disha
Publication Inc

Success PLANNER for JEE

Exam Pattern, Trend, Strategy & Success Mantra

PREFACE

Education can be a life-changing point in every child's life. The stream and career that is to be chosen in high school and later in life need a strong foundation base at a primary and secondary level. A foundation is an early staple for aspirants who are not only preparing for the JEE examinations but have far-reaching goals of other competitive examinations ahead of them. With several years in the field of education, Disha publication has been working at various levels to be the one-stop solution for quality education. In this book, we intend to form a strong base for any future competitive exam candidate and help them recapitulate the latest pattern and syllabus. This book also mentions the study techniques and preparation tips for students with illustrative examples added for better understanding and to ensure they build up their skills in a motivated manner.

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Board Exams vs Competitive Exams

- In boards the focus is on concepts whereas in competitive exams the focus is on application of concepts to real life situations. The board exams test that whether you know the fundamentals or not whereas competitive exams are designed to test whether you can apply these fundamentals to real life situations or not.
- In board exams good writing and presentation skills are very important whereas in competitive exams what they emphasise upon is not your writing skills but understanding of fundamentals and their applications.
- Board exams are designed to filter below average students (who can't score more than 33% marks) from good and average students whereas competitive exams are designed to filter excellent students (who can score more than 75% marks and are among top 3 to 4 percentage students) from the average ones.
- In board exams absolute marks are important (% marks scored) whereas in competitive exams relative marks/percentile rank is important (it is not important that whether you score 80 % or 90 % but what is important is how many students have scored more than you). Normally to succeed in a competitive examinations your percentile rank has to be 95% and above.
- Also in competitive examinations there are many students who miss by just one, two or three marks. This is the most important difference between the competitive exam and board exam. In board exam, you will say that two students getting 88% & 87% marks are equally intelligent and successful. But, in case of competitive exam success & failure is just one mark away. So what makes competitive exams different (not difficult) is the cut throat competition for the limited seats.
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The Different Strokes

(a comparision 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:

I : Projectile motion

What they ask in CBSE ?

Q1 (a) What is a Projectile.

(b) Find out the maximum range & maximum height for a given velocity (u) & ratios there of.

(c) Find the range of a Projectile falling from a horizontal table etc.

What they ask in JEE Mains/ NEET ?

Q1 (a) What is the minimum Kinetic Energy of the projectile with initial velocity (u) & angle of projection (j), mass of the object being (m) ?

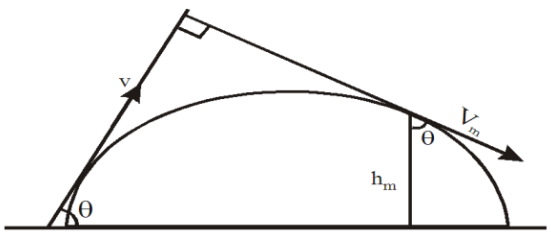
(b) How much time it would take to reach a height 'h' ?

(c) What should be its velocity at height 'h' ?

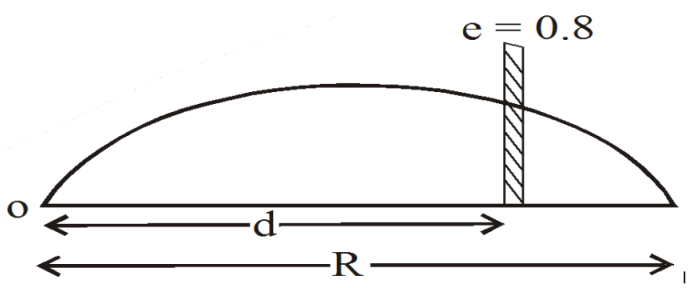
[HINT: Calculate from basic concepts. No direct formula used.]

What they ask in JEE Advance?

Q1 (a) What is the height (hm) & velocity (Vm) of a projectile when angle between the initial velocity and velocity at hm 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).



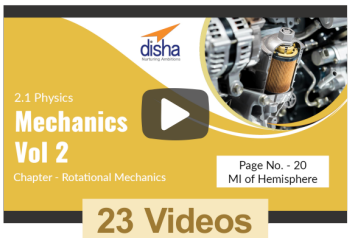
Problem Solving Videos

for JEE Advanced Physics

by Popular IIT-JEE Faculty, D. C. Gupta

Facing Difficulties in Physics Problems

25 Videos

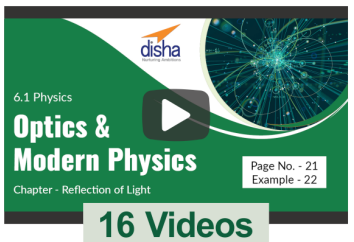


23 Videos

20 Videos

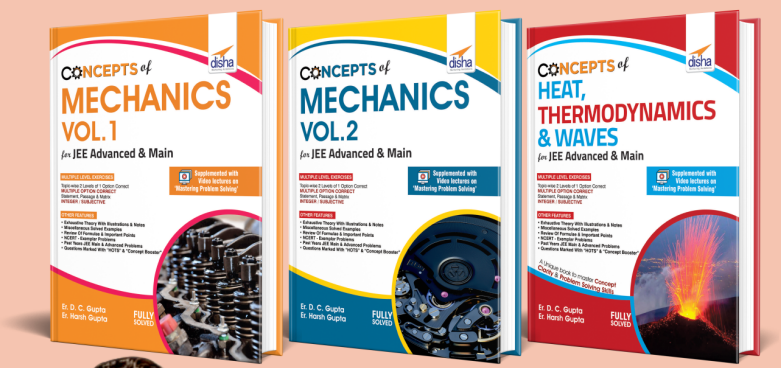
20 Videos

16 Videos



16 Videos

These Videos are part of the popular Concept Series written by D. C. Gupta



To Access Videos Visit

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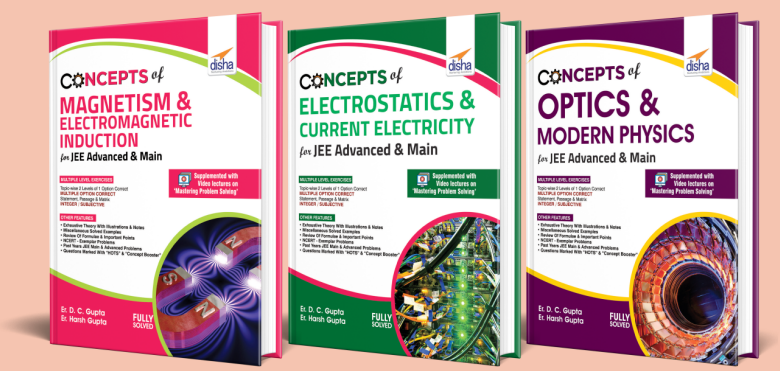
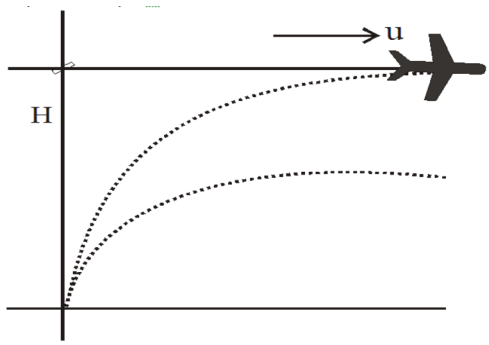
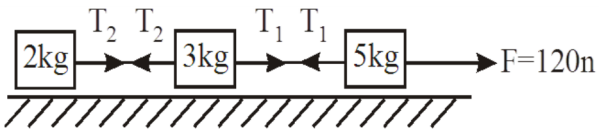


(c) What should be minimum velocity of projectile so that it hits a aeroplane at a height (H) which is moving horizontally with a velocity of u

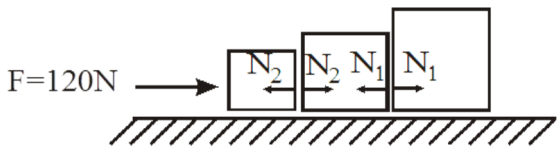


What they ask in CBSE?

Q2 (a) In the given figure find the tensions T1 & T2 ?

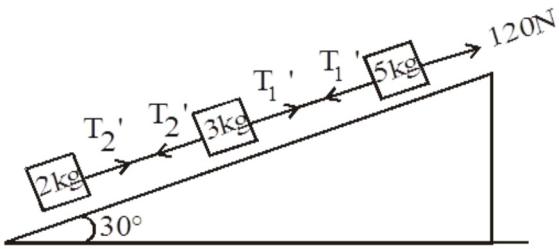


(b) What are the normal reactions N1 & N2, as shown in the figure given below ?



What they ask in JEE Mains/ NEET ?

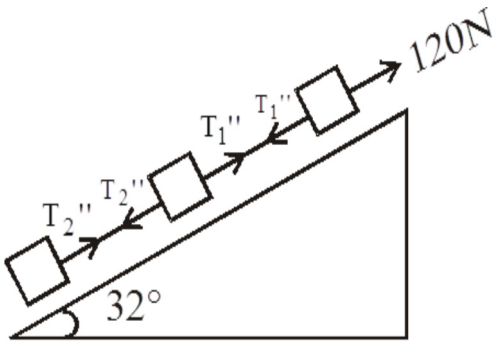
Q2 (a) Calculate the Tensions & , when the three blocks, joined with the help of a string, as shown in the figure, are moving upwards with the help of a force of 120N.



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

What they ask in JEE Advance?

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

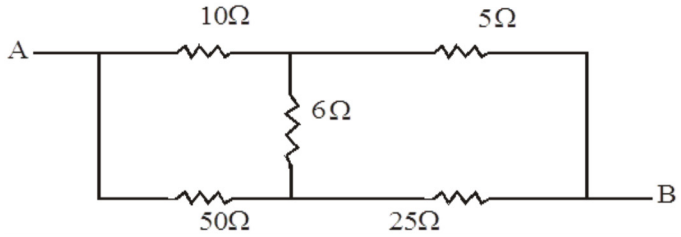


[Hint: Force drops in ratio of masses & independent of angle. Hence T1 = 60 N, & T2 = 24 N]

Example III : Current Electricity

What they ask in CBSE?

