Module A (Algorithm and Programming): Composition Analyzer

A composition analyzer is an analysis tool used by English teachers to generate statistical information about English compositions written by students. Imagine you are a programmer. You are going to develop a composition analyzer to evaluate the quality of English compositions. Some examples of statistical functions of the composition analyzer are shown below:
- Frequencies of letters
- Frequency of a given word/expression
- Total number of words
- Total number of paragraphs

Candidates are required to write a program to implement the composition analyzer with not more than five statistical functions.   The coursework should:
- Define the input plain text format
- Set up samples of English compositions for program testing
- Design the output analysis report

Candidates should justify the use of any data structures and algorithms in the implementation.

Module B (Organisation of Computer): Computer Input Devices

(1)   Candidates are required to conduct a comprehensive study on the development of computer input devices.   Candidates should outline the characteristics of different types of input devices, the advantages and limitations of each type of device, and their impact on users.   Candidates may confine their discussion to three different types of input device technology.

(2)   Candidates are required to propose a new input device or an improvement to an existing input device and discuss the needs and advantages of the proposed device.

Suggested time allocations for Part (1) and Part (2) are 75% and 25% respectively.

Module C (Data Communications and Networking): Computers and Network Services on Open Day

A school is planning to have a School Open Day. All classes have their exhibition booths all over the school including the corridors, halls and playgrounds. Computers and network services are required in order to access the Internet and school servers so as to help with demonstrations and presentations.

The following issues may need to be considered:
- Integration of the school network and the temporary network for the School Open Day
- User identity authentication and information security
- Method(s) of network connection
- Ease of network setup and connection
- Costing
- Network connection speed
- Special network requirements

Candidates are required to design a network environment for the School Open Day. Documents such as clear user instructions, simple fault diagnostic flow charts, system acceptance checklists etc. could be included, if appropriate.

Module D (Multimedia Production and Web Authoring): School Information Feeding System

Suppose your school is restructuring its web site. The school would like to have specific pages where frequently updated information is given. The information may include school announcements, schedules of extracurricular activities, open contests that students may participate in, etc. Each category may have different target audiences including staff, students, parents, or even the general public.

(1)   Candidates are required to propose two desirable solutions for implementing the above task. The proposed solutions should aim at facilitating efficient information seeking. Candidates should analyze and compare the two solutions in terms of the mechanisms of information dissemination, the web technology involved and the functions available to the users.

(2)   Candidates are required to design and create the layouts of the web pages to illustrate how a user may seek information from the pages for one of the proposed solutions in Part (1).

Suggested time allocations for Part (1) and Part (2) are 40% and 60% respectively.

END OF PAPER