(i) Components of success

Application of knowledge means ability to solve maximum questions in shortest possible time. It comprises of:

Results of a survey said that most of the students fail not because they do not work hard or they do not know the subject but because they fail to apply their knowledge in an examination hall. Normally a student loses 15-20% marks because of lack of application of knowledge in examination hall. This loss is due to examination fear which translates into silly mistakes, calculation errors, confusion and other mistakes.

Note: Application of knowledge can be strengthened by a regular practice under examination hall conditions.
(ii) The Different Strokes  
(a comparison between CBSE Boards and competitive examinations)

The same syllabus, same students, the same hard work, but different results !!!

It had been intriguing, all the time, for all the students. But as soon as we understand, “how it is that same syllabus is being asked differently in different exams”, our efforts will be different for different exams and results will be uniformly BRIGHT (Good). In other words, there is absolutely no difference in the concepts involved in the questions asked in the various board and competitive examinations. The difference comes in the way, it is asked in these exams. Wherein the boards, they check the conceptual clarity of a student, in the competitions, it is the application of the concepts which is stressed upon. Further this application skill may vary from exam to exam. For Example:

<table>
<thead>
<tr>
<th>1: Projectile motion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What they ask in CBSE ?</strong></td>
</tr>
<tr>
<td><strong>Q1</strong></td>
</tr>
<tr>
<td>(a) What is a Projectile.</td>
</tr>
<tr>
<td>(b) Find out the maximum range &amp; maximum height for a given velocity (u) &amp; ratios there of.</td>
</tr>
<tr>
<td>(c) Find the range of a Projectile falling from a horizontal table etc.</td>
</tr>
<tr>
<td><strong>What they ask in JEE Main/ NEET ?</strong></td>
</tr>
<tr>
<td><strong>Q1</strong></td>
</tr>
<tr>
<td>(a) What is the minimum Kinetic Energy of the projectile with initial velocity (u) &amp; angle of projection (φ), mass of the object being (m) ?</td>
</tr>
<tr>
<td>(b) How much time it would take to reach a height ‘h’ ?</td>
</tr>
<tr>
<td>(c) What should be its velocity at height ‘h’ ?</td>
</tr>
</tbody>
</table>

[HINT: Calculate from basic concepts. No direct formula used.]
What they ask in JEE Advanced?

Q1 (a) What is the height ($h_m$) & velocity ($V_m$) of a projectile when angle between the initial velocity and velocity at $h_m$ is perpendicular to each other.

(b) If a projectile has a range of ‘R’ & there is a high wall at a distance (d) from the point of projection, at what distance will the projectile strike on the ground after being reflected from the wall with inelastic collision ($e$ being 0.8).

(c) What should be minimum velocity of projectile so that it hits a aeroplane at a height (H) which is moving horizontally with a velocity of u.
Example II: Laws of Motion

What they ask in CBSE?

Q2 (a) In the given figure find the tensions $T_1$ & $T_2$?

```
3kg
F=120N
2kg
```

(b) What are the normal reactions $N_1$ & $N_2$, as shown in the figure given below?

```
F=120N
```

What they ask in JEE Main/AIPMT?

Q2 (a) Calculate the Tensions $T_1'$ & $T_2'$, when the three blocks, joined with the help of a string, as shown in the figure, are moving upwards with the help of a force of 120N.

```
30°
F=120N
```

(b) Find the ratio of Tensions $T_1'$ & $T_1''$ when the force of 120N is applied downwards only.

What they ask in JEE Advanced?

Q2 (a) Find the ratio of $T_2''$ & $T_1''$ at an inclined plane of angle of 32°, when pulled with a force of $F=120$ N, upward.

```
32°
F=120N
```

[Hint: Force drops in ratio of masses & independent of angle. Hence $T_1 = 60$ N, & $T_2 = 24$ N]
**Example III : Current Electricity**

What they ask in CBSE?
Q3 (a) Find out the resistance between point A & B.

![Circuit Diagram]

[Hint: Resistance 6Ω is ineffective using Wheatstone bridge principle.]

What they ask in JEE Main/NEET?
Q3 (a) Find the equivalent Resistance between A & B.

![Circuit Diagram]

[Hint: Simplify using Wheatstone bridge principle.]

What they ask in JEE Advanced?
Q3 (a) Find the Equivalent resistance between A & B.

![Circuit Diagram]

[Hint: Use symmetry & apply Kirchoff’s law & logic]
From the above examples, we find that – syllabus is same, topic is same, but there is level difference in asking & Calculations. Hence we can conclude that:

**CBSE asks** straightforward Questions to TEST the knowledge.
**JEE Main/NEET asks** the application level questions but simple calculations.
**JEE Advanced asks** analytical ability & depth in the Concepts & some times smart calculations.
Some Important Tips must be Followed While Attempting NEET

- Some times you know a question but you are not able to attempt it or you get stuck. It is recommended that you should mark these questions differently. It has been seen that at times you can solve these questions very quickly. So it is recommended that you should mark them differently so that you can easily identify them.

- Never see options before solving the questions. Some students find it helpful to read the question and try to recall the answer from memory before looking at each of the four responses. Generally what most of the students do is read and understand the question and than look at the options immediately. At times what happens is that 2 or 3 options are very close to each other and hence most of the students gets confused in those 2 to 3 options. So it is recommended that you should think of answer in your mind and than look at the options. This tip is extremely useful especially in conceptual or memory based questions (for e.g questions of Biology). So next time whenever you face such situation just try to recall the answer on your own and than look at the options. But make sure that you look at all the options before finalising your response to the question.

