MADANI GIRLS SCHOOL / COMPUTING / 2024-25

2024-2025	AUTUMN		SPRING		SUMMER	
	HT1	HT2	HT3	HT4	HT5	HT6
Y7	Area of study Baseline Test + Induction Key concepts Baseline, H&S, Office 365, Email, Teams Assessment method Baseline Test	Area of study Getting Started Key concepts File Management, Office 365, Internet and Well-being, Vector Graphics, Bitmap Images, Photographs Assessment method End of Unit Assessment (Assessment of work)	Area of study Computing components Key concepts Hardware, measuring computer performance, computer peripherals, storage devices and media, the Internet of Things Assessment method End of Unit Assessment (Assessment of work)	Area of study Internet Safety, cyber security & Encryption Key concepts Digital Footprint, passwords and phishing, malware, encryption, automating encryption, keeping safe online Assessment method End of Unit Assessment (Assessment of work)	Area of study Introducing Spreadsheets Key concepts Formulae, replication, referencing, Functions, Boolean Operators, IF and COUNT, Formatting, Graphs and charts, Modelling, Theme Park Challenges Assessment method End of Unit Assessment (Assessment of work)	Area of study Programming in Scratch Key concepts Introduction, sequencing, variables, selection, selection and logical operators and iteration Assessment method End of Unit Assessment (Assessment of work)	Area of study Programming in Python (Sequencing) Key concepts Computer programs, getting data from the user, Data Types, Placeholders and lists, working with lists, working with strings Assessment method End of Unit Assessment (Assessment of work)
Y8	Area of study Computing: past present and future Key concepts Word processing, designing a leaflet, Moore's law, the history of computing, learning to present, the future of computing Assessment method End of Unit Assessment (Assessment of work)	Area of study Binary and computer logic Key concepts Logic gates, binary, creating an app, testing and reviewing an app, representing text and images Assessment method End of Unit Assessment (Assessment of work)	Area of study Networking and the Internet Key concepts IP addressing and switching, Domain names and DNS, Packets /packet switching, The Internet, Connecting to the internet Assessment method End of Unit Assessment (Assessment of work)	Area of study Algorithms Key concepts Computational Thinking, Pattern Recognition, Flow Diagrams, Decomposition, Abstraction Assessment method End of Unit Assessment (Assessment of work)	Area of study Programming in Python (Sequencing) Key concepts Computer programs, getting data from the user, Data Types, Placeholders and lists, working with lists, working with strings Assessment method End of Unit Assessment (Assessment of work)	Area of study Programming in Python (Selection) Key concepts Selection, Decisions and calculations, IF…ELSE, comparing strings and numbers, ELIF, Multiple ELIFs Assessment method End of Unit Assessment (Assessment of work)
Y9	Area of study Designing Websites Key concepts HTML, Tags, Images, Text, CSS, Headers, Hyperlinks, Navigation, Tables Assessment method End of Unit Assessment (Assessment of work)	Area of study Programming in Python (Selection) Key concepts Selection, Decisions and calculations, IF…ELSE, comparing strings and numbers, ELIF, Multiple ELIFs Assessment method End of Unit Assessment (Assessment of work)	Area of study Programming in Python (Iteration) Key concepts Instructions, For loops, strings, lists, searching using for loops, while loops Assessment method End of Unit Assessment (Assessment of work)	Area of study Ethics of Computing Key concepts Sourcing content, using technology responsibly, technology and the environment, technology and the law Assessment method End of Unit Assessment (Assessment of work)	Area of study Project 2 Programming in Python Key concepts Planning, Design, Development, Testing, Evaluation Assessment method Assessment of Project 2	Area of study Project 1 Theme Park Advert Key concepts Graphics, audio/video editing, advert, marketing Assessment method Assessment of Project 1
Y10	Area of study System Architecture | Algorithms | Boolean Logic Key concepts Architecture of the CPU, CPU Performance, Embedded Systems, Computational Thinking, Designing, creating and refining algorithms Assessment method End of Unit Assessment (Theory)	Area of study Memory and Storage | Programming Fundamentals Key concepts Primary Storage and secondary storage, development of programming skills Assessment method End of Unit Assessment (Theory + Python)	Area of study Memory and Storage | Additional Programming techniques Key concepts Units, Data Storage, development of programming skills Assessment method End of Unit Assessment (Theory + Python)	Area of study Memory and Storage | Additional Programming techniques Key concepts Data storage, compression, development of programming skills and practice Assessment method End of Unit Assessment (Theory)	Area of study Producing Robust Programs | Additional Programming techniques | Raspberry Pi projects Key concepts Defensive design, testing, development of programming skills and practice tasks Assessment method End of Unit Assessment (Theory) Assessment of challenge solutions	Area of study Programming Challenges | Revision Key concepts Development of programming skills/practice (read, write, test & refine tasks based on a given problem) Assessment method End of Unit Assessment (Theory) Assessment of challenge solutions
Y11	Area of study Recap of Year 10 | Networks and Topologies | Wired and Wireless networks, protocols and layers | Threats and preventing vulnerabilities Key concepts Networks, Topologies, Hardware, Client/Server networks, P2P Networks, Internet, Encryption, IP and MAC addressing, TCP/IP Layers Standards and Protocols, Threats, Vulnerabilities Assessment method End of Unit Assessment	Area of study Operating Systems | Utility Software | Ethical, Legal, Environmental + Cultural Impacts | Mock Revision Key concepts Operating Systems, Utility Software, Impacts Assessment method Mock Exams	Area of study Ethical, Legal, Environmental + Cultural Impacts | Searching and Sorting Algorithms | Languages + IDE's | Revision Key concepts Impacts, Searching, Bubble sort, merge sort, insertion sort, identifying algorithms Assessment method End of Unit Assessment	Area of study Revision Key concepts Component 1 and 2 Assessment method Paper 1 Mock Exam Paper 2 Mock Exam	Area of study Revision Key concepts Component 1 + 2 Assessment method Final GCSE Exams	

NOTES	SKILLS FOR LIFE/ FUTURE LEARNING AND EMPLOYMENT
	Problem Solving Skills Logical Thinking Skills Digital Literacy Team-working Communication