CONSULENZA
2021

INTERNSHIP

MECHANICAL ENGINEERING ASSOCIAION

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BD (BECTON DICKINSON & COMPANY)

PREPARATION

There is no specialised preparation required for BD, it like other core companies. For OTs general mechanical concepts can be revised - e.g., mechanics, MOM, machine elements and design, fluids, thermal etc. There is no specific topic which they concentrate more. Brush up the concepts overall, it doesn't demand in depth preparations. Practice aptitude questions well. Research a bit about standard product design processes in general, and maybe medical product design. Visit company website for their portfolio and product lines. It might come in handy during PIs. Have an intro prepared for PIs and very subtly try to mention the points that they should be knowing about you relevant to the company. Make the resume carefully, especially the projects section (if you've done any). Avoid mentioning anything that you are not confident about, in your resume. Ensure to revise the projects and be prepared to answer any questions related to it. If you don’t have projects, focus your preps on concepts so that you can be more confident.

PROCESS

There was an OT and 2 technical interviews. OT - Had aptitude and technical sections. Technical part was generic core concepts; the questions were moderate level.

For PI The Interviewers were very friendly throughout. Felt very comfortable. Also, the questions were either based on projects mentioned in resume, or very basic level core questions. In my case projects matched the profile so focused more there. But doesn't mean they expect you to have such projects in resume always.

PI1 - Started with my intro. The questions were mostly from my projects in the resume. So make sure to revise the projects / internship experiences in resume. Further they asked basic core questions related to gears, dampeners, types of beams, pulleys etc. PI 2 - Similar, but a different panel of people. They asked to briefly talk about all the projects mentioned in resume, and then concentrated on one of the projects in depth for questions, covering my approach, design considerations and thought process. This took a major time. One or two simple technical question based on mechanisms.

BD (BECTON DICKINSON & COMPANY)

Do not panic during PI. Be natural and speak normally. It’s okay to tell I don't know/remember certain answers. Interact with them well. You may show that you have done some research about the company and its values but be subtle. My personal suggestion, avoid being artificial when trying to convey your interest no need to butter them or please them.

EXPERIENCE

Internship experience was great. It was proper product design role. BD focuses on medical devices like syringes, IV line & Catheter based delivery systems, valves, etc. They have different product platforms and teams (design, V&V, systems, A&I etc) work varies accordingly. Firstly, the work atmosphere was very comfortable and friendly. They gave proper attention to interns. Everyone was nice, and easily approachable, even up to the VP. They had properly planned out the internship and the projects with a learning perspective in mind, even though it was online. We had introductory training for over a week covering necessary concepts and works in different teams. After this we were assigned to respective teams and given projects. The work was insightful as well. I had chance to work on design concept generation, background research of existing solutions and engineering techniques like FMEA, risk analysis etc. The work is of proper mech core and product design. In my team I had a co-intern teammate and we had two mentors, and manager. They were really encouraging and helped closely whenever we were having doubts. Overall, from exposure perspective I was fully satisfied and comfortable.

BNY MELLON

PREPARATION

I started my preparation late in April. I practised a lot of questions from leetcode and participated in codeforces contests. Regarding CS theory questions, I just learnt the common interview questions from the internet. My resume was good as I had previous internship experience and projects with a lot of different technologies.

PROCESS

There was an OT which had 3 programming questions. I solved 2 with all test cases passed and one with partial test cases. I don't remember the questions exactly but there was one Binary search question and one backtracking question.

There were 2 interview rounds.
The first one was technical. The interviewer was friendly, and we talked about my resume for a while. I was asked a few questions on node.js and mongo (Since I had mentioned it in my resume) and then one coding question. The coding question was based on the sliding window technique.

The HR round had questions like conflict resolution and leadership experience. Just google for HR questions and prepare.

EXPERIENCE

The duration was 8 weeks. We were given Pluralsight for learning stuff related to our intern. The tech stack was spring-boot, angular, Mongo, Elasticsearch and Kafka. The task I was given was to replace embedded elastic search as it was deprecated.

PREPARATION AND PROCESS

For Caterpillar, the process began with the submission of our resumes followed by a pre-placement talk which gave a great insight to the company. The Selection and Recruitment was based on 3 rounds: Online Test, Group Discussion and Personal Interview. To guide you through the process, here are few key points that you may look through:

Resume Submission:

Make sure to follow the TnP resume format! Read through the Job Description carefully and try matching your skills and interests to the job role being offered.