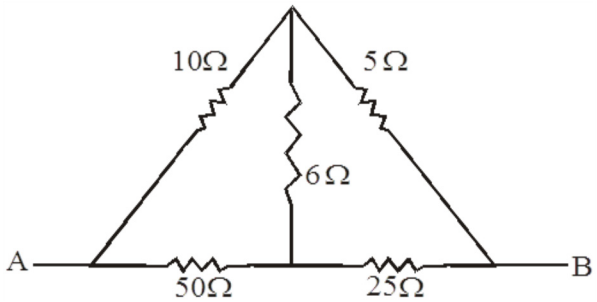
Q3 (a) Find out the resistance between point A & B.



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

What they ask in JEE Mains/ NEET ?

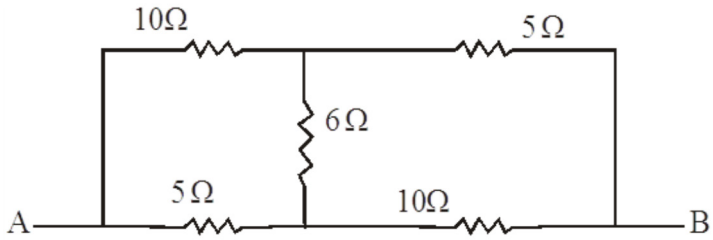
Q3 (a) Find the equivalent Resistance between A & B.



[Hint: Simplify using Wheatstone bridge principle.]

What they ask in JEE Advance ?

Q3 (a) Find the Equivalent resistance between A & B.



[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 straight forward Questions to TEST the knowledge.

AIEEE asks the application level questions but simple calculations.

IIT-JEE asks analytical ability & depth in the Concepts & some times smart calculations.

For the better understanding of the above article we can use the anology of VEHICLE DRIVING CAPABILITY.

CBSE.ASKS : What is accelerator, clutch, Brake, Steering, self-ignition & steps to use it in driving.

AIEEE ASKS : OK drive forward, left, right, backward etc. & some times can ask the role of clutch & hydraulic

braking systems.

IIT-JEE ASKS : Let as take our vehicles, on the road & drive through a stretch of ten kms through traffic conditions, bad patches, & various turns. Those who reach first with reasonable time know the Driving well & the rest are rejected.

That is Selection on the basis of application Skill.

How to make a Plan that works?

So, planning is important but the most important part is to come up with a plan that works. Most people fail at this because they give up when the first attempt at planning does not work out perfectly. The best thing to do is to expect changes and be ready for the process. Needing to make changes in your plan does not mean failure - it means inexperience at planning. Quitting all planning when things go off the rails - THAT really is failure!

Very often students plan with great vigour in the beginning. Once they start implementing the plan, they find that the plan does not work. After a short period of time the plan is consigned to the dustbin. So the question arises what is the secret of good planning?

Good planning means

- Consult your seniors about how they started their preparation. Study the trend of previous year question papers & draw marks distribution of each subject to find out which topics are most important & which are least. Give priority to important topics & try to put them in early stages of your preparation to avoid any possibility of them being leftout.
- Divide your entire time into periods of one month each and plan to complete a block of lessons by the end of each period. Set up milestones after every period to find out whether the objectives have been met out

or not. Chart out this plan on a calendar clearly and place it above your study table.

- Do not overestimate the time you have. If you actually have the extra time you can always do more studying, but if you plan more than what you actually have, you feel depressed and your entire plan might go haywire. You are also advised to leave a little gap (free time) in between two periods so that if any module gets delayed you don't have to change the whole plan.
- Set study goals for each day, each week & each month: Remember the characteristics of good study goals: specific, reasonable, verifiable, and rewardable. If you have a written set of easy-to-start and soon-to-be-finished study goals, procrastination is much less likely. It's is the huge daunting tasks that are easy to put off. A small goal that will be finished in 30 minutes and will be a contribution to a larger goal is one of the best procrastination beaters.
- The plan should not be too detailed and neither should it be too sketchy. For example a plan which goes down to the level of say 10 minutes is too detailed a plan and cannot be implemented. On the other hand a plan, which is very sketchy and deals only at the topic level is too high level. Ensure that the plan is balanced.
- Students sometimes plan in such a way that is no scope for errors. For example they may have scheduled for 12 hour of study a day. Now if they go out of schedule, there is a little scope for accelerating so as to catch up with the schedule. The secret is to have say 20-25% flexible unallocated time. Students can then use this to catch up.
- It is important to review the plan after working it out . It is also important that a student tries out the plan and sees how it works before adopting it. Students may have missed out some activities or estimated some activities incorrectly. If they perform a mock run, the estimates will be more accurate.

- Study soon after lecture type courses: Retention and understanding are aided by a review of your lecture notes immediately after class ; e.g., one study showed that students who wrote a 5-minute review test following a lecture remembered one and a half times as much material when tested 6 weeks later as students who did not review, when tested the next day .
- List and do tasks according to priorities: remember Parkinson's law that "work expands to fill the time available for its completion." If you allot 2 hours to read 10 pages, it'll probably take you 2 hours to complete this 30 min. task. What do toppers say.
- Discover how long to study: as a rough starting guide, for every hour in class you should plan to study for two hours outside of class. Then, adjust up or down as necessary to achieve your goals.
- Your first short-term goal will be the first completion date. If you concentrate and complete the pre-determined number of lessons by that point of time, you will be safely on your way to achieve your long-term goal.

While making a daily plan keep following things in mind:

- While doing time planning for a day keep following things in mind
- The longest study period should not exceed 3 hours. It is hard to concentrate for longer periods so after 3

hours a substantial break is a must.

- A break of 5 to 10 minutes is needed after every 45-60 minutes of study. After concentrating for that long, experiments show that our brain momentarily needs time to assimilate and consolidate the material it has received. During the rest period, a change in activity or posture is desirable. A walk around the room, stretching your arms, a light refreshment is enough to restore your energies and recharge your concentration.
- Remember shorter periods are fine for studying notes and memorizing materials. Longer periods are often needed for problem solving tasks and for writing papers. Breaks relieve stress and help sustain motivation and provide a transition period when switching subjects
- Determine the time of day that is best for you to study.
- When you are not fully alert in the afternoons, sleep for an hour and then study.
- At the end of each day reflect on what you did and what you need to do on the next day.
- Highlight what has been left undone.
- Cover difficult subjects when you are fresh.What do toppers say
- If you have really adhered to your schedule as planned, the free-days before the beginning of the second phase is your reward for hard work. As each deadline is met, it will instill confidence in you that you are on your way to the final goal. This will boost your morale and determination to succeed.
- So planning brings clarity of what you want to study and accomplish and helps is improving study efficiency in the following ways
- It helps overcome procastination by eliminating the time wasted in deciding what to work on and hence prevents worry.
- It helps keep you on task while you're working; having a specific objective makes it harder to rationalize quitting before you've achieved it.
- It generates a feeling of progress and success when you complete a concrete goal. This kind of success can easily begin to cascade
- It helps break large, daunting tasks into more easily managed chunks of small tasks.
- Or, in other words, it motivates you and at the same time keeps you focussed on each study session.

Whereas if you do not make a Plan:

- you do not succeed in studying as much as you had planned.
- you waste a lot of time moving from one activity to another.
- you fail to concentrate on even one task.
- you have difficulty focusing on your studies.
- So a plan does not restrict one's freedom, instead it keeps you informed about your progress and broadens your horizon by giving you time to do things you could not do without planing. What do toppers say
- Remember there is no one golden method that will work for all. This book can only outline guidelines for preparation. Every student will then have to evolve his or her own method. Once you have defined your

method, try it out on a few topics and evolve the method.

- To end this chapter always remember it is very important to
- Evolve a method/Make a plan, which takes into account your strengths, weaknesses and skills.
- Stick to this method throughout your preparation and remember planning is a kind of mental muscle, it will improve the more often you use it.

How to Improve Concentration Power ?

How to remove the flow of distracting thoughts?

How sharp is your ability to concentrate? I have asked this question to thousands of students in last two years. More than 95 percent of them replied poor, absolutely zero! So, the next important question is

How to develop concentration?

When we watch a favourite film, we are able to concentrate for three hours. We hardly realize who's beside us, when he/she got up, etc. A cricket match absorbs us similarly; our eyes remain glued to the TV screen!

So, we can concentrate when we are watching a movie or a cricket match but when it comes to studying a subject especially a difficult subject we feel distracted by the slightest noise, the faintest whisper, even by the most distant sound of music. So, the basic problem is not of concentration but is of interest in the activity which we are doing. Concentration is nothing but the extent of interest and involvement in the subject.

Learning Concentration Interest Confidence

The amount of learning is dependent on the amount of concentration, which is further dependent on the

intensity of interest. Some of the characteristics of students who have confidence in a subject are:

1. They enjoy doing the subject or topic.
2. All their efforts to study are self – motivated. Nobody needs to tell them that they have to study the subject.
3. They develop the killer instinct, which is necessary to solve tricky problems.

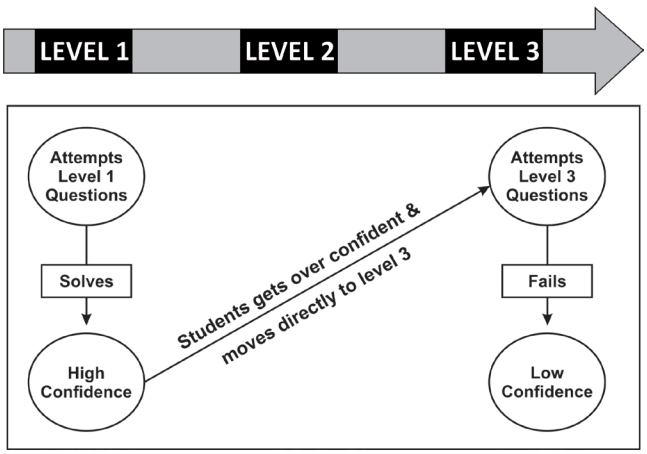
On the other hand, those who lack confidence in a subject or a topic display the following traits:

1. They dislike the topic
2. They have to force themselves to study the topic
3. They approach any problem with negative frame of mind.

