OCR GCSE Component 1 PLC (Algorithm questions are not exclusive to Component 02 and can be assessed in

Component 1		R	A	G
1.1 Systems Architecture	I can explain the purpose of the CPU			
	I can describe the components of Von Neumann Architecture			
	I can explain the role and operation of main memory and the major components of the CPU (Control Unit, ALU, Bus, Cache)			
	I can explain the stages of the Fetch-Execute Cycle			
	I can explain the effect of clock speed, number of cores, cache size and type on the performance of the CPU			
	I can explain the purpose of an embedded system and give examples			
1.2 Memory	I can explain the difference in purpose between RAM and ROM			
	I can explain a computer's need for virtual memory			
	I can describe flash memory			
1.3 Storage	I can explain the need for secondary storage			
	I can calculate data capacity requirements			
	I can explain the operation of and advantages and disadvantages of the following storage devices: Optical, Magnetic, Solid Sate			
	I can analyse the advantages and disadvantages of the above storage devices for a given scenario/application			
1.4 Wired and Wireless Networks	I can describe the following types of networks: PAN, LAN and WAN			
	I can explain the factors that affect the performance of a network			
	I can explain the roles of computers in: client-server network, peer-to-peer network			
	I can explain the concepts: Domain Name Server, Hosting, The Cloud			
	I can explain the concept of virtual networks			
1.5 Network Topologies, Protocols and Layers	I can describe a star and mesh network topology			
	I can explain how Wifi uses: frequency and channels			
	I can explain how Wifi uses: encryption			
	I can explain IP addressing			
	I can explain MAC addressing			
	I can explain the purpose and use of the following protocols:			
	Ethernet			
	Wifi			
	TCP/IP			

	UCP			
	HTTP			
	HTTPS			
	FTP			
	POP			
	IMAP			
	SMTP			
	I can describe the 4 layer TCP/IP model			
	I can explain how packet switching is used to help transmit data			
1.6 System Security	I can describe different forms of attack on a system/network			
	I can describe the main threats posed to networks			
	I can describe the main types of utility systems software			
	I can describe the roles and methods of the following types of backup: full, incremental			
1.7 Systems Software	I can explain the purpose and functionality of systems software			
	I can explain the purpose, features and functions of operating systems			
	I can describe the main types of utility systems software			
	I can describe the roles and methods of the following types of backup: full, incremental			
1.8 Ethical, Legal, Cultural and Environmental Concerns	I can explain the following legislations:			
	The Data Protection Act 1998			
	Computer Misuse Act 1990			
	Copyright Designs and Patents Act 1988			
	Creative Commons Licensing			
	Freedom of Information Act 2000			
	I can compare Open source and Proprietary Software			
	Given a scenario, I can explain how key stakeholders are affected by technology			
	I can write an extended answer discussing the ethical, legal, cultural, environmental and privacy issues of a scenario or type of technology			