- Should you ever change your answers? That is always a difficult decision. Always trust your instincts – you are most likely to be right with your first choice. Only change an answer if you can convince yourself that your initial choice is definitely wrong and you are confident of an alternative.

- Once you are sure you have the right answer, don’t spend time re-consiering.

- Do not allow yourself to get stuck on a stubborn problem. Return to it later. A change of question can often enable you to gain a fresh perspective on the previous question.
8

- Underline key words in the questions to ensure you have read them properly. Particularly be on the lookout for not and double negatives in objective tests.
- Read the directions twice, underline key words like always, never, sometimes, or usually, before you tackle the question.
- Save time by answering each question as you read it. Pass over those which are difficult or of which you are unsure. Return to them later if you have time.
- Preview the whole test before beginning to answer any questions. Make sure your copy has no missing or duplicate pages. Read the directions carefully.
- As you read through the possible responses, mark off the ones you know are wrong. This will save time if you have to come back to the question later.
(iv) What do Topper’s Say

(a) Shreyasi Manish Shah – Topper NEET

“I devoted a minimum of 7 hours to brush up all the important topics. To enhance my exam preparation strategy, I focused a lot on Botany and Zoology subject. I started preparing for NEET from first year of intermediate examination. Preparation strategy was at times slowed down, so that I do not miss scoring high in the intermediate examination. During my pre-boards and board examination, I diverted my focus from NEET preparation.

My Preparation schedule was not time specific. In fact, it was subject and topic specific. A few topics under zoology and botany were both time and energy consuming. So, I invested my time depending on the subject and the number of important topics in it.

Since, I like Botany I used to revise at least 1-2 chapters in a week and make important notes of it. To improve my speed of solving physics questions, I set a deadline to attempt 10 questions everyday and to solve them within a deadline of 45 minutes.”
“My XII board percentile is 96.8. And my total score in NEET is 682, Rank 1. In Physics I scored 175 out of 180, Chemistry- 170/180 and 337 out of 360 in Biology. The easiest section for me was Physics and the toughest was Biology as few questions in this section were tricky. I had to think hard to answer them. Actually Biology has been my favourite subject since IX standard, and I have focused on this subject a lot. But overall it was a good exam. There was no strategy as such, but besides classes I used to study for 6-7 additional hours and that was enough to cover my topics. Also, there is an easy way of preparing for NEET. If you do that then half of the preparation is already done.

The mantra is to study NCERT books rather than studying those heavy weight expensive materials. NCERT is the best way to clear your base and concepts in all the three subjects-physics, chemistry and biology. Once your base is clear, scoring in NEET is easier for anyone. I did all the recreational activities like, playing cricket, surfing Facebook and watching movies. It is important to indulge yourselves in all these activities besides studies as they help you to relax and get more active towards studies. It was not all work, no play for me. I devoted time equally and succeeded. I did all the recreational activities like, playing cricket, surfing Facebook and watching movies. It is important to indulge yourselves in all these activities besides studies as they help you to relax and get more active towards studies. It was not all work, no play for me.

I devoted time equally and succeeded. I want all the aspirants to make sure that they study NCERT and clear all their basic concepts first. Once the concepts are clear questions become easy to tackle. Also, I would guide them to focus on Biology, as the terms might get difficult. I would be the first Doctor in my family where most of them are teachers and it is such a pride. I wanted to become a Doctor and work for the betterment of the society. And I have achieved what I wanted.”
“I secured AIR 6, 17, 32 in KEAM, JIPMER, and NEET respectively. Yes, I put extra effort to crack Jawaharlal Institute of Postgraduate Medical Education & Research entrance examination. My mind was preoccupied with a desire to achieve good rank in JIPMER this year. There was an emotional equation for the mentioned inclination. I am very fortunate that my hard work has paid off and I will soon enroll with JIPMER located in Pondicherry. Preparation strategy was to work hard and have clarity on basic concepts of Physics, Chemistry and Biology subjects. I started preparing the various medical competitive examinations simultaneously with my intermediate examinations.

During my Intermediate first year, I invested a lot of time to strengthen zoology and botany subjects because these two subjects have vast theory part. Thus, Biology section demanded exam preparation to be started at early.

Then, as I entered Intermediate last year, I also focused on physics. I made a point to attempt and solve at least 20 numerical a day within a set deadline to boost question-solving speed. This really helped me solve questions in time efficient manner during several entrance examinations. A month before the AIIMS exam, I was busy in revising notes and solving previous years sample papers after 10-15 days. Revision exercise allowed me to analyze my weak area and brought good improvement in my exam preparation.

I also used to take 4-5 mock tests a week, which helped me to improve my question solving speed. And a day before the exam I indulged in activities like listening to music and playing video games to bust exam restlessness.”
“I took coaching classes for all the three subjects - Physics, Chemistry and Biology. I spent 2 hours every day on my coaching classes and utilised around 5-6 hours on my regular studies. I took coaching on Biology, Chemistry and Physics. AIIMS does not declare score; they only announce ranks. As for the study plan is concerned, I did not really have to work hard. There were some topics that were not covered in NEET but were included in NCERT; so I studied that. However, I spent a lot of time on General Knowledge that included watching news, reading newspapers etc.

I dreamt of becoming a doctor since my childhood. My parents were an inspiration and gave all their support. In fact, they also wanted me to become a doctor. I was never forced to choose this stream. It was my very own decision.”

— Arnav, from Chandigarh, scored 686/720 marks in NEET and secured the 2nd rank

Disclaimer : Above articles/ content is taken from AIETS book Toppers Secrets of SUCCESS which provides various suggestions to the students for improving their productivity but in no way guarantees a particular level of output. The students are advised to adopt any of the strategies given in the book, implement it and continue only if they find it beneficial.