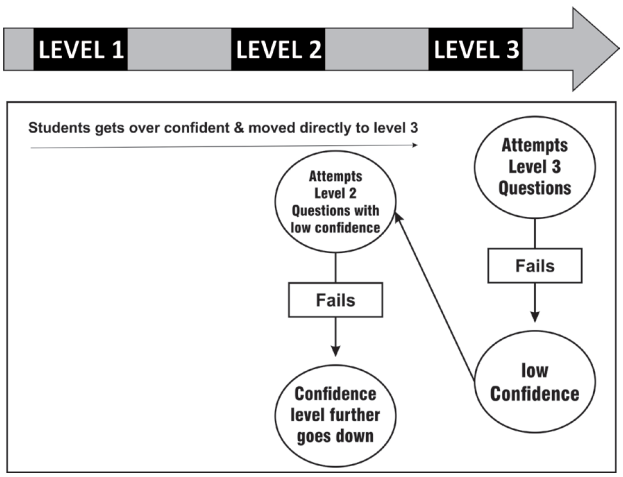
How to develop Interest / Confidence in a subject

An easiest way to develop confidence/interest is to approach the subject in a systematic and step by step manner. Usually, students skip some of the fundamental steps and approach problem solving with half-baked knowledge because of which they get stuck and slowly and slowly develop dis-interest in the subject. Let us find out different approaches adopted by the students.

Approach 1.



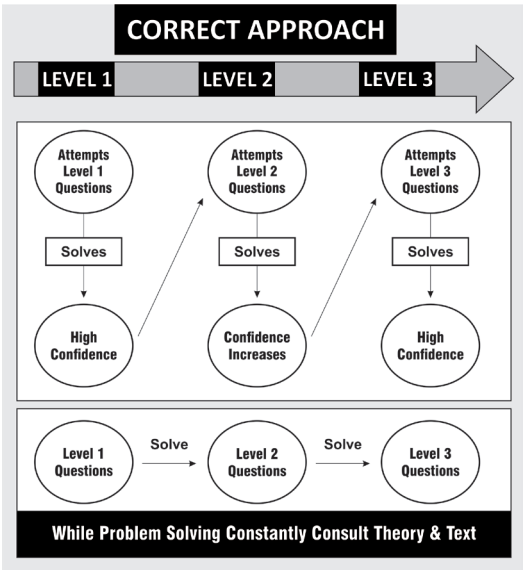
Approach 2



In both the approaches the student skips certain steps and the net result is inability to solve problems which lowers the confidence level / interest in the subject. This is the stage when suddenly the subject starts looking difficult and boring. The correct methodology is explained in Approach 3.

Approach 3.

In Approach 3 the student moves from Level 1 to 2 and then to 3 and constantly refers theory and text as and when the problem occurs.



So to summarize :

- It is very important to develop confidence in subject. Confidence level also leads to higher interest in the subject.
- The student develops confidence in a subject in 5 to 6 sittings
- Even if the scores are low during the initial sitting the student should not give up but rather spend more time on the topic

In addition to adopting correct approach to studying, following techniques will aid your concentration:

- Whenever you find you mind wandering become conscious of the fact that your mind has wandered and bring it back to what you are studying. Do not let frustration come in the way. You will find that with passage of time, you become better and better at catching the mind from jumping here and there.
- Everyday set aside 10-15 minutes during which time you are going to completely concentrate on a particular activity. The activities, which you can concentrate, can be - praying, walking, eating, looking at a still picture/clock and so on. Whenever you find that your mind has wandered, gently bring back the mind, review the thought that distracted your mind and get back to the task of fully concentrating on your activity.
- Environment of study. Proper lighting is important. If your eyes are getting strained, you will not be able to concentrate. Ensure that you are sitting comfortably and the light is optimal. Again noise distractions should be minimal. It is difficult to concentrate when you are in a noisy room.
- Studies should be concentrated around your peak performance. Study hard during your peak hours of performance. Schedule your study such that the peak consumes those activities, which need concentration, high problem solving skills and alertness. During other hours, you may want to perform routine activities.
- Be active in what you do e.g. speak aloud, talk to someone, write notes.
- Set yourself realistic small targets. This will give you more chance to succeed in reaching your goal. Success will increase both your self- confidence and your study efficiency.
- Vary both the topics you study and the methods you use.
- Study for short periods of time, at least initially
- Check your sleep : Lack of concentration is often due to lack of complete sleep.So don't increase your study hours at the cost of your sleep.
- Apply above mentioned techniques in your studies and soon your concentration related problems will go away.

How to Sharpen Problem

Solving Skills?

In a competitive exam it is not important that whether you know the question or not or whether you can solve the question or not but what is important is whether you can solve the question in shortest possible time or not. The goal of this chapter is to teach problem solving approaches so that you can become an expert problem solver. Effective, expert problem solving involves answering six questions:

- What's the problem about?
- What am I asked to find?
- What information am I to use? What principles apply?
- What do I know about similar situations?
- How can I go about applying the information to solve the problem?
- Does my solution make sense?

As a student you will decide, "this is an energy problem," or, "this is a Newton second law problem." A novice is more likely to decide, "this is a pulley problem," or, "this is a baseball problem." The novice concentrates on the surface features of the problem while an expert concentrates on the underlying principle. You, an expert problem solver, will answer above questions, play around (briefly) with the problem, and make drawings and sketches (either in your mind, or even better, on paper) before writing down formulas and plugging in numbers. A novice problem solver, on the other hand, will try to write down equations and plug in numbers as soon as possible. So the key issue is

Toppers approach to Problem Solving

After interaction with lot of students I observed that most of us do not have correct approach towards problem solving. Some of the common made mistakes are

- Many students read the question & the solution and then satisfy themselves that they could have attempted the question in a similar manner.
- Many students lay too much emphasis on solving higher number of questions.

Remember that there is no dearth of books and problems available. One has to draw boundaries and concentrate on quality rather than quantity. Doing 100 quality & concept based questions is more important than doing 1000 questions which have not been selected carefully. Remember that the purpose is to sharpen problem-solving skills. It is possible to prepare a topic by doing 30-40 problems only, if you try to solve them completely by yourself. This may also involve devoting half an hour or one hour or may be even more on an occasional problem. On the other hand, your preparation can be very weak and hollow even if you have attempted more than 200 problems on the same topic in the same time, thereby devoting much less time on difficult problems and leaving them as doubts to be cleared from your teachers. The key to success in sharpening problem solving skills is to practice quality questions without seeing the solution.

In fact, it should be noted that Problem solving is the end result of many other important activities like

STEP I : Proper understanding of concept and its application.

STEP II : Mastering skills such as visualization

STEP III : Continuous interaction between theory & problems.

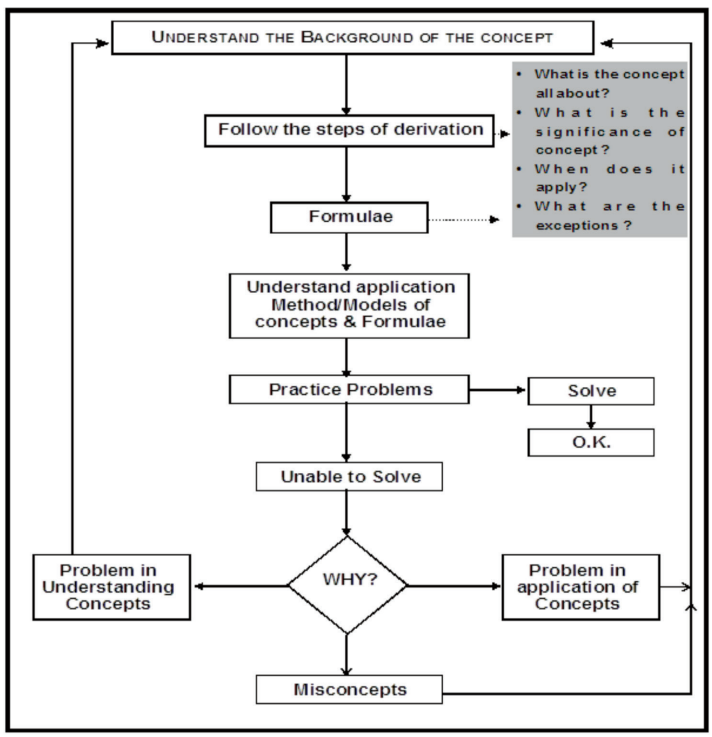
If you have done all these activities properly, only then you would be able to solve problems successfully. Another misconception is collecting problems from all sources and then trying to solve them. Plan beforehand and tell yourself that you will solve a particular number of problems in the topic. Once you have achieved proficiency you need not waste your time in collecting still more problems. Also important here is that we have to solve relevant problems, problems of the level that are asked in the exams. Solving problems from

here and there can lead to frustration which can disturb the entire plan. Let us now discuss each of the above key steps involved in problem solving.

STEP I : Proper understanding of Concept and its Application

It has been seen that normally students move directly to the formulae and start solving problems. The result, after solving few problems they get stuck and ultimately get frustrated. This is basically because of wrong approach towards the subject. It is advised that student should follow following steps in order to have proper understanding of concepts and their applications.

Basic steps of learning any concept



- Understand the background of the concept
- What is the concept all about?
- What does the concept say?
- Focus on significance of the concept
- What are the exceptions to this concept?
- When, Where and How to apply this concept?
- Follow the steps of derivation of the concept
- TRY TO REPRODUCE CONCEPT IN YOUR WORDS
- In case of any doubt read and understand the concept again
- Understand the application method of the concept
- Practice questions on the concept (Start from easy and gradually move to difficult ones)
- Diagnose the problems and take corrective measures.

While Practicing, try solving questions completely

After mastering the concept and application methods, try to solve the question on your own. In the beginning(till you have achieved mastery of the application method and concept), write every step of the application method and solve the question. Once you have achieved mastery you may ignore the steps . Remember that trying to miss steps or solving in a brief manner in the beginning itself will lead to serious problems and the

student will not be able to gain mastery. If you cannot solve the question, look at the answer briefly and then solve it again.

STEP II : Visualization of the problem

Follow the following steps to convert the problem in the form of a diagram. Conversion of problem in the form of a diagram helps in better understanding of the concept. Visualisation of a problem involves following steps

Step 1. Draw the diagram as per the problem.

Step 2. Once the diagram is drawn, check the problem again to see if what is asked in the question is clearly represented in the diagram.

Step 3. Check if the diagram makes sense. If the diagram looks absurd, there is some problem in your understanding of the question.

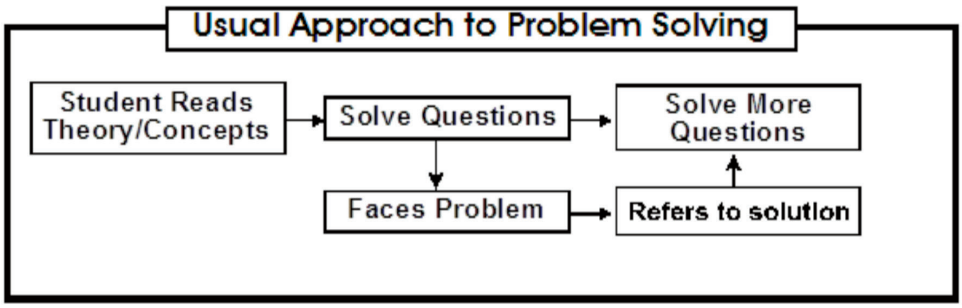
Step 4. Understand the question now by going through the diagram instead of the question. If you find that this is not possible, then your representation is wrong. You should be able to explain what is required by interpreting the diagram.

