REPUBLIC OF CAMEROON
Peace – Work – Fatherland

MINISTRY OF SECONDARY EDUCATION

INSPECTORATE GENERAL OF EDUCATION

Inspectorate of Pedagogy in charge of the Teaching of Computer Science

REPUBLIQUE DU CAMEROUN
Paix – Travail – Patrie

MINISTERE DES ENSEIGNEMENTS SECONDAIRES

INSPECTION GENERALE DES ENSEIGNEMENTS

Inspection de Pédagogie chargée de l'enseignement de l'informatique

ANNUAL HARMONISED PROGRESSION SHEET FOR COMPUTER SCIENCE FORM 3

SCHOOL YEAR……. **SCHOOL**…… **WEEKLY WORKLOAD: 3 periods** **COEFFICIENT: 3**

TEACHER…….. **GRADE**……. **TEL**…….

Term	Week	Module	Category of action	Competency statement	Lesson no	Lesson title	Objectives	Nature of lesson			Observation
								Th	Prac	Dig	
FIRST TERM						Diagnostic evaluation					
	1	Hardware and software systems 1	Describing internal components of the computer	Provided with a situation with factors related to devices that are not peripherals, learners select devices or features of these devices that are coherent to the situation and justify their choice.	1	Lesson 1: The processor	Explain the concepts of CPU, GPU, processor core, multicore and clock speed Identify units for measuring the speed of the processor Compare mobile device processors with personal computer processors				
					2	Lesson 2: The processor cycle	Describe the components of the CPU Explain the machine instruction cycle				
	2				3	Lesson 3: Primary storage	Explain the concepts of storage, primary storage, volatile, and non-volatile storage Identify units for measuring storage State the function of cache, RAM, and registers				
					4	Lesson 4: Secondary storage	Explain the concept of secondary storage Describe common types of secondary storage Compare HDD and SSDs				
					5	Lesson 5: Other Internal components	State the function of the motherboard State the function of power supply, battery and fans in a computer Describe the different types of buses				
	3				6	Lesson 6: Computer ports	Describe the main ports of the motherboard of a computer and mobile device				
					7	Lesson 7: Integration activities					

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			Describe data capture technologies	Given a situation with issues related to data capture, learners choose the most appropriate data capture technology clearly justifying their choice.	8	Lesson 8: Data capture	Explain the concept of data capture Outline disadvantages of using data capture technologies Describe data capture technologies				
	4				9	Lesson 9: Data capture Technologies	Describe data capture technologies Compare and contrast data capture technologies				
					10	Lesson 10: Integration activities					
			Choosing application software	Provided with tasks to produce or edit digital content, learners choose the most appropriate software for each task clearly justifying their choice.	11	Lesson 11: Common application software 1	Explain the concept of software, system software, and application software. State the purpose of a given application software Outline key features of a given application software State examples of a given application software				
	5					**Evaluation**					
					12	Lesson 12: Common application software 2	State the purpose of a given application software Outline key features of a given application software State examples of a given application software				
					13	Lesson 13: Common application software 3	State the purpose of a given application software Outline key features of a given application software State examples of a given application software				
	6				14	Lesson 14: integration activities					
						Remediation					
						Remediation					
	7		Describe ways of acquiring or distributing software	Given a situation with issues involving the acquisition or distribution of software, learners recommend pertinent acquisition or distribution means while justifying their proposals clearly.	15	Lesson 15: Off-the-shelf and Bespoke software	Describe generic, special purpose and tailor-made software Give examples of generic purpose, specific and tailor-made software				
					16	Lesson 16: Common ways of distributing software	Describe the following forms of software: open, closed, shareware, freeware, and software as a service State examples of open, closed, shareware, freeware, and software-as-a-service				
					17	Lesson 17: Software installation	Differentiate between installing and updating a software Perform software installation and update (smartphone and desktop computers)				
	8				18	Lesson 18: Integration activities					

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					19	Lesson 19: Edit text using a word processor	Identify key editing features Perform document editing using a word processor				
					20	Lesson 20: Format text using a word processor	Identify key formatting features Perform document formatting using a word processor				
	9				21	Lesson 21: Manipulate text boxes using a word processor	Outline situations where a text box can be used Identify key formatting and editing actions on a text box Create and manipulate a text box				
					22	Lesson 22: Notions on spreadsheets	Explain the concepts of sheet, cell, address, formula, functions, and range Identify the address of a cell				
					23	Lesson 23: Basic spreadsheet functions	Perform calculations using basic spreadsheet functions				
	10		Creating digital content using software	Given tasks to accomplish, learners use appropriate features of a software to correctly accomplish the task.	24	Lesson 24: Filter and chart data	State situations where data filtering and sorting can be necessary Perform data filtering and sorting using a spreadsheet Represent cross sections of data as charts using a spreadsheet				
					25	Lesson 25: Notions on presentation software	Explain the concepts of slides, animations Add and manipulate slides using a presentation software				
					26	Lesson 26: Animate objects in a presentation	Identify situations where an animation can be necessary Create animations using a presentation software				
	11					**Evaluation**					
					27	Lesson 27: Using a desktop publication software	Produce a given publication from a template Make use of layout features of a desktop publisher				
					28	Lesson 28: Integration activities 1					
	12				29	Lesson 29: Integration activities 2					
						Remediation					
						Remediation					
SECOND TERM	13		Describing how computing technology is used in different areas of life	Given sectors of life or a situation related to application areas of computing technology, learners describe how computing	30	Lesson 30: Automated systems	Explain the concept of automated system with examples Describe how sensors, microprocessors, and actuators can be used in collaboration to give an automated system Describe advantages and disadvantages of an automated system used in a given scenario				

