

Is CS/IT the Right Choice for You?

After Class XII, students often have to choose a discipline for their further studies, and one popular choice today is a BTech program in Computer Science/Information Technology (CS/IT). Though generally offered by Engineering Colleges/Institutes, a program in CS/IT is somewhat different from other Engineering programs, and there is evidence to suggest that some students take to IT much better than others. These students seem to have a “natural ability” for programming, an important element of any IT education program, while other students “have a hard time” with programming. Consequently, students who don’t possess suitable aptitude but take CS/IT for different reasons, often end up finding later that they are unable to deal with the requirements of an IT program and career. Such students not only have a difficult time during the education program, they have difficulty in their careers in IT as well. On the other hand, students who have a natural ability enjoy the program and go on to successful and enjoyable careers.

Though no fool-proof test exists that can reliably tell if someone has aptitude for some subject, some pertinent issues are mentioned here which can help a student (and his/her parents) evaluating the suitability of a BTech program in CS/IT.

First it should be clarified that a CS/IT program is ***not*** about learning use of web, spread sheet, PowerPoint, etc. – these are software tools that an IT education program will ***expect students to learn on their own*** and use them. A CS/IT program is mostly about programming, theory related to computing and programming, and platforms for writing programs. Hence, in such a program, many courses like data structures, operating systems, networking, databases etc. will involve programming (i.e. writing computer programs in languages like Java, C, C++, etc. – note, however, that students are not required to know these languages from before). Courses like discrete mathematics, linear algebra, theory of computation, analysis of algorithms, etc. will involve working with abstraction and formal models relating to computing and programs and analyzing them and proving properties about them. And courses like computer organization, computer architecture etc. cover the design and analysis of hardware platforms for computing.

Due to the rigorous nature of such a program, to do reasonably well in any IT program will often require long hours of study and long hours of programming and lab work. On an average, we advise that student be ready to put in 30-40 hours of work per week (i.e. about 3-4 hours every day and more on weekends) beyond lectures on studying, home assignments, projects, etc.

Given the nature of the program and its rigor, one can say that a BTech in CS/IT may not be the right choice for you, if you dislike programming, find mathematics and formalisms hard, or are unable to study/work for long hours. Today there are many exciting careers in India and there is no need for such students to feel that they must take IT. On the other hand, IT may be the right program and career for you if you like programming, enjoy formalisms and mathematics, and want to work hard.

Note prepared by some CS faculty members based on their observations and long experience. It is only to give a perspective to students.