Checklist for A2

EXAM PREPARATION CHECKLIST

Paper 3 - Advanced Theory:

☐ User-defined data types ☐ File organisation and hashing ☐ Floating-point representation ☐ TCP/IP protocol layers ☐ Circuit vs packet switching ☐ RISC vs CISC processors ☐ Pipelining ☐ Boolean algebra and Karnaugh maps ☐ Flip-flops ☐ Virtual machines ☐ OS process scheduling ☐ Encryption methods ☐ Digital certificates ☐ AI and machine learning ☐ Neural networks ☐ Graph algorithms

Paper 4 - Practical:

☐ Bubble sort ☐ Insertion sort ☐ Linear search ☐ Binary search ☐ Stack implementation ☐ Queue implementation ☐ Linked list implementation ☐ Binary tree implementation ☐ Recursion ☐ OOP concepts ☐ File processing ☐ Exception handling

KEY TOPICS QUICK REFERENCE

Paper 3 Topics:

- User-defined data types (enumerated, pointer, records, sets)
- File organisation (serial, sequential, random)
- Floating-point representation
- TCP/IP protocols
- Circuit switching vs packet switching
- RISC vs CISC processors

- Pipelining
- Boolean algebra and Karnaugh maps
- Flip-flops
- Virtual machines
- OS scheduling algorithms
- Encryption (symmetric, asymmetric)
- Digital signatures and certificates
- SSL/TLS
- AI and machine learning
- Neural networks
- Graph search algorithms (Dijkstra, A*)
- Recursion
- Programming paradigms

Paper 4 Skills:

- Bubble sort implementation
- Insertion sort implementation
- Linear search implementation
- Binary search implementation
- Stack operations
- Queue operations
- Linked list operations
- Binary tree operations
- Recursive algorithms
- OOP implementation
- File processing
- Exception handling

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