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				technology is used in different sectors of life. The description should be coherent with the situation and sector of life and should entail the technology used, how it is used, and the advantages of using such technology.	31	Lesson 31: Artificial Intelligence	Explain what is meant by artificial intelligence Describe the main characteristics of artificial intelligence Explain the basic operations and components of AI systems to simulate intelligent behaviour				
					32	Lesson 32: Robots	Explain the concepts of robot, and robotics Describe the characteristics and roles of a robot Explain advantages and disadvantages of using robots				
	14				33	Lesson 33: Applications of AI and robots	Explain how artificial intelligence and robots are used in sectors of life				
					34	Lesson 34: Applications of control systems, virtual reality and augmented reality	Explain the concepts of monitoring and control systems, virtual reality and augmented reality Explain how monitoring and control systems, virtual reality and augmented reality are used in different sectors of life				
					35	Lesson 35: Integration activities					
	15	**Network systems 1**	Describing data communication systems and their various mechanisms	Given a situation with factors related to data communication systems, learners explain correctly, concisely, and precisely the mechanisms used in the situation.	36	Lesson 36: Notions of communication systems	Define a communication system Identify components of a communication system Differentiate between digital and analogue signals				
					37	Lesson 37: Transmission mediums	Describe the different types of wired and wireless mediums Explain the concepts of bandwidth and data throughput				
					38	Lesson 38: Transmission mechanisms	Describe serial and parallel transmission Describe simplex, half-duplex and duplex communication systems Describe synchronous and asynchronous transmission				
	16				39	Lesson 39: Integration activities					
			Setting up simple LANs	Given a situation that requires setting up a simple network, learners prescribe the appropriate tools and configuration to meet the needs of the situation.	40	Lesson 40: Introduction to networks	Explain the concept of computer networks State advantages and disadvantages of computer networks Describe LAN, MAN, and WAN.				
					41	Lesson 41: Network devices and architecture	Explain the function of a given network device Differentiate between client server and peer to peer architecture				
	17					**Evaluation**					
					42	Lesson 42: Network topologies	Explain the concept of network topology Describe bus, ring, and star topology Outline advantages and disadvantages of bus, ring, and star topology				

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					43	Lesson 43: Setup an adhoc network	Describe an adhoc network Set up a simple adhoc network					
	18				44	Lesson 44: Integration activities						
						Remediation						
						Remediation						
	19		Searching information	Given a problem that demands the use of a search engine to find information, learners produce a logical search query and use advance features of a given search engine to ameliorate the results of a search.	45	Lesson 45: Internet services	Describe some common internet services					
					46	Lesson 46: Search engines	State examples of search engines Outline the main factors that influence the results of a search Identify common parts of a search engine result page					
					47	Lesson 47: Make use of basic features of a search engine	Give the purpose of a given advanced feature of a search engine Use advanced features of a search engine					
	20				48	Lesson 48: Integration activities						
		Ethics, society and legal issues 1	Examining licenses and copyright practices	Placed in a situation with issues related to copyright and intellectual property, learners identify and describe rules of copyright and licenses that apply to information or digital content.	49	Lesson 49: Protection of intellectual property	Explain the concepts of intellectual property, copyright, unauthorise use, and fair use Identify situations of fair use Identify situations involving copyright infringement					
					50	Lesson 50: Digital rights management	Explain the meaning of digital rights management Outline possibilities provided by digital rights management					
	21				51	Lesson 51: Creative Common licenses	Explain the concept of licenses Describe the different types of creative common licenses					
					52	Lesson 52: Integration activities						
			Describing computer crimes and measures to combat them	Given a situation involving an unethical or illegal action with computers, learners identify crimes and propose appropriate measures to combat each crime.	53	Lesson 53: Computer crimes	Explain the concept of computer crime Identify unethical actions that are computer crimes					
	22				54	Lesson 54: Types of computer crimes	Describe a given computer crime					
					55	Lesson 55: Measures to combat computer crimes	Explain ways of fighting a given computer crime Explain how authentication, access control, encryption and digital forensics can help fight computer crimes					
					56	Lesson 56: Authentication methods	Explain the concept of authentication Describe different authentication methods					
	23				57	Lesson 57: Integration activities						