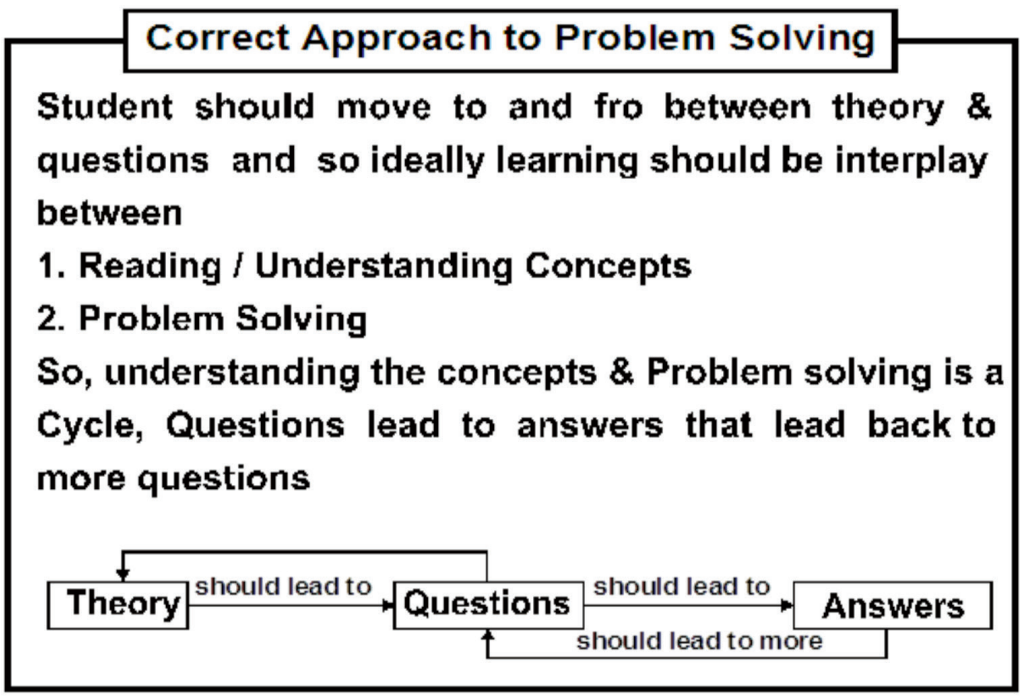
Step 5. Make modifications in the diagram till you are clear that the diagram is exact representation of the problem.

Step 6. Do not proceed to the next step till you are confident about the diagram.

STEP III : Interplay between theory & Problem Solving

Normally students read the theory, understand the concept and then they keep on solving more and more questions. So the approach followed can be shown by the following diagram.





This is a wrong approach. Ideally, the student should move to & fro between text & questions. Remember, reading the text and solving homework problems is a cycle: Questions lead to answers that lead back to more questions. It is recommended that students should solve questions in rounds and in multiple sittings.

We have already learned that learning always happens in jumps. So rather than trying to complete entire exercise at one go it is recommended that students should attempt exercises in multiple sittings. The aim of sittings should be

First Round Objective : You should be able to solve 60 to 70% questions

Second Round Objective : You should be able to solve 70 to 80% questions

Third Round Objective : You should be able to solve 90% and above.

Remember, you will learn more in six 1 hour periods spaced through the week than in one 6 hour period.

What is a Misconcept ?

How to identify and remove Misconcepts?

The normal sequence of steps followed by student in problem solving are :

1. The student solves a problem
2. The student checks up the answer
3. The student finds that the answer is wrong
4. The student reviews the solution
5. Sometimes they find that they have made a simple mistake which when corrected gives the correct answer. This is a very good state of affair and the student need not be worried if most of the time they face such situation. However if they make such silly mistakes too often it is a cause of worry. They should

then figure out reasons why they make such mistakes and remove these causes.

6. A far more dangerous possibility is that after verification also the solution seems to be correct.

This is the Stage of Misconception

At this stage, the student is confused. They either

- try to find some way of getting the solution right by trying out alternate methods or by hit & trial approach.
- or else ignore their method and understand the solution.

Both of them are not the correct way to approach the problems. Ideally what a student should do is to critically analyse his approach to the solution and try to find out where did he go wrong and what is the corrective measure he should take so as to avoid these kind of mistakes in the future. It is very important to find out the misconcept and initiate steps to remove the misconcepts.

Frequently Asked Questions

Is IQ important factor in success?

IQ or intelligence is a factor, though a minor one. In my opinion IQ acts as a threshold. You just need to have a basic minimum level of IQ to succeed. Interestingly, in a survey it was found out that the average level of IQ of IIT students was 110, compared to the average level of IQ of general population which was 100+. So, there was very little difference between the IQ level of brightest students (IIT Students) and the general public. This implies that the basic determinant of success therefore is not IQ, but other factors.

In the last 3 years after interacting with lot of students I realized that vast majority of students who set off on a course of study are quite capable of successfully completing it. It is practical life circumstances, false beliefs and negative attitudes which, coupled with poor study techniques, may cause the problems - not lack of ability or IQ.

How to some students do well even without studying hard?

I have seen lot of students who have worked very hard but inefficiently and who's performance in examination has been a surprise & disappointment both to themselves and their teachers, families and friends. At the same time I have also met students who are able to achieve some times satisfactorily and some times excellent results without hardwork. The basic differentiating factor is the study techniques. Hard work should bring achievement but only when coupled with efficient and appropriate study techniques. And that is what this book is all about.

How to Relax?

One of the most common problem during studies is severe anxiety or nervousness. The result of the exam can totally change your future and so the very process of preparing for them can be a stressful experience. Delay in preparation schedule; inability to solve problem or even few hours waste of time can lead to anxiety and create stress which can adversely affect your studies, so it is very important to learn how to manage stress or anxiety.

Even famous people do it

I still remember a video clipping of a famous singer that I saw on TV years ago. The camera had been following him around while he went to rehearsal, got made-up and talked with his manager.

The scene I remember most was the shot of him as he waited backstage for his name to be announced. Now, remember, this was a man who had been doing stageshows for decades. You could hear the audience: It was excited to be in his presence. It was friendly. And he looked nervous, horrified, petrified, regretful that he'd ever entered show business and extremely vulnerable. (Presuming he remembered he was being filmed, this was the controlled panic.)

But, when the announcer called his name and the roar of applause began, he was transformed. He walked with a determined gait to the stage, the lights hit him, he smiled and took the microphone, the band began

and he never looked back. His famous voice filled the auditorium, and the audience went wild. If he could face such regular panic attacks and still passed the test, why shouldn't you?

Remember that a certain level of anxiety is also good and must for you to have a faster learning. Remember a certain level of anxiety can enable you to be more alert, attentive and to concentrate more fully. It can sharpen your exam performance; make you feel more full of energy; cause you to work at the most effective speed and be more attentive to detail. So achieving optimum arousal (anxiety) is the key to success. But the moment the anxiety level becomes higher and it starts disabling it is the time to take an immediate corrective measures.

It is a natural human reaction to worry at times during your studies. It is also natural to express an emotional reaction to the ups and downs of tackling tasks: angry or frustrated at one time, exhilarated at another. The ideas in this book are intended to help you avoid becoming locked into a state of anxiety, where your interaction with exams, tests and course deadlines (the potential 'stressors') results in an unhelpful stress reaction in you. This is the type of anxiety state which feels disabling.

Before we learn how to handle stress & anxiety, let us understand what are the signs and symptoms of stress?

- Your heart beats at an accelerated rate.
- Your breathing rate increases.
- Your body sweats.
- Your mind becomes agitated and you feel restless.
- Your stomach feels queasy. In other words you feel butterflies in your stomach.

You can control these problems by training your mind and body to relax on command. In relaxation you are really training to control the functions of your mind.

Relaxation Techniques : You can relax while sitting on a chair, lying on a bed or stretched out on a comfortable spot. To relax focus on your breathing first, close your eyes and listen to the sound as air flows in and out. As you breath your belly should be moving in and out. Next start counting one to ten, on your inhalations and saying to yourself "relax" in your mind. Continue this process until you feel quiet and your mind is focussed and undisturbed by fleeting thoughts. The idea behind counting is to shut your mind from other thoughts and not to be disturbed.

Palming : Close your eyes and keep your open palm pressed against your eyes. Hold this position for 5-10 minutes every day. You will feel the heat being transferred to your eyes . Do this exercise regularly every day or pressing a folded cloth to your mouth, blow air into the cloth so that it becomes warm. Press the cloth against your eyes.

When ever you are tensed or anxious, close your eyes and take a deep breath. Slowly breath out Do this about ten times and watch the difference. This should calm your nerves and reduce your anxiety.

Other methods for Reducing Anxiety

- Self-Assertion - Do a realistic review of the situation, and decide on a course of action and carry it out; assert yourself, take charge of your life.

- Sleep habits - In order to get more time to study several students sacrifice their normal sleep. Occasional loss of sleep may not affect your thinking but loss of sleep over a longer period can create stress. Do not carry your problems and anxieties to bed. They will leave you mentally sluggish the next morning. Cultivate methods that enable you to get enough good sleep.
- Relaxation - Practice physical and mental relaxation exercises
- Quiet time - Cultivate and then use a “quiet time” to review your situation, to compose yourself, and to prepare for a project or situation for the day.
- Friends - Talk to one or two friends a day, for support and encouragement, to renew your self-confidence and morale.
- Consultation - Help yourself by seeking consultation with peers, instructors, or professional counsellors.
- Practice to relax every day: The more you practice, the better you will be able to relax. Practice to relax for five minutes at the beginning. Plan to have atleast 3 relaxation periods each day, of five minutes duration. On very busy days, do not be tempted to do away with the practice totally. It is more important to relax on these busy days.

Remember, anxiety affects people of all abilities. Among the students I have met who are most anxious about their examinations are large numbers who have gained very good marks.

