrates application of knowledge and understanding to given context.
		(ii)	• The contents of RAM are wiped (1) whereas the contents of ROM remain the same (1).	**2 AO1.2 (2)**	Up to 2 marks for a valid description.

Answer 2

	d	i	□ ROM is read-only (RAM can be written to). □ ROM is non-volatile (RAM is volatile) □ ROM is (generally) smaller than RAM	2	The term volatile does not have to be specifically used accept keeps it's contents when power is turned off.
6	d	ii	**One from:** □ Boot program[1] □ Operating System [1]	1	Do not accept boot file Accept BIOS

Answer 3

2		**(i)**	-Temperature sensor /Heat sensor/Thermistor - to read the water temperature (in to the processor). -Keypad/Keyboard - to allow the user to change the required temperature. (1 per -, max 1 pair, max 2)	2	Note: Other answers are possible and are acceptable if a sensible use is given to justify their use. NOT Thermometer