SIXTH FORM ENTRY IN SEPTEMBER 2024
COMPUTER SCIENCE

Computing

Concepts that SFC entrance candidates should be familiar with are as follows:

- Binary Denary and Hexadecimal number systems - representation and their inter-conversion
- Fundamentals of computer systems
- Logic gates – interpretation of NOT, AND and OR logic gate diagrams and their construction of such diagrams from truth tables
- Input / output devices
- Standard data types
- Databases – structure of a relational database, SQL – (selection from single tables only)
- Networks – standard topologies (physical – star and mesh; logical – Ethernet), devices (hub, switch), MAC addresses
- Internet – standard protocols (including IP, TCP, DNS, POP3, IMAP, SMTP), devices(modem, router), IP v4 addresses
- Features of an IDE
- Translation of source code to machine code
- Validation
- Basic programming concepts – variables, conditionals, loops, data types, arrays
- Application of standard algorithms: bubble sort, merge sort, insertion sort

Please note, a knowledge of a specific programming language is **not** required but candidates are expected to be able to write and interpret pseudo code.

It is **not** expected that a candidate will be able to answer all questions successfully but we are looking for the following characteristics and abilities and so the entrance paper will contain elements of all three points:-

- Logical thinking
- Systematic analysis of problems
- Identification of the information required to solve a problem