If you have previously worked with any mechanical tools or software, mention them in your technical skills. Along with mechanical core, knowledge of programming, i.e.: python, will also be an added value.

Highlight on your academic achievements, past experiences and specify in detail about “What”, “Why” and “How” of your projects and your personal contributions.

Your resume reflects yourself, so try to be honest and make sure you can answer anything, and everything being asked from your resume during the interview.

Online Test:

Online Test covers MCQ of Aptitude and Mechanical Core Questions in a third-party platform which shall be proctored and timed.

Aptitude is the scoring zone for any Online Test. The most accurate and fastest in Aptitude always has an advantage. So, remember all the tricks and formulas at your fingertips and practice aptitude with a timer.

You can refer to Arun Sharma for Quantitative Aptitude or any other CAT material for preparation. Brushing up on chapters like Probability, Permutation & Combination, Time & Work, Mixtures & Alligations and Geometry will help to solve answers faster in most online tests.

The core questions are relatively hard and cover subjects taught until 4th semester of mechanical curriculum. Revise on all concepts with a clear understanding and practice solving MCQ questions from online resources or materials.

CATERPILLAR

Some important courses for revision include Thermal, Fluids, IC Engines and cycles, Mechanics of Machines, Degrees of Freedom and Mechanisms, Strength of Materials, Manufacturing Technology etc. Focus on making your fundamentals strong and try having a good grasp of concepts.

Group Discussion:

The students shortlisted for Group Discussion shall be split into groups of 6-8 and provided with a topic for Group Discussion. It's important to be an equally good listener and speaker.

Topics generally revolve around current affairs, technological developments, and global impacts. A good knowledge on recent developments in engine technologies, market scenario and future- readiness of technology will be helpful.

Watch online videos on GD etiquettes and right practices. During Group Discussion, it's important to pitch in ideas with relevant content and talk with numbers, if possible, because that adds authenticity.

Maintain the fluency and coherence of the discussion and always try leading the discussion of your group to a conclusion within the given amount of time. Have a strong self-concluding note covering all the points discussed and it's good to stick to your viewpoint till the end.

Try practicing Mock Group Discussion with friends or seniors and try talking aloud on frequently asked topics to build your confidence and communication skills.

Personal Interview:

Personal Interview is the most important step for any recruitment or selection process. Speak confidently and honestly about your skills and interests. Don’t get nervous during the interview.

The unique aspect of Caterpillar is that they cater to your interests. You will be asked to choose 3 subjects that you are interested and strong at, and the questions will be asked from them. So be prepared with the fundamentals and advanced topics of the 3 subjects you choose.

Most of the questions are based on the projects mentioned in your resume. Be very clear about “What”, “Why” and “How” of your projects and the core concepts involved. Talk about your achievements, past experiences, and technical skills too.

CATERPILLAR

Be prepared with general questions like Introduce Yourself, why do you want to join the company? What unique skills can you bring to the table for the company to select you? What are your future career plans? What has been your most challenging and rewarding experience in the past? And general Analytical Thinking, Problem Solving and Situation based Questions. Try being honest and confident at everything you speak during the interview!

EXPERIENCE

With just two months of experience, we could take back tons of learnings and memories. Starting my career as an Intern at Caterpillar has been an incredible journey. I worked along with my co-intern on two projects for two months which provided us with a huge learning curve. We were allotted with mentors who guided us throughout the project. Despite being a Work from Home Intern, we had got an amazing industry exposure. We were introduced to various technologies at Caterpillar and got a bigger picture of how different teams at Caterpillar collaborate and work together. We got a chance to meet Technology and Product Leads during reviews, interact with different people through monthly fun activities and meet other interns virtually through the Interns Learning Series. Overall, the work culture at Caterpillar was really welcoming and I had a memorable and rewarding Intern Experience at Caterpillar.

CATERPILLAR

PREPARATION

I would suggest preparing for the aptitude part of the Online Test and making sure during the test not to spent too much time in any questions. Most important is to make sure you answer correctly to all the questions that you know. Aptitude preparation can be through solving questions from Arun Sharma and time yourself to know how much time you spent in a question. This would help your judgment of selecting questions during the OT. For technical be thorough with thermal FM and SOM. For SOM a basic conceptual understanding is essential, and you should go through Rattan or any other SOM book thoroughly. Thermal you need to be well prepared in IC Engines (knocking, efficiency, engine cycles, valve diagrams) some basic knowledge on compressors. For manufacturing revise tool nomenclature.

