Guidance Webinar

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1. Industry expectation from IITians during interview

- ***CSE Perspective:***
  IITians are given special attention by companies for seemingly the same work as done by their colleagues from other colleges because companies associate certain qualities that come with the IITian tag. These include good technical skills, quick-learning, adaptability and innovative thinking. *(Explained in detail by others.)*

- ***Non-CSE Coder Perspective:***
  IITians are always believed to be quick learners and smart. They want us to perform better than others in difficult situations. They expect that we work on their challenging projects and guide others too. They expect that we come up with an out of box and simple solution of problems faced by them. In the software development industry anyone can code any type of software but time and space optimisation, short & to the point code is the key. They want us to write code that anyone can understand and is optimised to its best. That's why software companies give us a higher package than private college graduates for the same position. That's why most software companies keep their job role open to students of all the branches in IITs. In this pandemic situation many companies are cutting jobs and cutting salaries too. In this situation they want to keep only those who are assets for their company. Now they can't take the risk of giving a job to everyone, so they will always double test you in interviews and for this you need to give your best everywhere in the job and in job interviews too.

- ***EE Perspective:***
  The companies want to recruit IIT students because they search for quick thinking, quick adaptability and quick learning in the candidates because what we will work upon in the company the software the platform will be totally different from what we have learned through our 4 year journey in college. You can say that we learn only the basics but to apply them in the practical situations would be a whole lot different and this is the reason why they search for these qualities in the candidate that is the main reason they hire candidates from IIT. Let me give an example, in your 3rd year there was a course called "Design Lab" where you had to you use your knowledge to build something that would solve a practical problem. Through this you would have understood the difficulties in the transition from theory to practicality. Now I will explain how you can show that you possess these qualities to the recruiters, first is your CPI, if your basics are clear and even when you can't answer satisfactorily to the advanced questions if your CPI is 8 and above it gives you a boost because the recruiters think that if your CPI is good then your ability to grasp new things is high. If your CPI is lower than 8 you can rely on your projects to show that you are field tested ready and even though you had to tackle new concepts to complete the projects you were able to grasp every last bit of it and complete it. The most important thing is to be clear of the basics, if your basics are clear nobody can stop you from landing your dream job.

- **ME Perspective:**

  We have generally seen the package difference between private colleges, new IITs and old IITs for the same posts are significant. So why do companies do this? Do IITians work more or are they thinking we will be more productive to the team?

  Well in real scenario in day to day life, it doesn't matter much because generally the tasks are kinda repetitive which doesn't require much effort and there's little chance that you would do it better than other private college engineers.

  But still companies choose to pay you extra, because they think that IF some plan change happens, or some new situation comes then they expect us to perform better than normal engineers. This is the sole reason why companies spend so much on iitians.

  One HR who came to recruit in our college last session, he told me that the work you guys would be doing in general (Except if you are working in R&D or other similar roles) can be done by any graduate with sufficient training which is a mandatory process for everyone after joining the company STILL they are paying more than double sometimes to IITians for the sole reason that they expect us to perform better in difficult situations, taking good decisions on our own when situation demands, rather than bugging your manager for every single thing. So definitely they will check quick decision making skills in the interview process.

- **CE Perspective:**

  Industries expect IITians to firstly have a good strong foundation about their stream, especially when it comes to core jobs. They won't expect you to remember each and everything of what you studied but you should have a good overall idea of what you are studying and have the sense of how to use that knowledge in the practical scenario. If you are interviewing for a job, it would make a huge impression on them if you have done an industrial internship rather than a research intern. Now for gaining site knowledge, it's always good to visit some site, but since that is a bit difficult, you can always go to the internet. Companies like L&T sometimes ask repetitive questions, you can find these on YouTube. Some of you might think that the syllabus of 4 years is so vast, where to even start, like I said, there's no need to have deep knowledge, have an overall idea. And do some research on the company and the job you are gonna be interviewing for, if it's a pure construction company, you can expect the majority of questions from structural (RCC and steel) geotechnical engg. A PSU however is likely to give more weightage to HR questions over technical. Let's come back to this later.

- **CB Perspective:**
  - **Startups:** Expects you to have a better grasp at applying your skills more thoroughly than other mid level companies. Less focus on your grades.
  - **Mid-level Companies:** Academic performance can give you a strong edge over others.