Importance of Notes

- Why should you make notes : Some of the advantage of making notes are :
- Making notes while attending the class help you concentrate better in the class.
- Notes making also aid in improving the retention. They help in transferring information from short term to long term memory.
- Notes helps in revising the contents of the lecture faster. Research says that with the help of personalised notes you can revise a chapter 10 times faster than revising directly from the book.

The Amount of Notes to Take

- There is no limit to the amount of notes to take down. The amount will depend on;
- The content of the lecture : If the lecture deals with solid facts, laws and principles. It may necessitate a great quantity of notes
- How familiar you are with the topic: The less familiar you are with the subject, more detailed notes you require. If you are familiar, just an outline of the lecture will suffice
- Whether the information is readily available in a text- book or else where: If no other source is readily available , complete notes will have to be taken down

Cornell Notes

Cornell Notes is a system of making and using notes that promotes active learning. Before the lecture (or reading) you set up your notebook pages with a vertical line dividing the page roughly 1/4 (left) and 3/4 right. The wider right side is used to make notes, draw graphs and record the important information from the lecture or reading. It’s a good idea to leave a line or two between each major note or piece of information. The left column is used to write questions and keywords that relate to the information recorded on the right. Each major point on the right ought to have a question or keyword on the left.

Depending on the speed of the professor and the amount of information that needs recording in the right column, you may or may not have time to write the questions and keywords in the left column. If you do, that’s great. If you don’t, then you should fill in the left column as soon as possible, and for sure before the end of the day. The questions and keywords serve an important function. You will be using these to remember the key points in the right column during several practice sessions.

Once you have the questions and keywords in the left column, you are ready to do a practice session. Use a blank sheet of paper to cover the right column. Now, without peeking, look at the questions and keywords on

the left and try to remember the information on the right. Say the answers to yourself, or write them down on the blank sheet. Don't just say to yourself, "I know that..." You want to be able to repeat or paraphrase the information on the right with good accuracy. If it is information that needs to be perfect (e.g., a formula), then that is what you want. However, if it is information that is more general, then an accurate paraphrase is probably better. Your first practice session should be as soon as possible, ideally right after class if you have a spare period, or in your first break. If you wait too long, you will find that you can't remember much of the information in the right column. If that's the case, then you waited too long. As you practice, Keep Score. If you remembered the information accurately and without peeking, then give yourself a tick (check mark) under the question or keyword on the left. If you had to peek or didn't remember the information very well, give yourself an "X."

Spider Notes

This is one of the most effective ways of note making. The final notes should always be in condensed form, at the same time they should include all the important information so as to help in subsequent and final revision before exams.

In spider notes, the primary idea is placed in the centre of the page so that the secondary and tertiary ideas can follow quickly and easily facilitate a harmonious thought process.

Advantages of Spider Notes over Linear Notes

1. About 60% time is saved by noting only the relevant words.
2. About 80% time is saved by reading only relevant words.
3. About 80% revision time is saved.
4. About 85% time is saved by not having to search for keywords amongst unnecessary verbiage.
5. Essential key words are more easily discernible.
6. Concentration on main issue is enhanced.
7. Quick and appropriate association is made between the keywords.
8. The brain finds it easier to accept and remember visually stimulating, multidimensional spiders, rather than monotonous, boring linear notes.

Key Concepts / Key Words : Nature of Memory Recall

Get ready for a small exercise.

Describe any book you have read, or any place you have visited, or any film or TV program you have watched. Close your eyes and do it for about 2 minutes.

People do not tell word-for-word for what happened. What they remember is main features, outlines, main incidents of film. These are key words of key concepts.

You remember things as key words and key concepts rather than word-for-word details and word-for-word descriptions. This is the very nature of your memory.

Use the following guidelines while drawing or writing a mind map.

- Use a key word or key phrase at the centre.
- Then draw lines from the centre
- On each line, write key words in CAPITAL letters. Use of capital letters helps in revision and memory.
- Use only one word per line. This makes it easy to make connections.
- Let ideas flow. Do not try to "think" hard. Just write down whatever comes to your mind. The aim is to write everything that your mind thinks about the central idea. Since your mind thinks faster than you can write, you should not pause or stop momentarily. Just keep writing or drawing.

Mind maps use only key words and key concepts while linear notes use complete sentences and paragraphs. The key words and key concepts use only 20% of the words. So, if you use linear notes, you waste time in writing those 80% additional words, and more importantly, you waste time in reading those 80% additional words every time you revise. In linear notes, you waste time searching for the key words because they are mixed up with non-key words.

The mind map has the following additional advantages :

- Mind map clearly shows the central idea of lesson.
- The relative importance of any idea is clearly shown: the ideas nearer to the centre are more important.
- The links or connections between key ideas are clearly shown.
- The nature of the structure makes it easy to add new information without scratching or writing in small letters.
- Each mind map looks different from others- it helps memory.

When you use mind map notes, you do not have to worry about the problems usually associated with linear notes such as: order, sequence, emphasis of ideas, beginning, ending, organization etc. These problems are simply eliminated in the mind map technique.

Exercise : Spend 15 minutes and prepare your own mind map notes for this book.

How to be a winner and a champion?

Everyone loves to be a champion. But not everyone knows how to be one. In every endeavor we all say we'll be THE NUMBER 1. But when asked how, we start looking here & there.

Most achievers will answer, "Luck has very little to do with it." Being Number 1 takes much more than luck. It takes inspiration, persistence, and faith. Luck is a "nice-to-have."

According to Tom Hopkins the 4 P's to be a champion are :

1. PRE-PLAN: Set goals. Devise strategies. Set your course of action, with specific tasks and corresponding deadlines. The only way you can reach what for you is the Number 1 position is to have a clear picture of that top slot and whatever path leads to it. Your plans must be realistic, though - achievable. Put your goals in writing to add commitment. Some planning takes a little time. It's all right. A good plan is the first step up the ladder to Number 1.
2. PRACTICE: Now, with a good scheme in hand, your next step is to work on it. How? Practice, practice, practice. No one becomes a champion swimmer overnight. Not even ten overnights! It takes months of serious training, dedicated practice. And what did Tom Hopkins say? "Practice doesn't make perfect. Perfect practice makes perfect." In other words, there's no sense practicing something that doesn't work or that doesn't lead you to success.
3. PERFECT: This is something that goes beyond practice. This P is shooting for perfection. Some call it fine-tuning. After you've practiced long and hard to learn, understand, and rationalize the techniques and skills… after you've done it a hundred, a thousand times… after you've acquired "muscle memory" and you can actually do it with your eyes closed… it's then time to cross the line to perfection. Do not stop practicing until the motion becomes flawless. Until you can do it flawlessly, every time. Imagine the magicians who get away with card tricks using slight-of-hand. They start learning a trick in slow motion,

and practice until they can perform it faster and smoother. And when they can do it flawlessly with their eyes closed, every time, they move on to perfecting the move until they become confident enough to...

4. PERFORM: This is the test. The moment that will tell you that you have succeeded. Everything you planned, practiced, and perfected, will find fulfillment during the performance. Show your mastery - your skill. Let other people marvel at your speciality. Make them appreciate your effort and excellence in the task you have chosen.

When does one start preparation?

The earlier one starts the preparation the better are his chances. The ideal time to start is within one month of completing one's board examination. However, even one year of concentrated effort can help student achieve success – however, student's commitment needs to be high in this case.

If you are attending school as well as preparing for Competitive Exam, and if you have 2 years with you, then you must devote 2 to 3 hours every working day for studies and 10 to 12 hours on school holidays and weekends. Whereas if you start preparing in Class XII you should spend 3 to 5 hours everyday preparing for Competitive Exams.

Is coaching necessary ?

For success in Competitive Exams, 80% of the contribution is from the student's effort, 10% is from the strategy of how to derive maximum out of the knowledge the student has and 10% is from guidance. Here the important thing to note is that however strategy & guidance contribute only 20% but are very important because it is this 20% which decides & defines how the balance 80% of time & energy is going to be spend. In case proper guidance is available to a student at home or at school, there will be no need for coaching; however, in absence of that coaching is advisable.

My future will be ruined if I fail/don't get good marks

Examinations are an important way in which professional colleges select students. Success in them does open doors to particular jobs and careers. Lack of success will mean certain jobs and careers are not immediately open to you, at least at the level of entry you originally intended. Some may be closed altogether. However, happiness, wealth, peace of mind, rich experience of life, meaningful status in the eyes of others, a worthwhile career, a useful job and an inner sense of purpose and self belief as a human being, do not depend upon examination results.

JEE Main Score Vs Rank 2020

Estimated JEE Main Score Vs Rank range for 2020 Jan. session:

Mark/300	Rank
285–300	Top 100
275 - 284	100 - 200
260 - 274	200 - 500
250 - 259	500 - 1000
240 - 249	1000 - 1500
220 - 239	1500 - 3500
200 - 219	3500 - 6000
180 - 199	6000 - 9500
150 -180	9500 - 15000
120 - 149	15000 - 35000
<120	More than 35000

JEE Main Percentile vs Ranks

It is also important to understand which rank will be awarded to a candidate on a certain percentile. It is as important as understanding the JEE Main marks vs percentile. Candidates can refer the table below for the same:

Percentile Scores (NTA Score)	Expected Rank (Approximate)
100	1
99	8750
98	17,500
97	26,200
96	35,000
95	43,700
94	52,400
93	61,200
92	70,000
91	78,700
90	87,450