PROCESS

The process was OT, GD followed by a PI. The OT technical part was tough so you will have to maximize score in aptitude. The GD topic was “Will IC Engines Die?”. It would be helpful to have knowledge about latest technology related to IC engines. Have mock GD with your friends or seniors if possible and make sure you are confident when you speak. The PI was mostly based on my resume. So be prepared to answer any question related to the projects or achievements mentioned in your resume. This was followed by a few HR questions like strengths and weaknesses, future, challenges in your life etc.

EXPERIENCE

The intern I had was for 2 months and it was in a Work from Home capacity. I did a couple of projects with my teammate, first one being development of an emission analysis tool and the second one modelling heat release in an engine. We were assigned a mentor and had to report daily to him in addition to weekly review meets where we had to report to the whole team of engineers. A high security laptop was given, and we were trained on data security. Hence, we had access to all the resources of Caterpillar which was great. The projects were huge learning curves for me, and I had a chance to interact with Tech and Management Heads of Caterpillar from the USA. There were also additional sessions of caterpillar teaching the technologies they use giving me a great idea of the working of a large MNC.

TATA STEEL

PREPARATION

Go through the basics of all subjects for OT. For pi be strong on the favourite 3 subjects. Since mech profile it might be beneficial if thorough with engineering materials.

PROCESS

Resume shortlist, ot, pi

EXPERIENCE

My experience was good. I was given a list of 40 projects across various plants of Tata steels in the country and had to order them in priority. Luckily, I got my 4th preference out of the 40 which was a data analytics combined with predictive maintenance project. It took time for the guide to get the data and most of June was spent in getting the adequate amount of data (which was difficult due to remote internship) but after that the work went well.

TATA STEEL

PREPARATION

Core mechanical engineering, Strength of materials, Thermodynamics, Engineering Materials, Mechanics, Automobiles, IC engines and aptitude (quant, di, lr)

PROCESS

OT (Aptitude, Technical core, General English), PI

EXPERIENCE

Questions from the following topics were asked: Thermodynamics-laws, gas cycles, Boilers- working, cycle, Strength of materials- sn curve, Stress strain curve, IC engines, knocking, efficiency , Engineering materials, martensite formation , significance of continuous cooling curves, HR questions- no generic hr questions were asked all questions felt necessary in the selection process, they asked why I had done many courses in data science and ML, but applied for a core company. I had to convince them that I was interested in core. Questions about teamwork were asked, I was asked to mention a situation where I showed leadership quality. They expect us to be good at material science and manufacturing technology as well as in core subjects like Strength of materials, Thermodynamics, and mechanics. Tailor a resume which contains all the relevant information properly as most of the questions were based on what we have mentioned in the resume.

TATA STEEL

PREPARATION

Generally for core OTs, one should have the basic knowledge about all the important core subjects, it's hard to prepare for all the core subjects even at the basic level but the subjects like SOM, Fluid Dynamics, Thermodynamics, Manufacturing Tech, ICE should be on your priority list. In case of interview, prepare 2 to 3 favourite subjects thoroughly. Most of the companies prefer to ask only about your favourite subjects during their interviews. One need prepares well for aptitude as well, it holds the same weightage that of core in OTs (sometimes more). For aptitude OTs, the main difficulty faced is the attempting maximum questions in allotted time. This is where practice comes in the role, you can prefer some standard websites like IndiaBIX and books like Arun Sharma for practice.

PROCESS

Process: 1. OT (Combined Core and Aptitude) 2. Interview Firstly for the OT, the core questions were all from the basic subjects like SOM, Thermodynamics, Material and Manufacturing etc. Also, for both core as well as aptitude, they had allotted time limit for each question. This helped me in not wasting much time on lengthy questions. Secondly for interview, they started with introduction and some resume related questions. Later they asked me my favourite subjects and continued asking about those topics starting from basic concepts to application part according to my answers. As I told fluid and thermal, they started with Bernoulli principle and applications like Siphonic Action, later they asked me about air standard cycles and their details, differences etc. There wasn't any HR question in my interview. Generally, Tata Steel takes so much of time to complete their selection process, so one need to be patient during the process.

