SYLLABUS · SCIENCES · WASSCE 2026

Computer Studies syllabus

Every examinable topic area in WAEC Computer Studies, in one place — with how the papers are structured and answers to common questions. Compiled by waeccbt.com; not an official WAEC document.

How the papers work: Paper 1: 50 multiple-choice questions in 1 hour for 25 marks. Paper 2: 5 essay questions - answer any 3 in 1 hour for 30 marks (Papers 1 and 2 are a composite paper taken at one sitting). Paper 3: tests actual practical skills for school candidates (knowledge of practical work for private candidates) - 3 questions in 2 hours for 45 marks.

1. Computer Evolution

- Pre-computing devices: abacus, slide rule, Napier's bones, Pascal's calculator, Leibnitz multiplier, Jacquard loom, Babbage's analytical engine, Hollerith census machine, Burrough's machine
- Contributions of each inventor to the modern computer
- 20th-century machines: ENIAC, EDVAC, UNIVAC 1, desktop, laptop, notebook and palmtop computers

2. Fundamentals of Computing

- Definition of a computer; hardware vs software
- Functional parts of a computer
- Characteristics of computers: electronic, accurate, fast, interactive
- Data and information: definitions, examples and differences

3. Security and Ethics

- Sources of security breaches: viruses, worms, Trojan horses, hackers, spammers, careless disclosure, poor network or policy implementation
- Preventive measures: antivirus software, firewalls, encryption, web certificates, care with attachments
- Legal issues: software copyright, ownership rights to text, images, audio and video
- Cyber crimes: identity theft, internet fraud, hacking

4. Computer Hardware

- Input devices: keyboard (function, numeric, alphabetic and cursor keys), mouse, scanner, joystick, light pen
- Output devices: monitor, printers (inkjet, laser, line), speaker, plotter
- The CPU: arithmetic and logic unit and control unit; the system unit
- Memory: ROM vs RAM; secondary storage (hard disk, CD, DVD, flash)
- Units of storage: bit, nibble, byte, KB, MB, GB, TB and interconversion
- Logic circuits: AND, OR, NOT, NAND, NOR and XOR gates; truth tables; simple comparators

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5. Computer Software

- System vs application software
- Operating systems: GUI (Windows, Linux) vs command line (MS-DOS, UNIX); phone OS (Android etc.)
- Translators: assemblers, compilers, interpreters and their differences
- Utility programs: editors, antivirus
- Application packages: word processing, spreadsheet, database, graphics, presentation, and special-purpose packages (payroll, banking, statistical)

6. Computer Applications

- Word processing with MS Word: create, edit, save, retrieve, print; move, copy, cut, formatting, spell check, file merging
- Spreadsheets with MS Excel: worksheet, workbook, cells and ranges; data types (numbers, labels, formulas); built-in functions (SUM, AVERAGE); charts
- Databases: file, record, field, key; hierarchical, network and relational organization; creating and operating a database (search, sort, modify, report)
- Graphics packages (Paint, CorelDraw, Photoshop): simple designs such as logos, cards and flags
- Presentation packages (MS PowerPoint): creating slides, inserting objects, running slide shows

7. Managing Computer Files

- File terms: data item, field, record, file; file structure organization
- File organization: serial, sequential, indexed and random; access methods
- File classification: master, transaction and reference files
- File insecurity: data loss, corruption; causes (overwriting, inadvertent deletion)
- File security: backups, antivirus, passwords, proper labelling
- Computer files vs manual files: advantages and disadvantages

8. Basic Computer Operations

- Booting: cold vs warm booting; steps for booting and shutting down; desktop features
- Registers: MDR, CIR, SCR - types and functions; registers vs main memory
- Data conversion: the input-process-output sequence
- Factors affecting speed of data transfer: bus speed and bus width

9. ICT and Networking

- Types of ICT: broadcasting, telecommunication, data networks, information systems, satellite communication
- Application areas: teleconferencing, video conferencing, telecommuting, messaging, information search
- ICT gadgets: mobile phones, fax machines, ATMs, POS machines, dispensing machines
- Networks: PAN, LAN, MAN, WAN and the Internet
- Network topologies: star, bus and ring; network devices: hub, modem, switch, router, bridge, network interface card
- Cables and connectors: twisted pair, coaxial, fibre optic; RJ45, RJ11, T-connectors, USB

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10. Internet and the Web

- Internet terms: homepage, browser, chatroom, HTTP, HTML, ISP, webpage, website
- Browsers and their features; internet services: e-mail, instant messaging, FTP, Telnet, Usenet, the worldwide web, chatting
- E-mail: creating an account, sending and receiving; e-mail address vs website address
- Brief history and benefits of the worldwide web; web development software

11. Problem-Solving and Programming

- Programming language levels: machine language, low-level (assembly) and high-level languages; comparisons, advantages and disadvantages
- Classification of high-level languages: scientific, general-purpose, business, AI, string-processing; features of BASIC, C, PASCAL, COBOL; Java and Python as examples
- Algorithms: definition, functions, characteristics (finite, effective, unambiguous); writing simple algorithms
- Flowcharts: symbols (input/output, process, decision) and diagrams for given problems
- BASIC programming: data types, statements (INPUT, PRINT, LET, REM, READ, DATA, END), arithmetic operators and expressions
- BASIC built-in functions (SQR, INT, SIN, COS, TAN, ABS, RND, LOG, EXP); DIM arrays, FOR-NEXT and WHILE-END loops (iterations not exceeding 8)
- Program development cycle: problem definition, analysis, flowcharting, coding, compilation, testing and debugging, documentation
- System development cycle: from preliminary study through design, implementation, maintenance and review

Frequently asked questions

How many papers does WAEC Computer Studies have?

Three. Paper 1 has 50 objective questions in 1 hour for 25 marks; Paper 2 has 5 essay questions of which you answer 3 in 1 hour for 30 marks; Paper 3 is the practical, 3 questions in 2 hours for 45 marks. Papers 1 and 2 are sat together.

Is the Computer Studies practical hands-on?

For school candidates, yes - Paper 3 tests actual practical skills at the computer. Private candidates instead answer written questions testing knowledge of the same practical work, so both routes must know the packages and procedures thoroughly.

Which programming language does WAEC test?

BASIC. You should know its statements (INPUT, PRINT, LET, REM, READ/DATA), built-in functions like SQR, INT and ABS, arithmetic expressions, DIM arrays and FOR-NEXT and WHILE-END loops (WAEC keeps iterations to eight or fewer). Other languages like Java and Python are only mentioned.

Do I need to know logic gates?

Yes. You should define AND, OR and NOT gates, draw their symbols, build truth tables, treat NAND and NOR as alternative gates, and know how a simple comparator is built with XOR - a regular source of objective and essay questions.

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Which software packages should I be able to use?

Word processing (MS Word), spreadsheets (MS Excel with formulas and charts), a database package (MS Access type), a graphics package (CorelDraw or Paint, for designs like logos and flags) and a presentation package (MS PowerPoint).

What calculations appear in Computer Studies?

Storage unit conversion (bits, nibbles, bytes, KB, MB, GB, TB - remember 1 KB = 1024 bytes), truth table completion, and evaluating BASIC arithmetic expressions and built-in functions such as SQR(25) or INT(3.7).

How are the 100 marks shared in Computer Studies?

Paper 1 carries 25 marks, Paper 2 carries 30 marks and the practical Paper 3 carries 45 marks - so nearly half your grade comes from practical skills. Do not neglect hands-on work with the packages and BASIC programs.

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