JEE Main 2020 Toppers – State Wise

State-wise toppers and their NTA Scores in B.E./B.Tech. are as follows :-

State Code of Eligibility	Candidates Name	NTA Score
ANDAMAN AND NICOBAR ISLANDS	AKSHAT SINGH	97.3286395
ANDHRA PRADESH	LANDA JITENDRA	100.0000000
ANDHRA PRADESH	THADAVARTHI VISHNU SRI SAI SANKAR	100.0000000
ARUNACHAL PRADESH	APURBA NATH	96.1831211
ASSAM	EESHAAN DUTTA	99.9338277
BIHAR	SHUBH KUMAR	99.9972380
CHANDIGARH	KUNWAR PREET SINGH	99.9972380
CHHATTISGARH	SHASHWAT CHAKRABORTY	99.9551322
DADRA AND NAGAR HAVELI	SHARAD VISHWAKARMA	99.2655484
DAMAN AND DIU	JAIN ANMOL RAJESH KUMAR	98.6482824
DELHI (NCT)	NISHANT AGARWAL	100.0000000
GOA	SIDDHANT GOVEKAR	99.9109245
GUJARAT	NISARG CHADHA	100.0000000
HARYANA	DIVYANSHU AGARWAL	100.0000000
HIMACHAL PRADESH	SARTHAK DIWAN	99.9683001
JAMMU AND KASHMIR	ARYAN GUPTA	99.7338263
JHARKHAND	DAYAL KUMAR	99.9909553
KARNATAKA	SHUBHAN R	99.9965251
KERALA	ADVAID DEEPAK	99.9737696
LADAKH	PARVEEZ MEHDI	96.5201553
LAKSHADWEEP	FARZEEN H	91.5220543
MADHYA PRADESH	AKARSH JAIN	99.9959069
MAHARASHTRA	VEDANG DHIRENDRA ASGAONKAR	99.9972435
MANIPUR	CHETANNA RAJKUMARI	97.3220500
MEGHALAYA	P ALIAS CHAKMA	96.3974118
MIZORAM	HARSHINI S	91.1044385
NAGALAND	ALEMMEREN JAMIR	89.7388895
ODISHA	SOURABH SOUMYAKANTA DAS	99.9924070
OUTSIDE INDIA	NILAY MANKALA	99.5839421
PUDUCHERRY	HARISH R	99.9159086

PUNJAB	UJJWAL MEHTA	99.9993109
RAJASTHAN	AKHIL JAIN	100.0000000
RAJASTHAN	PARTH DWIVEDI	100.0000000
SIKKIM	ARNAV VYAS	98.0859130
TAMIL NADU	GAURAV R KOCHAR	99.9959069
TELANGANA	RONGALA ARUN SIDDARDHA	100.0000000
TELANGANA	CHAGARI KOUSHAL KUMAR REDDY	100.0000000
TRIPURA	GAURAV MALAKAR	99.9095741
UTTAR PRADESH	L GOKULNATH	99.9993050
UTTARAKHAND	BASHAR AHMED	99.9930425
WEST BENGAL	SREEMANTI DEY	99.9923468

JEE Main 2019 Marks vs Rank

It should be noted that JEE Main 2019 was of 360 marks where as JEE Main 2020 was of 300 Marks. So Please make adjustments why comparing the marks and the rank.

Score Range	Rank range
310 marks to 360 marks	1 to 100
290 marks to 309 marks	101 to 200
270 marks to 289 marks	201 to 500
255 marks to 269 marks	501 to 1000
247 marks to 254 marks	1001 to 1500
240 marks to 246 marks	1501 to 2000
232 marks to 239 marks	2001 to 2500
225 marks to 231 marks	2501 to 3000
217 marks to 224 marks	3001 to 3500
210 marks to 216 marks	3501 to 4000
207 marks to 209 marks	4001 to 4500
204 marks to 206 marks	4501 to 5000
200 marks to 203 marks	5001 to 5500
197 marks to 199 marks	5501 to 6000
195 marks to 196 marks	6001 to 6500
192 marks to 194 marks	6501 to 7000
185 marks to 189 marks	7501 to 8000
182 marks to 184 marks	8001 to 8500
179 marks to 181 marks	8501 to 9000
177 marks to 178 marks	9001 to 9500
175 marks to 176 marks	9501 to 10000
165 marks to 174 marks	10001 to 20000
152 marks to 164 marks	20001 to 35000
140 marks to 151 marks	35001 to 50000
130 marks to 139 marks	50001 to 75000
125 marks to 129 marks	75001 to 98000
117 marks to 124 marks	98001 to 118000
109 marks to 116 marks	118001 to 139400
102 marks to 108 marks	139401 to 182200
94 marks to 101 marks	160801 to 182200
Less than 93 marks	More than 182201

Seats offered by NITs, IIITs, and CFTIs

Institutes	Participating Institutes	OBC NCL	ST	Open	SC	Total Seats
IIITs	23	1089	310	2078	609	4023
NITs	31	4858	1736	9264	2762	17967
CFTIs	23	776	391	2878	658	4683

JEE Main Cutoff Trends (2013-2019)

Tabulated below is the category wise JEE Main cut off marks for the previous years:

Year	ST	SC	OBC NCL	General
2013	45 Marks	50 Marks	70 Marks	113 Marks
2014	47 Marks	53 Marks	74 Marks	115 Marks
2015	44 Marks	50 Marks	70 Marks	105 Marks
2016	48 Marks	52 Marks	70 Marks	100 Marks
2017	27 Marks	32 Marks	49 Marks	81 Marks
2018	24	29	45	74
2019	44.33	54.01	74.3	89.7

JEE Advanced 2019 Results Analysis & Maximum Marks (Subject Wise)

JEE Advanced 2019 consited of 2 papers of 54 Questions each (18 each of PCM) Maximum combine score of paper 1 & Paper 2 was 372.

In 2019, JEE Advanced witnessed the following number of candidates qualifying the exam –

Boys	**33349**
Girls	**5356**

Category Wise No. of Qualified Candidates in JEE Advanced 2019

The category-wise number of qualified candidates in JEE Advanced 2019 is as follows –

Name of the Category	Total No. of Candidates Cleared JEE Advanced 2019
General	15566
General EWS	3636
OBC NCL	7651
SC	8758
ST	3094

JEE Advanced 2019 Cutoff/ Criteria for Inclusion in Rank List

You can check the 2019 cutoff of JEE Advanced and the criteria for the inclusion in the rank list so that you will have an idea of the estimated cutoff of JEE Advanced 2020 –

Type of Rank List	Minimum Percentage of Marks Required in Each Subject	Minimum Percentage of Aggregate Marks
Common Rank List (CRL)	10.0	25.0
General-EWS	9.0	22.5
OBC NCL	9.0	22.5
SC	5.0	12.5
ST	5.0	12.5

JEE Advanced 2019 Subject Wise Question Paper Analysis and Difficulty Level

JEE Advanced 2019 Paper 1 Difficulty Level

Name of the Subject	Easy Questions	Moderate Difficult Questions	Difficult Questions	Total
Chemistry	07	09	02	18
Mathematics	03	08	07	18
Physics	06	04	08	18
Total	**16**	**21**	**17**	**54**

JEE Advanced 2019 Paper 2 Difficulty Level

The difficulty level for Paper 2 exam of JEE Advanced 2019 is as follows –

Name of the Subject	Easy Questions	Moderate Difficult Questions	Difficult Questions	Total
Chemistry	06	08	04	18
Mathematics	00	09	09	18
Physics	04	07	07	18
Total	**10**	**24**	**20**	**54**

JEE Advanced Marks vs Rank – 2019

Rank	Marks
1	346 marks
2	340 marks
3	335 marks
4	333 marks
5	328 marks
10	310 marks
45	284 marks
87	273 marks
237	252 marks
500	227 marks
648	220 marks
746	216 marks
780	214 marks
852	211 marks
868	210 marks
981	207 marks

1000	206 marks
1686	192 marks
2160	184 marks
2930	174 marks

Previous Years JEE Advanced Marks vs Rank Analysis

For an in-depth understanding of how the marks and corresponding ranks vary over the years, let us have a look at the common trends in JEE advanced rank vs marks in the past few years:

Marks vs Rank [2018, 2017, 2016, 2015]

Rank	2018 (366 marks)	2017 (366 marks)	2016 (372 marks)	2015 (504 marks)
1	337 marks	339 marks	320 marks	421 marks
101	272 marks	305 marks	246 marks	350 marks
201	258 marks	295 marks	230 marks	302 marks
301	247 marks	298 marks	206 marks	282 marks
2101	207 marks	243 marks	178 marks	247 marks
3301	174 marks	227 marks	147 marks	228 marks
4901	159 marks	212 marks	135 marks	214 marks
8201	138 marks	190 marks	118 marks	203 marks
10001	130 marks	182 marks	111 marks	194 marks
10501	128 marks	180 marks	110 marks	186 marks
11101	126 marks	177 marks	108 marks	180 marks
16501	109 marks	159 marks	93 marks	173 marks
20001	99 marks	149 marks	86 marks	167 marks

JEE TOPPERS OF last 15 years

Year	Name	Marks	Branch	College
2019	Kartikey Gupta	346/360	Computer Science	IIT Bombay
2018	Pranav Goyal	337/366	Computer Science	IIT Bombay
2017	Sarvesh Mehtani	339/366	Computer Science	IIT Bombay
2016	Aman Bansal	320/372	Computer Science	IIT Bombay
2015	Satwat Jagwani	469/504	Computer Science	IIT Bombay
2014	Chitraang Murdia	334/360	Computer Science	IIT Bombay
2013	Pallerla Saisandeep Reddy	332/360	Computer Science	IIT Bombay
2012	Arpit Aggarwal	385/401	Computer Science	IIT Delhi
2011	Immadi Prudhvi Tej	440/480	Electrical Engineering	IIT Bombay
2010	Anumula Jithendar Reddy	418/489	Electrical Engineering	IIT Bombay
2009	Nitin Jain	424/480	Computer Science	IIT Delhi
2008	Shitikant	433/476	Computer Science	IIT Kanpur
2007	Achin Bansal	429/486	Computer Science	IIT Bombay

2006	Raghu Mahajan	508/540	Computer Science	IIT Delhi

JEE Main Previous Years' Toppers Interview: Check below

JEE Main Toppers	Preparation Strategy
Parvik Dave - 2019 Gujarat topper with Rank 60	Regularly revise whatever you study and dedicate 10 to 12 hours daily for JEE Main preparation Know Parvik's preparation strategy
Dhruv Arora - 2019 topper secured 100 percentile	A thorough study of NCERT books and solving previous years question papers is enough to crack JEE Mains
Bhogi Suraj Krishna 2018 topper AIR 1	I studied nine hours daily and approached the faculty for any doubts. Know Suraj's preparation strategy
KVR Hemant Kumar Chodipilli - 2018 topper AIR 2	JEE Main preparation was started in class 8. I studied nearly 7 to 10 hours a day and spent most of the time in college preparing for JEE. Know Hemant's preparation strategy
Parth Satish Laturia - 2018 topper with AIR 3	Prepared for JEE Main while studying in Class XI and Class XII. Covered all the topics of JEE Main and JEE Advanced within this time frame. Know Parth's preparation strategy
Anany Sharma - 2018 topper AIR 10	Aspirants need to focus more on the practical part of the syllabus than the theoretical part. Know Anany's preparation strategy
Vrunda Rathi 2017 Girl Topper	She attended classes regularly and studied at her own pace. Know Vrunda's preparation strategy
Kalpit Veerwal 2017 topper with AIR 1	Study and solve the notes given by teachers regularly. Know Kalpit Veerwal's preparation strategy
Akshat Chugh - 2017 topper with AIR 7	Memorising important formulas and reactions because direct questions are often asked in JEE Mains. Know Akshat Chugh preparation strategy
Vedant Raval 2017 topper with AIR 4	Conceptual learning and hard work is the key to success in JEE Main. Know Vedant's preparation strategy

FAQs related to JEE Main 2020 result

Q. How many students state toppers were there in JEE Main 2020 January examination?

A. There were a total of 45 state JEE Main 2020 toppers in January session.

Q. How to know if I am qualified for JEE Advanced 2020 exam or not?

A. Candidates who will score more than or equal to the category-wise cut off released by NTA will be qualified to appear for JEE Advanced 2020 exam. However, only the top 2,50,000 candidates will be eligible to appear for JEE Advanced examination.