2. Tips for Online Test

- **CS Perspective:**

  The online test for CS based profile can be divided into 3 broad categories:
  - Coding/CP (Most frequent) - Consists of 3-5 coding questions with increasing level of difficulty which sometimes also include MCQs related to the same. Topics covered are mostly algorithms and data structures.
  - Data Analysis (Occasionally during Data Science / ML related job profiles) - Given a dataset perform various analysis on it using python.
  - Web Development (Rarely for job profiles of WebDev) - Create a website using a given framework in a given time limit (24 - 72 hrs).

- **Non-CSE Coder Perspective:**

  First of all let's talk about what to do and what not at times of online tasks then we will discuss on how to prepare for the test. Always reach 10-15 minutes earlier and prepare your computer for the

test. Check internet connection properly, and confirm that you are able to login to your webmail and ad block is disabled. Always prefer chrome browser rather than Internet Explorer and Firefox. Sometimes due to caching and cookies some test platform websites behave differently, in that case use incognito window rather than wasting time on shifting to another browser or computer. Always keep some important documents like your photo, PDF of Aadhar card, college ID card, and some other important documents in some online storage locations like google drive, drop box, etc. Some platforms ask for these things before the test. Always keep a blank sheet and pen with you at the time of the test.

Now how to prepare for the test:

In software and data companies, online tests are very very important rather than other industries. If you are able to clear the test then most probably you will get a job offer from the company.

1. Always maintain your pace of solving coding problems. Start practicing early during summer vacation only. And solve at least 1 problem daily to maintain your motivation and speed.
2. Always keep your eye on the timer/clock. Always solve questions as a test in your room. Don't take the whole day to solve only 1 question. In that case leave that question and go on to the next question. Refer back to that question later after your self testing time is over. And check that you are able to solve how many questions in a certain amount of time.
3. Always recognize easy or scoring problems in the test. Try to solve those first before moving on to another question.
4. Practice on platforms like leetcode, hacker rank, geeksforgeeks, hacker earth, code chef, etc.
5. Recognize your weak points and give extra attention to them. Try to solve more and more questions on that topic, to build your confidence on that.

- ***EE Perspective:***
    The online test consists of MCQs and a coding section. The MCQs consists of both programming basics and aptitude type questions. MCQs are meant to check the basics of the candidate as well as his basic problem solving skills. The coding section contain questions to assesses the advanced coding skills of the candidate. Most and almost all of the questions have the same pattern and even some questions are same to the question available on geeks for geeks. The site contains company wise question list which clearly will help you to understand which companies ask from which topic. Like some companies focuses on dynamic programming some companies like Samsung only asks programming questions from maps and almost all the MCQs asked during the online test are available on geeks for geeks. So geeks for geeks contain all the variety of problems that you need to see for tackling the questions in the online test.

- ***ME Perspective:***
    There are various online platforms available where you can practice these tests. These are generally aptitude tests for our branch. Simple mathematics but you need to be fast. Many people assume these tests to be easy and don't practice enough and then they couldn't even qualify for further rounds even though they have great technical knowledge.
    So start practicing for aptitude tests.

- ***CE Perspective:***
    Companies come up with all sorts of online tests. You can expect a more direct approach from the core companies though. They might just test your prowess over your branch or they can just give aptitude questions. These aptitude questions can then be divided into general, numerical, verbal etc. You can also expect time and memory based questions. So to excel in online exams, I think the first thing you need is to keep your mind cool and composed. Just like JEE, don't panic if you aren't able to solve some consecutive questions. Just move on and solve the rest, keep an eye on the watch. You can find a lot of these aptitude questions in various websites. These are specialized to give you a feel of the online exams.

- ***CB Perspective:***

START CODING .If not a regular coder, start an interview preparation module over platforms like InterviewBit. Before appearing for the test/interview, go through interview reviews available on glassdoor, quora, other blogs. Look for sample questions over Geeks for Geeks and the likes.

3. How to excel in Coding

- **CS Perspective:**

    The best way to excel at coding is through practice. Once you have understood the basic concepts of the topic it is time for you to apply those concepts on the questions. The most important topics as seen in the current trend are DP, Graphs and Data Structures. For learning concepts you can refer to books like CLRS, or online platforms like GeekForGeeks, Hackerearth, etc and to practice questions you can use CodeForces, Codechef, HackerRank. GeekForGeeks provides a database of the most frequently asked questions for various companies during Online Tests and interviews resources which is a great source material for students preparing for placements. Along with practicing questions on various topics, you must develop a habit of participating in online contests as this will be the closest in experience to the actual online tests that you will be giving during the placement process of various companies. Codeforces and Codechef contests are the most popular ones and are conducted on a regular basis.

