Half-Term 1

Computer Science

Year 10

Name: _____

Tutor: _____

GREENSHAW
LEARNING TRUST

Year 10 Homework Timetable

Monday	English	Ebacc Option A	Option C	
Tuesday	Tassomai	Option B	Modern Britain	
Wednesday	Sparx	Science	Option C	
Thursday	Ebacc Option A	Tassomai	Option B	Modern Britain
Friday	Sparx	Science	English	

Tassomai - 2 Daily Goals per week
Sparx - 4 tasks of Sparx per week

Option A (EBACC)
French
Geography
History

Open B
Art
Business Studies
Catering
Computer Science
History
Health & Social Care
Music
Sport
IT

Open C
Business Studies
Childcare
Catering
Drama
Geography
Health & Social Care
Triple Science
Sport

Aspire│Achieve│Thrive

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Year 10 Homework Plan

Week/Date	Homework Task	Examination Question Topic
Week 1 Monday 5th September 2022	**Cornell Notes** 1.1.1 Architecture of the CPU	Fetch-Execute Cycle Architecture of the CPU
Week 2 Monday 12th September 2022		Von Neumann Architecture
Week 3 Monday 19th September 2022	**Cornell Notes** 1.1.2 CPU Performance	CPU Performance - Cores / Cache
Week 4 Monday 26th September 2022	**Cornell Notes** 1.1.3 Embedded Systems 1.2.1 The need for Primary Storage	Embedded Systems
Week 5 Monday 3rd October 2022	**Cornell Notes** 1.2.1 Primary Storage - RAM and ROM	RAM and ROM
Week 6 Monday 10th October 2022	**Cornell Notes** 1.2.1 Virtual Memory 1.2.2 The need for Secondary Storage	Virtual Memory Secondary Storage
Week 7 Monday 17th October 2022	**Cornell Notes** 1.2.2 Common Types of Storage	The three types of Storage

Date…………………………………………..

Q1   Identify two events that take place during the fetch-execute cycle.

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[2 marks]

Q2   Kerry wants to buy a new computer, but she does not understand what the different parts of a computer do. Kerry has heard of a CPU but does not know what it is.

The following sentences describe the purpose of a CPU.

Complete the sentences by filling in the missing words.

CPU stands for .... It is the part of the

computer that fetches and executes the .... that

are stored in .... .The CPU contains the

Arithmetic .... Unit (ALU) and the

.... Unit (CU).

[5 marks]

Date……………………………………………..

Q1 Alicia has designed a computer using Von Neumann architecture.

Describe the purpose of two registers that are used by Von Neumann architecture.

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[4 marks]

Q2 The table has five components of a computer, and four statements.

Tick (✓) one or more boxes in each row to identify which component(s) each statement describes.

Statement	MAR	MDR	Cache	Program Counter	RAM
It stores a single address					
It stores frequently used instructions					
It is a register					
It stores all currently running data and instructions.					

[4 marks]

Date……………………………………………..

Q1 Kerry is looking at two computers; one has a single core processor and the other has a dual core processor.

Explain why having a dual core processor might improve the performance of the computer.

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[2 marks]

Q2 One computer has 64 kilobytes of cache and the other has 512 kilobytes of cache.

Explain how the cache size can affect the performance of the CPU.

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[2 marks]

Date…………………………………………….

Q1   The following paragraph describes embedded systems.

Complete the paragraph by selecting terms from the list and writing them in the correct places. Not all terms are used.

actuator	applications	change	functions	laptop	larger
lights	microprocessor	processor	range	smaller	washing machine

Embedded systems have limited .... They are often built into a

.... machine. Two examples of embedded systems are a

.... and automated .... in a car.

[4 marks]

Date………………………………………….

Q1   Gareth has a satellite navigation system (Sat Nav) in his car that uses RAM and ROM.

The table below lists some characteristics of computer memory. Tick (✓) one box in each row to show whether each of the statements is true for the RAM or ROM in Gareth's Sat Nav.

	RAM	ROM
Stores the boot up sequence of the Sat Nav		
The contents are lost when the Sat Nav is turned off.		
Holds copies of open maps and routes		

[3 marks]

Q2   Describe two differences between RAM and ROM.

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[4 marks]

Date…………………………………………….

Q1 Alicia has designed a computer using Von Neumann architecture.

A computer only has 2GB of RAM. Alicia says that virtual memory can be used instead of adding more RAM. etc.

i Explain how virtual memory can compensate for the lack of RAM in Alicia's computer.

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[3 marks]

ii Explain why it would be beneficial for Alicia to get more RAM instead of relying on virtual memory.

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[2 marks]

Q2   Vicky has been on holiday and has taken lots of photos. The memory in her camera is now full and she needs to transfer her photos to an external secondary storage device.

Define what is meant by 'secondary storage'.

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[1 mark]

Date……………………………………………….

Q1   Vicky has been on holiday and has taken lots of photos. The memory in her camera is now full and she needs to transfer her photos to an external secondary storage device.

Identify the three common storage technologies Vicky can choose from.

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[3 marks]

STEP 2: CREATE CUES

What: Reduce your notes to just the essentials.

What: Immediately after class, discussion, or reading session.

How:
- Jot down key ideas, important words and phrases
- Create questions that might appear on an exam
- Reducing your notes to the most important ideas and concepts improves recall. Creating questions that may appear on an exam gets you thinking about how the information might be applied and improves your performance on the exam.

Why: Spend at least ten minutes every week reviewing all of your previous notes. Reflect on the material and ask yourself questions based on what you've recorded in the Cue area. Cover the note-taking area with a piece of paper. Can you answer them?

STEP 1: RECORD YOUR NOTES

What: Record all keywords, ideas, important dates, people, places, diagrams
and formulas from the lesson. Create a new page for each topic discussed.

When: During class lecture, discussion, or reading session.

How:
- Use bullet points, abbreviated phrases, and pictures
- Avoid full sentences and paragraphs
- Leave space between points to add more information later

Why: Important ideas must be recorded in a way that is meaningful to you.

STEP 3: SUMMARISE & REVIEW

What: Summarise the main ideas from the lesson.
What: At the end of the class lecture, discussion, or reading session.
How: In complete sentences, write down the conclusions that can be made from the information in your notes.
Why: Summarising the information after it's learned improves long-term retention.

Date   /   /   Topic   **WEEK 1**

Questions	Notes

Summary

Date / /   **Topic**   **WEEK 2**

Questions	Notes

Summary

Date / / **Topic** **WEEK 3**

Questions	Notes

Summary

Date / / **Topic** **WEEK 4**

Questions	Notes

Summary

Date / / **Topic** **WEEK 5**

Questions	Notes

Summary

Date / / **Topic** **WEEK 6**

Questions	Notes

Summary

Date / / **Topic** **WEEK 7**

Questions	Notes

Summary

Revision Page

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