Q. How many students appeared in JEE Main 2020 January examination for BTech courses?

A. A total of 861090 candidates appeared for JEE Main 2020 examination.

Q. How will I know which is my best score in JEE Main 2020 exam?

A. NTA will declare both January and April exam scores on different dates. The ranks, as well as the percentile score, will be provided to the candidates on the official website. NTA will then compile both the sessions and release a merit list for all those who have appeared in both January and April exams.

Q. How to check the result of JEE Main 2020 examination?

A. First visit the official website of JEE Main. Then click on view JEE Main 2020 result. On the login window, enter your JEE Main 2020 application number, password and security pin.

Q. How many JEE Main 2020 100 percentile toppers were there in January session?

A. There were a total of 15 candidates who secured 100 percentile score in JEE Main 2020 January exam.

Opening/ Closing Rank for Top NITS

College Name	OR/CR	CSE	ECE	ME	EE/EEE
NIT Trichy	ORF	2060	5325	4154	5708
	CR	5317	8011	12970	10353
NIT Rourkela	OR	2253	8571	11662	4084
	CR	9420	12009	20304	19168
NIT Surathkal	OR	960	3378	6315	3456
	CR	3181	5608	11788	6801
NIT Warangal	OR	978	2919	4340	5270
	CR	2341	2919	10209	8152
NIT Calicut	OR	2201	8023	10629	9703
	CR	10222	14769	20480	18966
NIT Kurukshetra	OR	2268	8320	11195	9454
	CR	6170	12067	18115	16273
NIT Durgapur	OR	5611	12509	14511	13595
	CR	12095	16098	22753	19325
MNIT Allahabad	OR	1449	3600	5884	5879
	CR	4051	7128	11145	8790
NIT Silchar	OR	8699	17899	21851	32579
	CR	23882	40841	49215	56958
MNIT Jaipur	OR	1148	3881	9277	4119
	CR	3831	7868	11426	9179

List of NITs in India

After IITs, NITs form the second layer of topmost engineering Institutes in India

Rank Of (Amongst NITs)	Name	State	NIRF Score	NIRF Ranking
1	NIT Trichy	Tamil Nadu	61.62	10
2	NIT Rourkela	Odisha	57.75	16
3	NIT Karnataka	Karnataka	55.25	21
4	NIT Warangal	Telangana	53.21	26
5	NIT Calicut	Kerala	52.69	28
6	V-NIT	Maharashtra	51.27	31
7	NIT Kurukshetra	Haryana	47.58	41
7	MN-NIT	Uttar Pradesh	47.49	42
8	NIT Durgapur	West Bengal	46.47	46
9	NIT Silchar	Assam	45.61	51
10	M-NIT	Rajasthan	45.20	53
11	SV-NIT	Gujarat	41.88	58
12	NIT Hamirpur	Himachal Pradesh	41.48	60
13	MA-NIT	Madhya Pradesh	40.98	62
14	NITIE	Maharashtra	40.48	66
15	NIT Meghalaya	Meghalaya	40.32	67

16	NIT Agartala	Tripura	39.53	70
17	NIT Raipur	Chattisgarh	39.09	74
18	NIT Goa	Goa	37.06	87

Colleges other than IITs that accept JEE Advanced scores:

1. Institute of Science (IISc), Bangalore
2. Indian Institute of Petroleum and Energy (IIPE), Visakhapatnam
3. Indian Institutes of Science Education and Research (IISER), Bhopal
4. Indian Institutes of Science Education and Research (IISER), Mohali
5. Indian Institutes of Science Education and Research (IISER), Kolkata
6. Indian Institutes of Science Education and Research (IISER), Pune
7. Indian Institutes of Science Education and Research (IISER), Thiruvananthapuram
8. Indian Institute of Space Science and Technology (IIST), Thiruvananthapuram
9. Rajiv Gandhi Institute of Petroleum Technology (RGIPT), Rae Bareli

QUESTION: If I am absent in one of the papers (Paper 1, Paper 2), will my result be declared?

ANSWER: NO. You will be considered absent in JEE (Advanced)-2018 and the result will not be prepared/ declared. It is compulsory to appear in both the papers for result preparation.

QUESTION: Do I have to choose my question paper language at the time of JEE (Advanced)-2018 registration?

ANSWER: NO. There is no need to indicate question paper language at the time of JEE (Advanced)-2018 registration. Candidates will have the option to choose their preferred language (English or Hindi), as the default language for viewing the questions, at the start of the Computer Based Test (CBT) examination of JEE (Advanced)-2018.

QUESTION: Can I change the language (from English to Hindi and vice versa) of viewing the questions during the CBT of JEE (Advanced)-2018?

ANSWER: Questions will be displayed on the screen of the Candidate in the chosen default language (English or Hindi). Further, the candidate can also switch/toggle between English or Hindi languages, as the viewing language of any question, anytime during the entire period of the examination. The candidate will also be having the option of changing default question viewing language anytime during the examination.

QUESTION: Will I be given rough sheets for my calculations during the CBT of JEE (Advanced)-2018?

ANSWER: Yes, you will be given “Scribble Pad” (containing blank sheets, for rough work) at the start of every paper of JEE (Advanced)-2018. You can do all your calculations inside this “Scribble Pad”. Candidates MUST submit their signed Scribble Pads at the end of each paper of the examination, given to them at the start of the paper.

QUESTION: During examination can I change my answers?

ANSWER: Candidate will have the option to change previously saved answer of any question, anytime during the entire duration of the test.

QUESTION: How can I change a previously saved answer during the CBT of JEE (Advanced)-2018?

ANSWER: To change the answer of a question that has already been answered and saved, first select the corresponding question from the Question Palette, then click on “Clear Response” to clear the previously entered answer and subsequently follow the procedure for answering that type of question.

QUESTION: Will I be given a printout/hard copy of the questions papers along with my responses to questions in Paper-I and Paper-II after the completion of the respective papers?

ANSWER: No.

QUESTION: How will I be getting a copy of the questions papers and my responses to questions in Paper-I and Paper-II?

ANSWER: The responses of all the candidates who have appeared for both Paper 1 and Paper 2, recorded during the exam, along with the questions of each paper, will be electronically mailed to their registered email ids, by Friday, May 25, 2018, 10:00 IST.

QUESTION: Suppose two candidates have same JEE (Advanced)-2018 aggregate marks. Will the two candidates be given the same rank?

ANSWER: If the aggregate marks scored by two or more candidates are the same, then the following tie-break policy will be used for awarding ranks: Step 1: Candidates having higher positive marks will be awarded higher rank. If the tie breaking criterion at Step 1 fails to break the tie, then the following criterion at Step 2 will be followed. Step 2: Higher rank will be assigned to the candidate who has obtained higher marks in Mathematics. If this does not break the tie, higher rank will be assigned to the candidate who has obtained higher marks in Physics. If there is a tie even after this, candidates will be assigned the same rank.

QUESTION: I have read in newspapers that for the academic year 2018-2019, supernumerary seats for female candidates would be there in IITs. Does this mean that the non-females will get reduced number of seats in IITs in 2018?

ANSWER: A decision has been taken at the level of the IIT Council to, inter alia, improve the gender balance in the undergraduate programs at the IITs from the current (approximately) 8% to 14% in 2018-19 by creating supernumerary seats specifically for female candidates, without any reduction in the number of seats that was made available to non-female candidates in the previous academic year (i.e. academic year 2017-2018).

TREND ANALYSIS (PHYSICS)				
Total Questions		**240**	**240**	**150**
Total Papers		**8**	**8**	**6**
Chap. No.	**Chapter Name**	**JAN 2019**	**APR 2019**	**JAN 2020**
		Phase-I	**Phase-II**	**Phase-I**
1	Physical World, Units and Measurements	8	7	6
2	Motion in a Straight Line	6	3	2
3	Motion in a Plane	8	8	3
4	Laws of Motion	5	4	2
5	Work, Energy and Power	6	9	10
6	System of Particles and Rotational Motion	17	20	15
7	Gravitation	7	7	4
8	Mechanical Properties of Solids	1	5	2
9	Mechanical Properties of Fluids	5	8	5
10	Thermal Properties of Matter	10	6	4
11	Thermodynamics	8	7	7
12	Kinetic Theory	6	10	6
13	Oscillations	11	5	0
14	Waves	9	14	7
15	Electric Charges and Fields	10	7	7
16	Electrostatic Potential and Capacitance	13	13	5
17	Current Electricity	21	16	8
18	Moving Charges and Magnetism	18	17	7
19	Magnetism and Matter	4	2	1
20	Electromagnetic Induction	4	5	6
21	Alternating Current	5	6	4
22	Electromagnetic Waves	7	6	5
23	Ray Optics and Optical Instruments	12	11	8
24	Wave Optics	8	8	6
25	Dual Nature of Radiation and Matter	7	10	7
26	Atoms	6	6	4
27	Nuclei	3	4	1
28	Semiconductor Electronics : Materials, Devices and Simple Circuits	8	9	8
29	Communication Systems	7	7	0

