STOKE DAMEREL

Aspire Achieve Thrive

Spring Term
(Half Term 3 and 4)

Computer Science

Year 11

Name: _____

Tutor: _____

GREENSHAW LEARNING TRUST

Year 11 Homework Timetable

Monday	Ebacc Option D Task 1	Option C Task 1	Option A Task 1	
Tuesday	English Task 1	Tassomai Daily Goal 1	Option B Task 1	
Wednesday	Sparx	Science Task 1	Option C Task 2	
Thursday	Ebacc Option D Task 2	Tassomai Daily Goal 2	Option B Task 2	
Friday	Sparx	Science Task 2	English Task 2	Option A Task 2

Block A	Block B	Block C	Block D
Art	Business Studies	Art	French
Dance	Child Development	Business Studies	Geography
Drama	Catering	Geography	History
Media Studies	Computer Science	Health & Social Care	
Music	Drama	History	
Photography	Health & Social Care	Catering	
	IT	Photography	
	Media Studies	Sport	
	Sociology	Travel & Tourism	
	Sport		

Tassomai - 2 Daily Goals per week

Sparx - 4 tasks of Sparx per week

Year 11 Homework Plan

[Complete Revision Playlist]

Week Beginning Date	Cornell Notes on ….	Exam question
Week 1 Monday 2nd January	2.5.1 Programming Languages	High-level Languages, Assembly Languages and Machine Code.
Week 2 Monday 9th January	2.5.1 The Purpose of Translators	Methods for translating high-level languages into machine code.
Week 3 Monday 16th January	2.5.1 Compilers and Interpreters	Differences between compilers and interpreters.
Week 4 Monday 23rd January	2.5.2 Integrated Development Environments	Tools found in an IDE to support programmers.
Week 5 Monday 30th January	MOCK Misconception: 1.1 System Architecture	Events of the FDE Cycle. Processor Cores.
Week 6 Monday 6th February	MOCK Misconception: 1.2.4 Data Representation (Characters, Images and Sounds)	Character Sets. Calculating size of a text file.
Monday 13th February	HALF-TERM	
Week 7 Monday 20th February	MOCK Misconception: 1.3.1 Networks and Topologies (Internet - DNS, Hosting, Cloud, Web Servers and Clients)	Process for converting a URL into an IP address
Week 8 Monday 27th February	MOCK Misconception: 1.3.2 Protocols and Layers	Protocols for specific tasks. Network layers.
Week 9	MOCK Exams	

Monday 6th March		
Week 10 Monday 13th March	MOCK Exams	
Week 11 Monday 20th March	MOCK Misconception: 1.4.2 Network Vulnerabilities	Ways to protect computer networks.
Week 12 Monday 27th March	MOCK Misconception: 1.5.1 Functions of Operating Systems	Functions of an Operating System

Date Week Beginning 2nd January 2023 **Topic:** 2.5.1 Programming Languages

WEEK 1

Characteristics and purpose of different levels of programming language 	**Notes**
Questions:	

Summary:

Date Week Beginning 2nd January 2023 **Topic:** 2.5.1 Programming Languages

WEEK 1

Q1 Dru writes the following program using a high-level language. Describe the advantages of writing a program in a high-level language instead of in assembly language. (2 marks)

Q2 Graeme is a freelance programmer. He has written a program for a client and gives the client both the high level code and the machine code of the program. Describe what is meant by

High level code (2 marks)

Machine code (2 marks)

Date Week Beginning 9th January 2023 **Topic:** The Purpose of Translators

WEEK 2

The Purpose of Translators	**Notes**
Questions:	

Summary:

Date Week Beginning 9th January 2023 **Topic:** The Purpose of Translators

WEEK 2

Q1 An algorithm is written in a high-level language. The high level code must be translated into machine code before a computer processor can execute it.

Describe two methods of translating high level code into machine code. (4 marks)

Date Week Beginning 16th January 2023 **Topic:** Compilers and Interpreters

WEEK 3

Compilers and Interpreters	**Notes**
Questions:	

Summary:

Date Week Beginning 16th January 2023 **Topic:** Compilers and Interpreters

WEEK 3

Q1 Harry is planning to create a computer game using a high-level programming language. Harry can use either a compiler or an interpreter to translate the code. Describe two differences between how a compiler and an interpreter would translate Harry's computer game. (4 marks)

Q2 Tick (✓) one box in each row to identify whether the statement refers to a high-level language or a low-level language.

Statement	**High-level Language**	**Low-level language**
Uses English-like keywords such as print and while		
Must be translated before the processor can execute code		
Code written is portable between different processors		
Requires the programmer to understand the processor's registers and structure		

Date Week Beginning 23rd January 2023 **Topic:** 2.5.2 IDEs

WEEK 4

2.5.2 IDEs	**Notes**
Questions:	

Summary:

Date Week Beginning 23rd January 2023 **Topic:** 2.5.2 IDEs

WEEK 4

Q1 A translator is a common tool found in an Integrated Development Environment (IDE). Describe two other common tools or facilities that an IDE can provide. (4 marks)

Date Week Beginning 30th January 2023 **Topic:** 1.1.1 System Architecture

WEEK 5

1.1 System Architecture (choose at least one video) **Questions:**	**Notes**

Summary:

Date Week Beginning 30th January 2023 **Topic:** 1.1.1 System Architecture

WEEK 5

Q1 Describe **four** events that take place during the Fetch-Decode-Execute Cycle (4 marks)

Q2 Alicia has designed a computer using Von Neumann architecture.

