UNIT 1.1 SYSTEMS ARCHITECTURE MCQS

The numbers after the question are an approximate estimation of relative difficulty, broadly based around the new GCSE Numbering System. Please note that these were produced before final guidance was released regarding levels of difficulty and as such should be used as a rough guide only.

Question 1: Processors have a speed measured in (1-4)	✓
Hertz	
Bits	
Bytes	
Seconds	
Question 2: Data and Instructions in use are stored in the: (1-4)	✓
Processor	
Embedded System	
Hard Disk Drive	
Main Memory	
Question 3: Typical processor speed of 2016: (1-4)	✓
16Hz	
100MHz	
4GHz	
300GHz	
Question 4: What doesn't affect the performance of the computer (1-4)	✓
Clock Speed	
Number of Cores	
Cache Size	
The number of instructions in the program	
Question 5: If the number of cores goes up from 2 to 4 – what is the exact effect on performance? (1-4)	✓
Performance decreases	
The maximum number of instructions executed per second doubles	
The maximum number of instructions executed per second quadruples	
The maximum number of instructions executed per second is halved	
Question 6: If the processing speed goes up from 1GHZ to 4GHZ – what is the exact effect on the performance of the computer? (1-4)	✓
The maximum number of instructions executed per second doubles	
The maximum number of instructions executed per second quadruples	
The maximum number of instructions executed per second is halved	
The maximum number of instructions executed per second is quartered	
Question 7: If the processing speed goes up from 2GHZ to 4GHZ and the number of cores goes from 2 to 4 – what is the exact effect on the performance of the computer? (5-6)	✓
The maximum number of instructions executed per second doubles	
The maximum number of instructions executed per second quadruples	
The maximum number of instructions executed per second is halved	
The maximum number of instructions executed per second is quartered	

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Question 8: If the processing speed goes from 1GHZ to 4GHZ and the processor is changed from an 8 core to a dual core processor – what is the exact effect on the performance of the computer? (5-6)	✓
The number of instructions executed per second doubles	
The number of instructions executed per second quadruples	
The number of instructions executed per second is halved	
The number of instructions executed per second stays the same	
Question 9: Firmware in which software and hardware are integrated on a circuit board is often used in what type of system? (5-6)	✓
Desktop System	
Embedded System	
Operating System	
Point of Sales System	
Question 10: Which is an example of an Embedded System: (1-4)	✓
Laptops	
Tablets	
PCs	
Microwave	
Question 11: Processor don't do the following (1-4)	✓
Process Data	
Execute Instructions	
Execute Data	
Operate in Hz	
Question 12: The part of a processor in which instructions are executed is known as? (1-4)	✓
Core	
Centre	
Execution	
Instruction Centre	
Question 13: What acts as an intermediary between the processor and the Main Memory? (6-9)	✓
Bus	
User	
Cache	
Clock	
Question 14: What is held in cache? (5-6)	✓
All of the programming instructions	
Commonly used instructions and data	
Instructions that have been processed	
Data that hasn't been used for a long time	

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Questions 15: Moore's Law? (7-9)	✓
Predicted that the number of transistors on a circuit board would double ever year	
Computers would be capable of thinking and learning for themselves by 2020	
That the number of cores on a processor would double every year	
The performance increase of computers would eventually halt in 2020	
Question 16: Firmware refers to (5-6)	✓
Any hardware that can't easily break	
A combination of hardware and software	
A type of software that is updated to make a computer work better	
Hardware used in kitchens	
Question 17 If the processing speed goes up from 2GHZ to 4GHZ and the number of cores goes from 1 to 2 – what is the exact effect on the performance of the computer? (5-6)	✓
Doubled	
Quadrupled	
Eight Times faster	
Sixteen times faster	
Question 18 If the processing speed goes up from 2GHZ to 4GHZ and the number of cores goes from 1 to 4 – what is the exact effect on the performance of the computer? (5-6)	✓
Doubled	
Quadrupled	
Eight Times faster	
Sixteen times faster	
Question 19 If the processing speed goes up from 1GHZ to 4GHZ and the number of cores goes from 1 to 2 – what is the exact effect on the performance of the computer? (5-6)	✓
Doubled	
Quadrupled	
Eight Times faster	
Sixteen times faster	
Question 20 If the processing speed goes up from 1GHZ to 4GHZ and the number of cores goes from 1 to 8 – what is the exact effect on the performance of the computer? (5-6)	✓
Eight Times faster	
Sixteen times faster	
Thirty Two times faster	
Sixty Four times faster	

