
A-Level Computer Science

Name: _____ Score: _____

1. Which of these is an input device?
 - ☐ a speaker
 - ☐ a printer
 - ☐ a monitor
 - ☐ a scanner
2. How does an SSD differ from a magnetic hard disk?
 - ☐ it stores data as pits read by a laser
 - ☐ it has no moving parts and gives faster random access
 - ☐ it uses spinning platters
 - ☐ it is always cheaper per gigabyte
3. Which statement is true?
 - ☐ RAM is volatile; ROM is non-volatile
 - ☐ RAM is non-volatile; ROM is volatile
 - ☐ both are volatile
 - ☐ both are non-volatile
4. The key difference between a monitoring system and a control system is that a control system:
 - ☐ has no sensors
 - ☐ cannot read temperature
 - ☐ acts on the data through actuators, not just reports it
 - ☐ only logs readings
5. A NOT gate outputs 1 when its input is 0.
 - ☐ True ☐ False
6. For $X = (A \cdot B) + \overline{C}$ with $A = 1, B = 1, C = 1$, what is X ?
 - ☐ 0
 - ☐ 1
 - ☐ 2
 - ☐ cannot tell

7. RAM is volatile (its contents are lost without power), while secondary storage keeps data when the power is off.

☐ True ☐ False

8. A 3D printer builds an object one _____ at a time, each bonding to the one below.

9. A computer with more RAM holds more programs and data at once, so it swaps less between memory and _____, so it runs faster.

10. A pure monitoring system takes action through actuators to change its environment.

☐ True ☐ False

1. a scanner

A scanner brings data in. Monitors, speakers and printers are output devices.

2. it has no moving parts and gives faster random access

SSDs store charge in flash transistors – no moving parts, faster and tougher, but dearer per GB and cells wear out.

3. RAM is volatile; ROM is non-volatile

RAM loses its contents without power (volatile); ROM keeps them (non-volatile).

4. acts on the data through actuators, not just reports it

Both read sensors, but a control system uses the data to act (via actuators), while monitoring only collects and reports.

5. True

NOT inverts: $0 \rightarrow 1$ and $1 \rightarrow 0$.

6. 1

$A \cdot B = 1$, and $\overline{C} = 0$. $X = 1 + 0 = 1$.

7. True

That is why your work must be saved to storage – RAM only holds it while the computer is on.

8. layer

Slicing software cuts the model into thin horizontal layers; the printer deposits, cures or fuses one layer at a time.

9. disk

When RAM is full the operating system moves pages out to secondary storage and back, and every swap is thousands of times slower than a memory access.

10. False

Monitoring only collects and reports data – it does not act. Acting through actuators is what makes it a control system.