EXPERIENCE

Due to this COVID pandemic, our whole internship program went virtually. My internship was for 8 weeks and in 9th week we presented our work in front of respective chiefs. I was allotted with the Hydraulic reliability improvement in existing system project at PLTCM CRM plant, Jamshedpur.

TATA STEEL

They also allot one of their managers as your guide for your project. As internship was completed virtual, guide was the only source of information for us and that was the biggest challenge for us as well, as most of the times guides used to be busy with their company work. So, we needed to be patient enough to wait for their reply regarding our doubts. Apart from that the overall experience was good, I learnt a about actual plant operations and maintenance activities. Also learn various new concepts and software to present and explain my work effectively.

AVAIL FINANCE

PREPARATION

Prepared a few case studies, guesstimates, and target markets

PROCESS

Resume Shortlisting followed by one PI

EXPERIENCE

Being a start-up, it provides you with the experience of a rotational intern. Work hours are long, and we even worked on the weekends. People are extremely amiable and pleasant to work with. However, do keep in mind that the company did not offer any PPOs for our batch and that can be a deal breaker for many.

AVAIL FINANCE

PREPARATION

For this role or related roles where management is involved, specialising on tools for analysing, visualising, and presenting data is a big plus. Following are some tools for the same:

Data analysis with python: Not a must have but it depends on the company's JD.

2. Excel: Basic functions (it's better if you do a course for this because it is highly valued by management companies and will most definitely be used by you during your internship. That said, you can expect some questions on it)

3.SQL:Easy to learn, do a course

4. Tableau/Power BI: Easy to learn and a big +

5. Practise corporate English speaking: Maybe have a friend take your practice interviews. This skill is also highly valued, and it will be one of your main strengths at both GD and PI.

PROCESS

The process was simple, Resume Shortlist and one PI. Make sure you have a management-oriented resume to make it past the 1st round, but it won't be that difficult. For PI revise:

1. Excel functions
2. SQL
3. Anything different that stands out on your resume

This was all that was required for the PI.

EXPERIENCE

The experience wasn't anything close to what I expected. The company didn't have any structure or plan for the interns and that's why you must look at company reviews on Glassdoor before applying for it. This is something that I missed. I know it's good to at least have an internship, but it only added more pressure since I didn't have much to show on my resume at the end of the internship.

AVAIL FINANCE

PREPARATION

I interned at Avail finance as a business analyst. Prepare all the common HR questions beforehand and try to answer uniquely. Do proper company research like who their target customers are, what all services they provide etc. Knowledge of advanced Excel, SQL is an advantage.

PROCESS

1)Resume shortlisting (>6 CGPA)

2)Personal Interview

The interview started with basic HR questions like "Tell me about yourself," "Why Avail finance," etc. Then he moved on to my resume and asked me questions about my previous internship and projects. He then asked me three situation-based questions to answer from a business analyst's perspective.

I was asked questions on SQL and Advanced MS Excel. He also asked few Machines learning concepts because I added that to my technical skills. Questions were asked on my POR as well. Do ask a question at the end to show them you are interested in interning at their company.

EXPERIENCE

It was an online internship that spanned over 2 months. Each intern will be assigned a buddy, who we can approach for any doubts, and a reporting manager, who we must report the projects. We had HR meet twice a month to resolve any issues if we had. We had an opportunity to interact with the CEO and the co-founder of Avail finance. It was an excellent opportunity to improve my technical skills. It was a great experience altogether

AVAIL FINANCE

PREPARATION

For Resume Shortlisting: Tailor your resume such that it aligns with the company JD. Ensure that all your strengths that would be beneficial for the company are highlighted in your resume. For Personal Interview: My preparation mainly included learning about the company; its products, vision and mission, founders etc. Another crucial aspect of analytics interviews is your approach towards case studies. Rather than putting forward the immediate thoughts that come to your mind, a structured and coherent response would give you the edge. There are a vast number of resources on the internet that would help in this, primarily in YouTube. Apart from these you could prepare for some of the common HR questions (don't memorize answers, have an idea of what could be said) and be confident with everything you have mentioned in your resume.

