

## COMPUTER STUDIES HG PAPER 1

Many candidates displayed inadequate communication skills. The content of many answers was very brief and sometimes supplied too little information. For example, some learners responded to the question on Unicode by stating only that it “is different from ASCII”, but then failed to give an example of each difference. Learners should always be encouraged to give general definitions followed by a specific example. In many cases diagrams should have been used to help explain computer concepts. A good diagram can provide ample evidence that a learner understands a question. Furthermore, explanations for theory questions should be structured in, for example, three steps: Step 1 should set the scene. Step 2 should explain how the scenario proceeds, and Step 3 should show the final outcome. A brief phrase or a single word for an answer to a three-mark question is not sufficient as an explanation. Educators should ensure that their learners regularly practise written and oral communication in the classroom.

Paper I was generally well answered, but educators and learners should take note of the following sections:

Q.2. Computer Architecture: Many candidates knew very little about the mechanism of Virtual Memory. Some had only a sketchy knowledge of this topic. There also appeared to be some confusion between the difference in the use of the Hard Disk, ROM and RAM for storage.

Q.3. Implications and Applications: Many candidates expressed the opinion that all computer crime was committed by using viruses to break into bank accounts or to infiltrate networks.

Q.5. The Operating System and System Software: Many candidates were not familiar with the functions of an operating system. Learners need to spend more time looking at the purposes of operating systems and discussing why the various functions have developed into what they are today. Topics such as Plug and Play should be covered in a practical situation by providing working examples.

Q.6. Data Communication and Networks: Many candidates were unclear about the tasks that a server performs. Once again, this topic should be dealt with in a practical way in the classroom by justifying the need for a server in the workplace. Learners should be shown what a server computer looks like and provided with more detailed information on modems and where and how they operate.

Q.7. Program Development and Testing: It was obvious that many candidates should have looked at this section in a much more formal way. Learners should have had the experience of regularly formulating and criticising algorithms. They should be encouraged to provide algorithms for most programs that they write and should be able to state the reasons for designing algorithms. Learners should also be aware of the variety and uses of popular languages in today’s computer industry.

Q.8 & 9. Pascal and Java: This was the last year in which a Pascal programming question was included. From November 2004, only Java will appear in examination papers.

Candidates need to be more aware of the theory behind basic structures, data types and programming techniques.

## **COMPUTER STUDIES PAPER II (PRACTICAL)**

The database section of the paper was poorly answered by many candidates. Many candidates were unaware of how to create relationships between two tables. Many candidates did not take care to design their tables properly by selecting the correct types for each field and making a judgment on the correct size for each field – many allowed the standard default of Text 50 for every field. Educators should encourage learners to design databases from the ground up, using everyday examples to be found in schools and at home e.g. a personal telephone directory or a sports results database.

The pattern of this exam in the Java section is, by and large, the approach that will be maintained next year. Candidates will need to ensure that they have worked on creating their own classes, extending those classes and making an application which utilises objects instantiated from those classes.

Once again, educators should try to provide a variety of examples from which learners design applications which follow this pattern. These applications will, in general, have a database “feel” to them in that data is extracted from a file and manipulated in some way e.g. sorting, appending or deleting data. The data may then be examined and certain items extracted for output to the screen and/or storage in a file. Examples such as medical patient records, library book catalogues, car sales data, sports competition results, etc. would all be suitable examples for this type of program creation.