

Teachers should encourage candidates to develop the skill of writing informative answers to theory questions. Consider the question "Briefly explain how Cache memory works. Outline the process." This was for three marks and required the candidate to give details of the actual process. An answer such as "It acts as a buffer between the CPU and RAM" is a correct statement but it does not constitute an explanation of the process. Three vital pieces of information have been omitted: Cache is small in size and is high speed memory. It is searched first and thereby reduces the number of accesses to the slower RAM. This speeds up the computer system overall. There were many instances in the paper where candidates opted for a short "catch phrase" type of answer which cost them a couple of marks each time. The primary goal of a learner's answer to this sort of question should be to demonstrate understanding. This is rarely, if ever, achieved by one word or a single phrase answer.

The paper was generally well answered but teachers and candidates should take more care in the following sections.

Q.2. Computer Architecture – Virtual memory does not appear to be understood by many candidates. Pipelining is now a common mechanism utilised in many areas to speed up systems. Many candidates were unable to relate the theory to a common situation.

Q.4. Data Structures. Many candidates had only a very superficial knowledge of the usual structures and seemed not have been exposed to examples of how the structures are used in practice. Many candidates do not seem to know the basis of ASCII and Unicode. The theoretical background to relational databases must to be covered in detail. Candidates should be given practical examples of related tables and encouraged to experiment with Primary Keys in tables. The general significance of Normalisation needs to be discussed with candidates.

Q.5. Operating Systems. Many candidates had obviously been exposed to a number of good examples of real-time operating systems but a significant number seemed not to have been given guidance in this area.

Q.6. Data Communications and Networks. Candidates should be shown a variety of layouts of LANs and WANs. The purpose of the Hubs, Switches, Repeaters, Bridges and Gateways should be discussed. Candidates should be given contextual explanations as to when and why these items of equipment are necessary. Many candidates gave very brief "stock phrase" answers to these questions.

Q.7. Program Development and Testing. Candidates should be encouraged to develop algorithms and the various stages of project development should be looked at for a variety of short, medium and large-size projects.