- **Non-CSE Coder Perspective:**

    First of all remember that "Rome was not built in a day". Same thing applies to coding, this is not like a semester exam where you will study everything last night and will perform well in the test. It requires practice, practice and practice. Knowing any problem, knowing how to apply the algorithm and solving that question , applying the algorithm yourself by hand is a different thing. This is not something like "yes I know the way to solve this problem and I will solve this question directly in the test". This will not work everytime. You need to solve that question earlier in your room before doing it in an actual test, otherwise many times you will not be able to write code for that. Practice more and more questions. Keep aim of doing that many questions that after seeing any question you are able to say that "yes I have done this type of question before". This will give you confidence and you will get hope that if you have already solved this earlier you will do it this time too. Choose any specific programming language. Don't do this type of problem I will do in Java and this in C++. Always use a single programming language for all types of problems. Keep revising syntax of that programming language. Sometimes it happens that we forget syntax of stuff that is not used frequently. So keep doing problems which require special syntax and STLs (Standard Template Library).
    For the students who want to start coding from now only. I want to say something for them, that this is never too late.
    If you are able to give 4-5 hours per day on coding then, you can learn and solve a good amount of questions in 2 months. Start by learning data structure then come on algorithm, start by studying each topic one by one like search algo, sort algorithm, greedy, divide and conquer, recursion, back-tracking, combinatorics, etc. Give special attention and more time on dynamic programming (DP) and graph. They can make good problems and are also tough to implement and think. And this is also a favourite topic of some companies like Goldman Sachs, Uber, Zomato, Samsung, etc. So you need to master them.

4. Importance of Soft Skills

- **CS Perspective:**

    At a company you might be negotiating to win a new contract, presenting your new idea to colleagues, networking for a new job, and so on. As a result having good soft skills like good communication and ability to work and lead a team helps you in setting apart from the rest of candidates. Self-evaluation and introspection can help you in realising what are the soft skills that you are lacking and you can work to improve on them. Soft skills can influence your ability to give a great presentation and communicate your speaking points effectively.

- ***Non-CSE Coder Perspective:***
  Some companies' job roles are such that they need your soft skills. They reflect your personality in the interview. You should know how to speak properly, how to control yourself in a panic situation, how to deal with group discussion and group interviews.
  Mainly it depends on the job type and companies, for some companies it matters and for some not at all. But you should at least know how to describe yourself properly, what to say, what to not, in your introduction, what cross question and continuation question can arise from it and How to answer and tackle them properly.

- ***EE Perspective:***
  Let me come to core companies, so the scenario is basically that the core companies they hire through gate if they doesn't then they either hire MTech or people with some prior experience, because during this 4 year of our journey we are never given the in depth knowledge of both electrical and electronics engineering. Here give an example of my internship experience where I had to learn various concepts just to complete a segment of the whole project. So until and unless we either do a specialization in a particular field in EE by obtaining a Mtech degree or gain some kind of experience through some means the core companies do not hire Btech people. The company comes IOCL, HPCL they basically hire for management positions. These two companies they focus on 2 main topics that are Power protection and Electrical machines most of the technical questions they ask are from these 2 subjects. ISRO asks from communication systems and control systems.

- ***ME Perspective:***
  Can be a game changer in the interview. As these skills will take you far in the real world so better start working on it. Learn the art of storytelling to describe yourself better in the Interview. Soft skills will help present your technical skills in a better manner which will definitely impress the panel.

- ***CE Perspective:***
  Soft skills are obviously a very important factor during any interview. They already know about your academics from your resume. The interview is mainly to see if you know who you are. Your confidence, body language, the way you speak and dress, it all matters. In some companies you will have to go through a screening through GD before the PI. You need to be able to manage the gd in your terms and tackle the hr questions in the PI. To improve upon your soft skills, keep speaking and interacting in English. Try to make a group of friends with whom you can discuss some intellectual topics. Participate in college events, debates etc.