TREND ANALYSIS (CHEMISTRY)				
Total Questions		**240**	**240**	**150**
Total Papers		**8**	**8**	**6**
Chap. No.	**Chapter Name**	**JAN 2019**	**APR 2019**	**JAN 2020**
		Phase-I	**Phase-II**	**Phase-I**
1	Some Basic Concepts of Chemistry	4	4	5
2	Structure of Atom	9	10	4
3	Classification of Elements and Periodicity in Properties	5	4	6
4	Chemical Bonding and Molecular Structure	4	6	4
5	States of Matter	3	4	3
6	Thermodynamics	12	9	6
7	Equilibrium	10	10	7
8	Redox Reactions	2	4	3
9	Hydrogen	8	7	5
10	The s-Block Elements	8	7	4
11	The p-Block Elements (gp - 13 & 14)	8	9	1
12	Organic Chemistry-Some Basic Principles and Techniques	3	9	4
13	Hydrocarbons	4	8	6
14	Environmental Chemistry	13	9	2
15	The Solid State	7	4	2
16	Solutions	11	10	6
17	Electrochemistry	7	6	5
18	Chemical Kinetics	9	8	7
19	Surface Chemistry	6	8	3
20	General Principles and Processes of Isolation of Elements	8	9	4
21	The p-Block Elements (gp - 15, 16, 17 & 18)	5	5	5
22	The d and f-Block Elements	6	9	7
23	Coordination Compounds	13	16	12
24	Haloalkanes and Haloarenes	4	8	6
25	Alcohols, Phenols and Ethers	11	5	5
26	Aldehydes, Ketones and Carboxylic Acids	20	14	5
27	Amines	12	14	5
28	Biomolecules	6	9	5
29	Polymers	6	7	2
30	Chemistry in Everyday Life	2	1	4
31	Analytical Chemistry	14	7	7

TREND ANALYSIS (MATHEMATICS)				
Total Questions		**240**	**240**	**150**
Total Papers		**8**	**8**	**6**
Chap. No.	**Chapter Name**	**JAN 2019**	**APR 2019**	**JAN 2020**
		Phase-I	**Phase-II**	**Phase-I**
1	Sets	1	2	2
2	Relation and Function-I	2	5	1
3	Trigonometry Functions	12	11	5
4	Principle of Mathematical Induction	1	0	0
5	Complex Number and Quadratic Equations	15	13	12
6	Linear Inequalities	0	1	0
7	Permutations and Combinations	8	8	6
8	Binomial Theorem	11	10	5
9	Sequence and Series	13	17	11
10	Straight Lines and Pair of Straight Lines	10	9	4
11	Conic Sections	29	28	11
12	Introduction to 3-Dimensional Geometry	0	0	0
13	Limits and Derivatives	8	8	2
14	Mathematical Reasoning	7	8	6
15	Statistics	8	7	5
16	Probability-I	1	1	1
17	Relations and Functions-II	5	4	2
18	Inverse Trigonometric Functions	5	3	0
19	Matrices	1	4	2
20	Determinants	16	11	11
21	Continuity and Differentiability	11	12	13
22	Application of Derivatives	12	11	11
23	Integrals	19	17	10
24	Application of Integrals	6	9	5
25	Differential Equations	7	8	7
26	Vector Algebra	8	7	7
27	3-Dimensional Geometry	16	18	5
28	Linear Programming	0	0	0
29	Probability-II	8	8	6

TREND ANALYSIS JEE ADVANCED

Chapters as per NCERT	Physics							Chemistry							Mathematics						
	No. of Questions																				
Ch. No.	2019	2018	2017	2016	2015	2014	2013	2019	2018	2017	2016	2015	2014	2013	2019	2018	2017	2016	2015	2014	2013
1	□	□	□	□	□	□	□	□	□	□	□	□	2	□	□	□	□	□	□	□	□
2	2	4	1	3	4	2	3	3	□	3	1	1	1	1	□	1	□	□	□	□	1
3	□	□	□	□	□	1	□	□	□	□	1	□	□	□	1	2	1	3	1	2	1
4	1	1	1	□	□	1	1	1	□	1	1	1	3	1	□	□	□	□	□	□	□
5	1	1	□	□	□	1	□	1	□	□	2	1	2	□	2	1	3	1	2	1	1
6	2	3	1	□	1	3	7	1	4	3	1	1	2	4	□	□	□	□	□	□	□
7	1	4	6	5	3	3	1	1	2	□	2	3	□	3	1	2	1	1	1	3	1
8	1	1	1	□	2	1	1	□	□	□	□	□	1	1	1	1	□	1	1	2	1
9	1	1	□	□	1	□	1	□	□	□	□	□	□	□	2	1	1	1	1	2	1
10	1	2	1	1	2	4	1	□	□	□	□	□	□	□	□	□	□	□	□	□	1
11	2	1	2	4	1	1	2	□	□	1	1	1	1	□	4	4	6	6	5	4	4
12	1	3	3	1	□	1	1	1	□	3	□	1	1	2	□	□	□	□	□	□	□
13	3	□	□	□	2	2	1	1	□	□	□	3	1	□	1	□	1	1	1	1	□
14	□	□	□	1	1	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
15	3	2	2	1	1	2	2	□	1	1	1	1	□	1	□	□	□	□	□	□	□
16	2	3	1	□	3	3	2	2	2	2	2	1	1	□	□	2	1	□	□	□	□
17	3	1	□	□	1	1	1	□	2	2	1	2	1	1	□	1	1	□	1	1	□
18	□	0	□	3	2	4	□	3	2	1	2	1	1	2	2	2	□	□	1	1	2
19	1	3	5	1	3	4	2	1	□	1	□	1	□	1	□	□	1	2	1	□	1
20	□	□	□	□	□	□	□	2	1	□	1	2	1	2	5	2	2	3	1	2	1
21	1	□	2	2	□	□	2	4	3	6	3	2	3	5	2	4	1	3	2	4	□
22	1	1	4	2	□	□	2	4	3	2	3	4	5	3	3	1	6	2	2	1	8
23	□	□	□	□	□	□	□	1	4	1	2	3	2	3	4	4	4	4	8	8	2
24	4	2	2	4	5	3	2	1	□	1	2	□	2	2	1	2	1	1	1	1	3
25	1	0	1	1	1	1	1	2	3	□	2	2	4	2	1	2	1	1	2	1	1
26	2	1	1	2	3	2	2	4	5	6	4	4	3	4	1	2	3	1	4	3	3
27	□	1	1	2	□	□	1	1	3	2	1	3	2	□	3	2	1	2	2	1	4
28	2	1	1	3	4	□	4	1	1	□	2	1	1	1	□	□	□	□	□	□	□
29	□	□	□	□	□	□	□	1	□	□	1	1	□	1	2	□	1	3	3	2	4
30	□	□	□	□	□	□	□	□	□	□	□	□	□	□							
Total	**36**	**36**	**36**	**36**	**40**	**40**	**40**	**36**	**36**	**36**	**36**	**40**	**40**	**40**	**36**	**36**	**36**	**36**	**40**	**40**	**40**

JEE TOPPER'S INTERVIEW

PRANAV GOYAL, AIR 1, JEE ADVANCE 2018

It is unbelievable. My family was extremely happy when they came to know about my rank in JEE Advance 2018. I did expect a good rank but never in my dreams did I imagine that I would be the topper of JEE-Advance 2018. It feels that I have achieved my goal. I am also the Tricity topper in CBSE result 2018 securing 97.2% marks. Nothing could have been possible without my teachers' guidance and my parents' sacrifice. They played a major role in motivating me.

Engineering always fascinated me because of my interest in both Physics and Math. So I decided that I would take up Engineering in class 9th. I started my JEE preparation when I was in class XI. JEE Advance requires more focus on conceptual understanding than rote memorization which is essential in JEE Mains. So, the first one and half year my focus remained mainly on JEE Advance and it was in the last one and half month that I prepared for JEE Main. During board exams, however, my preparation was different for JEE. For boards, I developed a good memory by studying NCERT books thoroughly. On the other hand, Advance was better done by practicing, solving and developing new ideas. I would dedicate 3-4 hours for the board exam on an average and remaining 5-6 hours for JEE Advance. Once my board exam got over, my entire focus was on JEE Main.

The primary challenge during my preparation was Chemistry. I had a problem in memorizing Organic and Inorganic Chemistry. So I gave extensive time speed tests to improve accuracy not only for chemistry but for physics and Math as well. I also solved previous years question papers to get a proper idea about the difficulty level and a rough estimation of time distribution. Test series, online tests are timed speed tests are crucial to achieve your dream. My primary source of de-stress was television. I also played cricket.

My message to aspirants is to stay focused. If you focus well your study hours would not matter. Just stay focused and calm and ensure that your knowledge is conceptually sound.

DISHANK JINDAL, JEE MAIN 2019 TOPPER

I have topped the Tricity area with a coveted 99.99 percentile. JEE requires a tactical approach and every student needs to find out which approach works well for him/her. Coaching helped me channelize my approach towards the exam. My long-term strategy was to work hard and gain enough confidence in myself so that the final day I would be entering the examination hall knowing that I will secure a good rank and my short term strategy was to work on my weakness as much as possible.

Apart from classes at my institute, I used to self-study for at least 5-6 hours. I did a thorough revision of topics that were confusing or difficult to understand, solved previous year paper and worked upon my mistakes consistently. I followed NCERT for a good understanding of Physics and Chemistry. And, for math the best way was to solve previous year question papers. In between study hours, I also took breaks and at times watched cricket to relax myself.

PARTH DWIVEDI, JEE MAIN TOPPER – 100 PERCENTILE

I've secured 100 percentile in JEE Main 2020 Paper 1. Initially, I was shocked upon knowing my JEE Main result. I secured 100 marks in Mathematics, 96 marks in Physics, and 96 marks in Chemistry.

My parents are my biggest inspiration. My father is an IITian so I always wanted to follow his path. I started aiming for admission in IIT when I was in class 11th. Since then, I started off preparing my dream of IIT and worked towards JEE Mains and Advance along with Boards. As far as my day to day routine goes, I wake up at 7 in the morning. After that, I attend my classes till afternoon and then I prefer self-study. I believe that if someone has done NCERT, he or she can secure a good rank. I solved many mock tests before the exam which helped me a lot and also taught me time management. I followed the same routine throughout. But a week before the exam, I concentrated on calming my mind. I became extremely relaxed.

The journey of preparing for JEE main was like a marathon. You have to keep on working hard. You cannot prepare it in a couple of days. It requires consistent hard work without any negligence in any subject. This is because neglecting any subject will lead to lack of confidence.

Maintaining a cool mind and calm temperament were my strategies. To de-stress myself, I used to take small breaks. During the breaks, I used to play Guitar and Table Tennis.

My message to aspirants is “don’t let failure be heavy on you. Failures will come. It doesn’t matter if you have succeeded or not. How you deal with the failures is what matters. Most of the problems are not external but it’s our mind that makes the problems much bigger than they are.”

The roots of
Education are bitter,
but the fruit is **Sweet**.

-Aristotle