

Computer Science J277 – Revision Checklist

Paper 1 ➤
Computer systems

Revision Page	Confidence		
	😊	😐	☹️

SECTION 1

1.1.1	Architecture of the CPU	2			
1.1.1	Common CPU components and their function	3			
1.1.2	CPU performance	4			
1.1.3	Embedded systems	4			
1.2.1	Primary storage (memory)	6			
1.2.1	Virtual memory	7			
1.2.2	Secondary storage	8			

SECTION 2

1.2.3	Units of data storage	11			
1.2.4	Binary ⇌ denary conversion	12			
1.2.4	Adding binary integers	13			
1.2.4	Hexadecimal ⇌ binary conversion	14			
1.2.4	Hexadecimal ⇌ denary conversion	15			
1.2.4	Binary shifts	16			
1.2.4	Characters	17			
1.2.4	Images	18			
1.2.4	Sound	20			
1.2.5	Compression	21			

SECTION 3

1.3.1	Networks	23			
1.3.1	Network hardware	24			
1.3.1	Topologies	25			
1.3.1	Client-server networks	26			
1.3.1	Peer-to-peer (P2P) networks	27			
1.3.1	The Internet	28			
1.3.2	Connecting wired and wireless networks	29			
1.3.2	Encryption	30			

Computer Science J277 – Revision Checklist

Paper 1 ➤ Computer systems		Revision Page	Confidence		
			(:)	(:)	(:)
1.3.2	IP and MAC addressing	31			
1.3.2	TCP/IP layers	31			
1.3.2	Standards and protocols	32			

SECTION 4

1.4.1	Threats to computer systems and networks	34			
1.4.2	Identifying and preventing vulnerabilities	35			

SECTION 5

1.5.1	Operating systems	37			
1.5.2	Utility software	38			

SECTION 6

1.6.1	Ethical, legal, cultural, and environmental impact	40			
1.6.1	Legislation	43			
1.6.1	Software licensing	44			

Paper 2 ➤ Computational thinking, algorithms, and programming		Revision Page	Confidence		
			(:)	(:)	(:)

SECTION 7

2.1.1	Computational thinking	47			
2.1.2	Identifying inputs, processes, and outputs for a problem	48			
2.1.2	Structure diagrams	49			
2.1.2	Using flowcharts	50			
2.1.2	Using pseudocode	51			
2.1.2	Trace tables	52			
2.1.3	Searching algorithms	54			
2.1.3	Bubble sort	55			
2.1.3	Merge sort	56			

Computer Science J277 – Revision Checklist

Paper 2 ➤ Computational thinking, algorithms, and programming		Revision Page	Confidence		
			😊	😐	☹️
2.1.3	Insertion sort	57			
2.1.3	Identifying algorithms	58			

SECTION 8

2.2.1	Variables, constants, assignments	61			
2.2.1	Inputs, outputs, and operators	62			
2.2.1	Sequence and selection	63			
2.2.1	Iteration	64			
2.2.2	Data types and casting	66			
2.2.3	String manipulation	67			
2.2.3	Arrays	68			
2.2.3	Two-dimensional arrays	69			
2.2.3	Structured records	70			
2.2.3	Using SQL to search for data	71			
2.2.3	File handling operations	72			
2.2.3	Subprograms	73			
2.2.3	The use of procedures	74			

SECTION 9

2.3.1	Defensive design	78			
2.3.2	Testing	80			

SECTION 10

2.4.1	Boolean logic	82			
2.5.1	Languages	84			
2.5.2	The Integrated Development Environment (IDE)	85			