- ***CB Perspective:***
  Personal Experience, it's not always a major deciding factor, unless you're applying for companies like Futures First, or other management/marketing roles.
  Good communication skills would always help you ace your HR rounds, and is, in general, an important aspect to work on for personal development.
  Create a draft for your self summaries and answers to common HR questions based on life experiences. LEARN HOW TO ARTICULATE YOUR THOUGHTS RIGHT! Spend some time. Active/Passive voice, Action words, STAR technique.

5. How to enhance skills for Interviews

- ***CS Perspective:***
  Proficiency in coding is one of the most important skills required to excel at interviews and to grab an offer. However, apart from this you must have a good knowledge of some of the courses taught to you, these include Operating Systems (OS), Automata Theory, SQL & Database and

Networking. Having a thorough understanding of the projects done during internship and other academic projects is a must as most interviews start with this. So you must know the challenges you faced during the implementation and the new things it taught you. Puzzles also comprise a huge part in many interviews and to master that GeekForGeeks has a good number of problems that you can practice. Recently companies like Codenation and a few others have started to ask questions related to System Design which present a great challenge to most students as students aren't well versed in the skills required to solve a System Design related problem. Also very few good sources are present online for the preparation of this topic thus, only adding to the challenge. In order to overcome this Herculean challenge one must try to find all the diverse system design problems and learn what are the key concepts used in each.

- ***Non-CSE Coder Perspective:***
  First of all let's discuss how to prepare for interviews then we will talk of how to give good performance in interview:
    - First read articles, Quora answers, LinkedIn post or whatever to list frequently asked interview questions and their desired answers.
    - Write questions and answers for all those questions (in bullet points) for yourself somewhere and practice from there. Keep revising those points, and try to speak most of them while giving mock interviews or practicing yourself.
    - If you have problems with english speaking then you can practice it with your friends or also there are some apps (like openTalk) using which you can talk with strangers in english.
    - You can look for videos on youtube and articles on geeksforgeeks or glassdoor for interview experience of any specific company and can prepare for questions mostly asked in interviews of that particular company.
    - Before going to interview of any company know about the company very well, like history, what they do, ongoing projects and research, etc
  Now let's talk about what to do, what to not during an interview
    - Never panic. Interviewers are also human and they have also faced interviews sometime, so they know your situation very well. They are never rude and will always help you and will also give you hints, if you ask for.
    - Try a make specific resume for a specific job type. If the company is of software development then make a resume related to that, if financial then on that, like so.
    - Think very well before answering any question, don't act like you are not prepared and answer the question there first time only.
    - In a technical interview, first off all solve/think about the answer yourself, only then speak to the interviewer.
    - For technical interviews, don't answer the question immediately as it will give an impression that you have memorised the answer even if the question is a very basic and easy technical question.
    - Try to explain the answer of any technical question with an example, like a teacher does in class. Like if he asks what is a greedy algorithm. Then after defining it, give him a real word example where it is used.

- ***EE Perspective:***
  Many people have the wrong notion that soft skills aren't that much necessary as to the technical knowledge they show your communication capability leadership teamwork qualities ability to solve a problem mainly reflects the character of the candidate. The soft skills are the part where the interviewer grasps your character because a company is not like a exam where your individual prowess is tested it is place where the notion of teams exists, teamwork is absolutely necessary while working in an organization, if proper teamwork is not maintained internal conflicts leads to the downfall of the project which mars the interest of the organization. Proper communication skills is the most important thing one needs to polish so that one wouldn't stammer or lose confidence in front of a crowd or under pressure. Soft skills can be polished by actively participating in the club activities where one learns to work as a team as one unit for the better of one ideology i.e the betterment of the club. It also serve as one of the place to garner confidence to put your word before a crowd confidently. Similarly you can see a glimpse of what it means to lead a team as a leader. Again I would like to suggest geeks for geeks where all the different kinds of puzzle problems

are given to practice with solutions. The panel interview tests you on your soft skills mentioned above and basic technical knowledge. Most important quality they base on is the confidence and test whether the candidate can put the interest of majority rather than individuality. The basic questions asked for the interview are available on geeks for geeks. The HR interview basically tests how much you have matured through your life experiences, what you have learned through these experiences and how it has affected the way you think. My suggestion is to be confident, again being confident in pressure situations can be acquired through club activities.

- **ME Perspective:**

    Take your time. Sometimes they ask questions which don't have a correct answer. It is just a way to check your thought process or your general attitude towards life, how you make decisions etc. So don't try to be correct, rather be yourself and think before answering. Being natural is better than being pretentious. And believe me, HRs have many years of experience so if you are pretending to be someone else, they will know.