Alicia says: “My computer has a quad-core processor, so it will run twice as fast as a computer with a dual-core processor”.

Explain why this statement is not always true. (3 marks)

Date Week Beginning 6th February 2023 **Topic:** 1.2.4 Data Representation

WEEK 6

Choose at least one	**Notes**
1.2.4 Characters and Character Sets 	
1.2.4 Representing Images 	
1.2.4 Representing Sound 	
Questions:	

Summary:

Date Week Beginning 6th February 2023 **Topic:** 1.2.4 Data Storage

WEEK 6

Q1 State what is meant by a character set. (1 mark)

Q2 ASCII has 8 bits per character. Identify the maximum number of different characters that ASCII can represent. (1 mark)

Q3 A text file uses the ASCII character set. The text file has 2000 characters in it. Calculate an estimate of the file size of the text file in Kilobytes. Show your working. (2 marks)

_____ Kilobytes

Date Week Beginning 20th February 2023 **Topic:** 1.3.1 The Internet

WEEK 7

1.3 The Internet	**Notes**
Questions:	

Summary:

Date Week Beginning 20th February 2023 **Topic:** 1.3.1 The Internet

WEEK 7

Q1 A user enters the URL www.ocr.org.uk into a web browser. This is then converted into the IP address of the webserver that hosts the website.

Explain how the URL www.ocr.org.uk is converted into the IP address. (3 marks)

Date Week Beginning 27th February 2023 **Topic:** 1.3.2 Protocols and Layers

WEEK 8

Choose at least one video 1.3.2 Common Protocols **1.3.2 Concept of Layers** **Questions:**	**Notes**

Summary:

Date Week Beginning 27th February 2023 **Topic:** 1.3.2 Protocols and Layers

WEEK 8

Q1 When connecting computers into a network, the use of appropriate protocols are important.

For each of the scenarios below, identify the most appropriate protocol to be used and explain the function of the protocol.

(i) Transfer a file directly from his computer to his friend's computer. (2 marks)

(ii) Securely logging into a bank's website (2 marks)

Q2 TCP/IP is a set of protocols based on layers. With regards to network protocols, define what is meant by a 'layer' (1 mark)

Describe one advantage of using layers to construct network protocols (2 marks)

Date Week Beginning 6th March 2023 **Topic:** MOCK Revision

WEEK 9

Questions:	Notes

Summary:

Date Week Beginning 6th March 2023 **Topic:** MOCK Revision

WEEK 9

Questions:	Notes

Summary:

Date Week Beginning 13th March 2023 **Topic:** MOCK Revision

WEEK 10

Questions:	Notes

Summary:

Date Week Beginning 13th March 2023 **Topic:** MOCK Revision

WEEK 10

Questions:	Notes

Summary:

Date Week Beginning 20th March 2023 **Topic:** 1.4.2 Network Vulnerabilities

WEEK 11

Choose at least one video 1.4.2 Network Vulnerabilities **Questions:**	**Notes**

Summary:

Date Week Beginning 20th March 2023 **Topic:** 1.4.2 Network Vulnerabilities

WEEK 11

Q1 A hospital stores patients' details on its computer network. The hospital is concerned about the security of its patients' details.

Staff already use strong passwords to protect systems. Explain, with reference to system security, three other ways that the hospital could protect the network system (6 marks)

Date Week Beginning 27th March 2023 **Topic:** 1.5.1 Functions of Operating Systems

WEEK 12

Watch <u>both</u> parts 1.5.1 Function of Operating Systems (part 1) 1.5.1 Functions of Operating Systems (part 2) **Questions:**	**Notes**

Summary:

Date Week Beginning 27th March 2023 **Topic:** 1.5.1 Functions of Operating Systems

WEEK 12

Q1 Ali's tablet computer has an operating system.

Complete the following description of the functions of an operating system by selecting the appropriate missing words from those in the box (not all words are required)

user	drivers	directories	hardware	interface	multitasking
output	peripherals	printers	processor	RAM	utility
ROM	running	passwords	faster	volatile	virtual

The operating system provides a user _____. This displays the output to the user and allows the user to interact with the _____. The operating system controls the movement of data from secondary storage to _____ and vice-versa. This is known as memory management. The operating system can only perform one process at a time, but by managing the memory the computer can appear to be completing more than one process at a time. This is known as _____. An operating system allows device _____ to be installed to allow an external piece of hardware to interact with the _____ . The operating system provides security through user accounts and _____ . It also creates and maintains a file system to organise files and _____ . (8 marks)

Revision Page

Revision Page

Revision Page

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Develop your character

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