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						Evaluation						
			Explaining the impact of digital technology to the environment	Given a situation with issues related to reducing the effects of computing technology on the environment, learners explain standard ways of reducing its effects that are coherent with the situation.	58	Lesson 58: Green computing	Explain the concept of green computing State devices or technologies that promote green computing				
	24					**Remediation**						
						Remediation						
					59	Lesson 59: Measures for promoting green computing	State measures used by manufacturers to promote green computing Explain ways of reducing the environmental impact of computing					
THIRD TERM					60	Lesson 60: Integration activities						
	25	**Problem solving and coding 1**	PS 1.1: Exploring basic algorithmic instructions for computers	Given an algorithmic problem, learners construct a model that solves the problem and determine simple algorithmic instructions needed to solve the problem.	61	Lesson 61: Program development life cycle	Explain the concept of program development Describe the stages in the program development life cycle Apply the program development life cycle to a problem				
					62	Lesson 62: Decomposition and representation of solutions	Decompose problems into its component parts Design and construct solutions to problems using structured diagrams, and pseudocodes				
	26				63	Lesson 63: Notions on algorithms	Explain the concept of algorithms Explain characteristics of a good algorithm Describe simple algorithmic instructions				
					64	Lesson 64: Algorithmic instructions	Describe simple algorithmic instructions Explain the purpose of a given algorithm				
					65	Lesson 65: Flowcharts	Explain the concept of flowcharts Represent solutions to problems as flowcharts				
	27				66	Lesson 66: Integration activities						
			Exploring programming languages and tools	Given a situation with factors related to programming languages, learners choose the most appropriate type of language clearly justifying their choice. Learners also demonstrate use of the main features of an IDE.	67	Lesson 67: Types of programming language	Differentiate between an algorithm and a program Describe different types of programming languages giving an example of each Compare high level language and low level language				
					68	Lesson 68: Language translators	Explain the concept of language translators Differentiate between compiler and interpreter Explain the advantages and disadvantages of a compiler and an interpreter				
	28				69	Lesson 69: IDE	Define an IDE Explain the role of IDEs in writing programs				

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							Make use of an IDE to create, edit, translate and run a program					
					70	Lesson 70: Integration activities						
					71	Lesson 71: Introduction to programming	Explain the concept of programming, keywords, syntax, and bug Identify the structure of a program in a programming language					
	29					**Evaluation**						
					72	Lesson 72: Declarative instructions	Outline the basic data types in a programming language Write the instructions to declare variables and constants correctly in a given programming language					
					73	Lesson 73: Operators	Identify operators in a programming language Manipulate operators in a given programming language					
	30					**Remediation**						
						Remediation						
			Implementing algorithms using a programming language	Given an algorithm and appropriate guidance on a programming language, learners transform the algorithm into a program that is syntactically correct.	74	Lesson 74: Input, output and assignment instructions	Represent input, output and assignment instructions in a programming language					
	31				75	Lesson 75: Representing an algorithm as a program	Produce programs when given an algorithm					
					76	Lessson 76: Write, compile and execute a progam 1	Make use of an IDE to create, edit, compile, and execute programs					
					77	Lessson 77: Write, compile and execute a program 2	Make use of an IDE to create, edit, compile, and execute programs					
	32				78	Lesson 78: Integration activities						
					79	Lesson 79: Introduction to web programming	State the role of HTML and CSS in web development Outline the tools needed to create and view a web page Describe the structure of an HTML page					

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					80	Lesson 80: Common tags	Explain the concepts of element, tag, attribute, and content Make use of the <p>, <h1>… <h6> tag, and the <style> tag to create a simple web page					
	33				81	Lesson 81: Images and linking content	State the role of the <img>, <a> tag in HTML Outline best practices when organising content used to build HTML pages Make use of the <img>, <a> in web pages using relative paths					
					82	Lesson 82: Inline and block elements	Explain the necessity of nesting elements correctly and mastering the difference between inline and block elements. State the role of the <q>, <blockquote>, tags Make use of <q>, <blockquote>, tags in a web page					
					83	Lesson 83: List tags	State the role of the , , and tags Make use of , , and tags in a web page					
	34				84	Lesson 84: Table tags	State the role of the different table tags Make use of table tags in a web page					
					85	Lesson 85: Introduction to CSS	Explain the importance of CSS in web page design and development Outline the advantages and disadvantages of the different ways of integrating CSS in an HTML page Make use of CSS rules to style an HTML content					
					86	Lesson 86: CSS Selectors	Explain the concepts of selector, properties, and values Explain how the different selectors in CSS work Make use of a given CSS selector to style and HTML page					
	35				87	Lesson 87: Common CSS properties and values	Identify when to use a given CSS property Make use of CSS properties to format text, background and borders.					
					88	Lesson 88: integration activities						
						Evaluation						
	36					**Remediation**						
						Remediation						
		END OF PROGRAM										

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