    Before answering questions, try to frame the answer in a certain pattern. If they ask about your greatest achievement, then don't just start talking about it. It would be better if you give a small back story to it to make the conversation engaging. Remember to keep it tight and don't get lost in the backstory so much that you forget the actual question.

    One very common HR question is to tell me about your biggest achievement /failure. You should never answer that, cracking IIT JEE is your biggest achievement. I know many of you won't do this but there are some people who think this can be the correct answer. Don't form your entire personality based on your college brand.

    Make a different resume for every company. Highlights their values on your resume. Don't make a default resume for every interview.

    Prepare the answer for the very common question. "Tell me about yourself" beforehand. Don't start speaking anything in the interview. Be prepared for this question as every company will ask this. But also don't answer this question as if you have memorised it by heart. While speaking, take pauses and make it look authentic and genuine.

    For technical interviews, don't answer the question immediately as it will give an impression that you have memorised the answer even if the question is a very basic and easy technical question.

    Give an elaborate answer so that you keep the conversation interesting.

    For eg if you are in mechanical engineering and they ask you, What is Pump. Then don't give the bookish answer, rather try to make your own version of it and give proper examples of where it can be used and how it helps. Even though they didn't ask you where it is used, you can go one step ahead because this will keep the conversation going and it will go in the direction you want to go. In short, make the answer interesting. Don't bore them.

    If you are not comfortable with a certain topic then try to steer the interview in different directions by the way you answer.

- **CE Perspective:**

    Coming back to PSUs , there is generally a panel including technical people and at least one psychiatrist. Now panel interviews will be like, the technical and the HR reps will ask you questions and the psychiatrist will observe the way you answer. They like to grill the candidates. You need to be careful of what you are saying and not budge from your core point. If they notice some lack of confidence in your own ideas, it's gonna make a bad impression on them. You will again need good soft skills to tackle these questions. You must have seen in movies the good cop bad cop routine. They might take that approach also, keep an open mind and expect anything. You will find ample hr questions online in quora etc. It's better if you practice answers to some common questions like why should we hire you, where do you see yourself in 5 years. Here again, the research on the company comes handy.

6. Additional Tips:

- **CS Perspective:**
  With CSE being the branch which is currently most in demand. Students even after bagging an offer should continue practising and preparing since they might have more opportunities in the future.

- **EE Perspective:**
  Lastly the most important thing would be never limit yourselves by your boundaries, yes it is necessary to set a goal but don't become stagnant by limiting yourself through creating boundaries, just like a stagnant water puddle becomes the breeding ground for diseases while a continuous flowing stream becomes a river never limit yourself by your boundary. Always keep competing with your inner self and challenge your boundaries and limitations they will help you grow further. My last suggestion would be to never forget this process of placement the whole set of emotions that it will bring, remember this feeling because this will come only once in your life this feeling will definitely help you mature, you will understand this once the placement process starts. Good luck!

- **ME Perspective:**
  Do your research before going to the interview. It matters a lot, especially if you are targeting PSU. Spend time on their website. Try to see everything they do, they are planning to do. Stalk their social media, twitter LinkedIn. Remember the few important data of the Company.
  Find someplace where according to you there is a scope of improvement which is related to your skill or department. And don't think of impractical improvement. Think practically which can be done as it's the real world, straight up hitting the top is not how World works. Learn and understand about the values and goals of the company. These things are generally written on the website.

- **CB Perspective:**
  - **NETWORK using LinkedIn**
    Connect with people in your field of interest
    Check out their profile, see their career path
    Helps in getting referral
  - **Jobs, Expectations, Trends:**
    Check out JDs for positions of your interest over LinkedIn, and others
    Identify in-demand skills and work on them
    Follow companies you're interested in; Companies upload details of their hiring programs and other activities over LinkedIn; Be Active.
  - **Looking for opportunities**
    Search for keywords like, "Talent Acquisition – {Company Name}" or "Hiring {Role}" on LinkedIn and connect with people.
    Send a personalized message asking for opportunities available at the company.
    Keep following up
    Can visit the company's career page too for available opportunities and then ask for a referral from your connections.
  - **Building a presence:**
    Build complete profiles on famous job sites like Indeed, Naukari.com, AngelList, and the likes
    Recruiters sometimes contact themselves.