CHAPTER 8

SUBJECT-WISE STUDY

"Every lock have different key

Every person have different goal

Similarly you talk about subject-wise study

Every subject have different approach"

Every subject required different way of study. We cannot study all the subjects with the same strategy. To command on particular subject we must have precise approaches to understand it. If we talk about some subjects like physics, mathematics, biology, history, computer science all are different subjects even some of them are totally different if we compare physics and computer science, biology and history we find nothing is common in them.

If we talk about ICSE board up to 10^{th} these all subjects are compulsory and each subject needs a different approach to understand or learn them. If students feel uncomfortable understanding these subjects then they found a common path and start cramming all the subjects in a similar way without understanding the real meaning of all the thoughts.

What I try to convince, as we compare history which judges your power of learning and cramming while on the other hand physics judge your imagination, creativity and thinking power. Both have different aspects of understanding. So we should also use different approaches for different subjects. Even after the $10^{th,}$ we should obtain those subjects in which we feel comfortable and have a good understanding and skill to gain it.

Similarly, some rules must follow during the selection of branches while taking admission to engineering. Those who work hard with strategy and discipline them rule over the world and others follow them. But you must also have some cramming power apart from innovative power. Now let us talk about some subjects.

PHYSICS

"All physics is either impossible or trivial,

It is impossible until you understand it,

and then it becomes trivial"

- Eernst Rotherfort

Physics the subjects of imagination, thinking, developing and curiosity. It is the subject that asks you for more questioning, derivations, willpower. Those who are masters of physics they have quite a different way of thinking from other general people, such people are habitual to see the same things with different aspects and different angle. So their observation brings some new ideas.

Actually many students start to cram things in physics instead of feeling and understanding them. Somehow they are successful in theory part than their pen stop when the time comes to solve numerically. You should not only be well aware of the formula but also imagination of problem what is happening in question its picture got created in your mind. If you want just to clear the 12^{th} class board exam formula based physics is sufficient but if you talk about the competitive exam like IIT/AIIMS they definitely check your imagination and logical approach towards the subjects.

For example, if we talk about friction than for a normal person a formula strike in mind simply F=u mg and he/she start solving. For a logical student first, he/she will think about the type of friction either it is kinetic or static friction than imagination the body moving on the plane after this also see other factors which can also affect the friction at that time, at last use the formula if required to get the answer.

If we talk about the formulas there are a large number of formulas then students obviously confused and makes the trick to learn the formulas. But you should not use such stupid tricks. The best way to learn formulae is to solve derivation for that particular formula which will also help you if the question is asked from between derivation then you are the one can solve that toughest question and different from others. Actually, physics is simple and easy if you know the way of studying it. It connects you to real worlds.

"In science, there is only Physics, all the rest is stuff collecting" as quoted by **Lord Kelvi**.

MATHSMATICS

"Math is not a spectator sport.

It's not a body of knowledge,

It's not symbols on a page

It's something you play with, something you do"

- Keith Devlin

Mathematics the subject which needs more and more practice to become a good mathematician. Mathematics is totally based on the theorem, formula, and its properties. Actually, in mathematics, there are different topic but these required three things imagination, concept-building, and calculation. Those who are perfect in all these three are masters of mathematics but it is not so easy as to speak

Just if we talk about the "3D" geometry, permutation and combination, probability and others these are the topics that are totally based on imagination because in 3D unless you Imagine all eight quadrants you will not able to solve the problem and which is a very important part of mathematics. To make a number of options life create more opportunities and options for life. The probability part must be strong so that you can think within a second and able to think beyond the box.

Another part is a calculus which involves integration and differentiation and their uses. It is a vast part of mathematics which required formula and calculation. If your calculation part is strong you have speed and accuracy then definitely you will command over calculus part. It also plays a vital role in engineering. Another part of mathematics is commercial, trigonometry, etc. Where the commercial part will teach you to deal with business problems domestic use of mathematics. Trigonometry part will increase your power to cramming and deal with the geometrical study of figures.

Mathematics also gives us some practical knowledge by means of calculus (limits). The way of studying mathematics is very simple it wants time and teaches us to have patience. We have to focus on proves that every aspect of the theorem will clear. Solve more and more questions of different types and maintain the presence of mind during the calculation. Be quick in concept building also be clear and less confused while using formulae. More you feel pain more you gain. In, mathematics also try to understand the geometrical meaning of every theorem and formula, because it tells you the real meaning of it in domestic life.

HISTORY

"The truth was, history repeated itself on a daily bases,

Mistake were made over and over.

People were haunted by what they had done,

And by what they hadn't had time to do."

- Jodi Picoutt

Now we talk about history which tells us about the past. How some great personalities live their life, our old culture, great kings, and change in society, new names of cities, great battles, world war, and much other important knowledge?

The way of studying history is absolutely different from other subjects, we have to study the history in a series of date first ancient than medieval at last modern history so that we can use ray diagrams to increase capturing power and help us to create images in mind. Knowing historical knowledge we can also become a good debater which affects our personality. History required repeatedly and frequently revision of things. Such that every Sunday it becomes compulsory to revise the whole material that you have studied in the last six days of the week.

History also increases your vocabulary and words we got while studying history books are absolutely different from science subjects. The best way to study history is to go through books thoroughly and ask five questions followed by "4W & 1H" concept What, Where, When, Why, How. This five-question create your concept absolutely clear.

For example, the event is "BATTLE OF PANIPAT". Now apply all these five questions here you will find how this concept "4W& 1H" work and help you. After getting an answer by asking these questions you will find that you are able to answer all these questions very easily. Then if you find any type of question-related to such a topic "battle of Panipat" definitely you will answer it. Similarly, history required a lot of self-study and own notes to make the concept clear.

Those who are good command on history are good speakers as well as full of knowledge. Then knowledge also benefits you in your further studies and during the preparation of civil services and many other competitive exams.

COMPUTER SCIENCE

"Computer science is the only discipline in which we view adding a new wing to a building as being maintenance"

- Jim Horning

Computers, the basic needs of today's society. This subject is absolutely different from others, in today's world the scope of computer science in at boom. But the toughest part of computer science is programming part (coding) it tells us about the building of software and coding of the application.

To learn it, we have to know about some basic languages like C, C++, JAVA, and PHP. These are sufficient to become a good coder. But learn them as you must know everything about them. The thing at which you must focus on is the coding part which can be commanded by doing more and more new types of programs, by solving exercises, doing outputs questions these things tells us new concepts.

Now the students are in dilemma how to start a program the very first thing is that you should be well aware about the aim what are you doing do it in program then start thinking about the logic as soon as your logic part is clear your program is ready to use remaining formulation can be easily done by students. Now how to improve our logic part, for doing so we have to increase our thinking power such that the whole program should be in front of your eyes it needs only imagination.

Sometimes a CSE student only concentrates on coding never do another thing but to get more knowledge and information we have to also learn about the five more things these are:

- **Cloud computing**
- **Wed designing**
- **Internet security**
- **Coding**
- **Hacking**

In the modern era, this topic also becomes more important as programming. If this topic is also in your hand then you become one of the best CSE students because the information and technology part will also in your hand. All dealing with the program it is necessary for us to write the programming not only on paper but also complete that topic on computer practically.

While doing program I think should always in our mind logic "should be less time consuming and easy to understand" in short fewer steps should be there.