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Question 21: What component holds the address of the next instruction (7-9)	✓
Memory Address Register	
Memory Data Register	
Program Counter	
Accumulator	
Question 22: Results of calculations are held in this register: (7-9)	✓
Memory Address Register	
Memory Data Register	
Program Counter	
Accumulator	
Question 23: This holds the instruction/data temporarily after it is brought to the processor from the main memory (7-9)	✓
Memory Address Register	
Memory Data Register	
Program Counter	
Accumulator	
Question 24: This holds the number of the current instruction being worked on (7-9)	✓
Memory Address Register	
Memory Data Register	
Program Counter	
Accumulator	
Question 25: This would perform an operation including the word "And" (5-7)	✓
Arithmetic Logic Unit	
Accumulator	
Cache	
Control Unit	
Question 26: This would send a signal such as "Memory Read" (5-7)	✓
Arithmetic Logic Unit	
Accumulator	
Cache	
Control Unit	
Question 27: This would perform an operation such as 5+8 (1-4)	✓
Arithmetic Logic Unit	
Accumulator	
Cache	
Control Unit	

UNIT 1.1 SYSTEMS ARCHITECTURE MCQS

Question 28: This would reduce the number of memory/processor transfers (5-7)	✓
Arithmetic Logic Unit	
Accumulator	
Cache	
Control Unit	
Question 29: This sends signals such as "I/O Read" (5-7)	✓
Arithmetic Logic Unit	
Accumulator	
Cache	
Control Unit	
Question 30: This sends signals such as "Memory write" (5-7)	✓
Arithmetic Logic Unit	
Accumulator	
Cache	
Control Unit	
Question 31: This doesn't happen during the Fetch part of the cycle: (7-9)	✓
Address Bus is used	
Program Counter increments by one	
Arithmetic operations are performed	
Main Memory is addressed	
Question 32: This doesn't happen during the Decode / Execute part of the cycle: (7-9)	✓
Current Instruction is held in the CIR	
Results are held in the Accumulator	
Status Register updated	
Instructions are transferred from Main Memory	
Questions 33: What is held in ROM? (1-4)	✓
Data currently in use	
Bootstrap Loader	
Instructions frequently used	
Operating System	
Question 34: Carries address of the next instruction that will be fetched (4-6)	✓
Address Bus	
Data Bus	
Control Bus	
System Bus	

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Question 35: What is a property of an Address Bus (4-6)	✓
Carries Data and Instructions	
Uni-Directional	
Bi-Directional	
Carries control Signals	
Question 36: Which component generates addresses(4-6)	✓
Processor	
Main Memory	
Control Unit	
Secondary Storage	
Question 37: What is transferred down the data bus? (4-6)	✓
Data only	
Addresses only	
Data and Instructions	
Data, Instructions and Addresses	
Question 38: What accurately describes a peripheral? (1-4)	✓
A component of a computer system	
A device that is not directly connected to the CPU	
A device that is directly connected to the CPU	
A device that is plugged in	
Question 39: This is not a type of secondary storage (1-4)	✓
Blu-Ray Drive/Disc	
Flash Memory	
Hard Disk Drive	
RAM	
Question 40: What is the purpose of the accumulator? (4-6)	✓
To perform arithmetic operations	
To hold the results of a calculation	
To hold the accumulation of instructions that have happened	
To remember the previous instruction being worked on	

UNIT 1.1 SYSTEMS ARCHITECTURE MCQS ANSWERS

Question 1: Processors have a speed measured in (1-4)	
Hertz	✓
Bits	
Bytes	
Seconds	
Question 2: Data and Instructions in use are stored in the: (1-4)	
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Embedded System	
Hard Disk Drive	
Main Memory	✓
Question 3: Typical processor speed of 2016: (1-4)	
16Hz	
100MHz	
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Question 4: What doesn't affect the performance of the computer (1-4)	
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Desktop System	
Embedded System	✓
Operating System	
Point of Sales System	
Question 10: Which is an example of an Embedded System: (1-4)	
Laptops	
Tablets	
PCs	
Washing Machine	✓
Question 11: Processor don't do the following (1-4)	
Process Data	
Execute Instructions	
Execute Data	✓
Operate in Hz	
Question 12: The part of a processor in which instructions are executed is known as? (1-4)	
Core	✓
Centre	
Execution	
Instruction Centre	
Question 13: What acts as an intermediary between the processor and the Main Memory? (6-9)	
Bus	
User	
Cache	✓
Clock	
Question 14: What is held in cache? (5-6)	
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Cache	
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Cache	
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Cache	
Control Unit	

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Cache	✓
Control Unit	
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Cache	
Control Unit	✓
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Cache	
Control Unit	✓
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Flash Memory	
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RAM	✓
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