PROCESS

The process for Avail Finance had 2 stages. Resume shortlisting followed by PIs. Resume shortlisting seemed to be based on PoRs, prior projects/courses and internships of candidates. The PI conducted was very relaxed where the panellists made me feel at ease. It started off with basic introduction questions followed by questions about different aspects of my resume. Next, they gave me a brief about the company and their operations, and then gave a case study related to that. In brief, the problem statement was about how they could solve the issue of the customers who drop-off at different stages of the online loan application problems. They emphasized that this was a problem that they were actively trying to solve and that they weren't expecting right answers, just my approach to the problem. Discussion about the case study was a major part of the interview that took about 10-15 minutes. Finally, there were a few technical questions related to coding and SQL (as it was there on my resume).

AVAIL FINANCE

EXPERIENCE

Our internship was supposed to be offline but due to the unexpected rise of COVID cases during the month of April and May, it was shifted to WFH. Each intern was allotted a buddy and a mentor. The duration was for 8 weeks during which I worked in 3 projects. I started off with the Operations department where I leant about the loan approval process in detail and was tasked with optimizing the process and reducing turnaround time. However, after a week I was shifted to the Risk and Data Science department. My first assignment in this was to build a dashboard that would analyse chunks of loan history data to produce different metrics for risk analysis. After its completion, my final project was in the development of a credit scoring model for new to credit customers. This project took the major duration of my internship where I had to research about the different aspects of credit score modelling and perform exploratory data analysis on multiple datasets to determine patterns and characteristics of defaulting and non-defaulting customers. Overall, it was a great learning experience and the people in the company were very helpful and accommodating towards the interns.

BAJAJ AUTO LTD

PREPARATION

Analyse your own resume, frame possible questions, and try to answer them. Interviewers ask questions from what you speak, so try to limit the discussions to your strengths.

PROCESS

Resume shortlisting followed by OT and finally PIs

EXPERIENCE

It was a nice learning for me. Lot of things to learn. Mentors are friendly. You will get limited time with them as they are busy with their own projects so make the most of what you get.

BAJAJ AUTO LTD

PREPARATION

Well, it was a last-minute preparation which I did for 3 full days (highly recommended not to do). But the way of preparation worked to a great extent. 1. Try to cover what is URGENT and not what are important. Those things can be got from seniors 2. Preparation for Aptitude is mandatory and dedicate time for it because core questions will be in such a way that, you could answer only if you know it. 3. Core questions would contain 80% of direct theory questions and prepare accordingly. 4. Use online sources like indiabix, mechanical tutorial and youth4work to test yourself.

PROCESS

The whole process had an OT followed by PI of Technical and HR rounds. The OT is one of the toughest OT's that you'll see as the core questions are tough to answer and you've also got negative marking as a bonus disaster. So, the only way to get through OT is giving an equal importance for Aptitude (answering 30 correct in core is a something great). You won't be getting enough time for PI preparation as the PI will be held the immediate day after your OT. So, better have 2 strong subjects prepared beforehand and make sure you know that subject pin to piston. (Also applies to your resume) Try not to bluff (in your resume) or manipulate or guess some answer when the interviewer asks. If the panel finds it, you can pack your stuffs. Reminder: 1. Technical round is not a "Rapid Fire round". Take a minute to think and give a clear answer rather than beating around the bush 2. HR round is not a round to chill. They will be keen on your words, so have a discussion with as many seniors as possible. 3. Feel free to express what you think. The interviewer doesn't care about how bad your language is.

EXPERIENCE

I had an internship experience which was partially online and offline (one month each). I was put in Chakan, where it was a 6-day work. Timings are flexible. Mentors should be updated on a regular basis about your work and deliverables. Freedom to work will be given to you and you can demand any resource you require.

BAJAJ AUTO LTD

I was in the Operations and Manufacturing department where I must have a vendor visit almost every day to find flaws or to suggest improvement ideas to reduce cost, etc. If you're doing offline, it's going to be really tiring but equally interesting. You can experience what is a pure core and a get to know about many things apart from your subjects. Best part is you won't be put in a Cubicle; you'll have to roam around, get things done by yourself, so ground level works like packing, doing various physical tests to products, etc. (if you're in Ops) Also the food is provided at free of cost :)

SCHLUMBERGER

PREPARATION

An important part of the preparation for internships is to have an idea of what you are looking for in the internship. Schlumberger is a company that provides services to oilfields. So, what they were looking for was a thorough understanding of core concepts and an ability to link the various domains of mechanical engineering, when they come together to build a machine. Building a strong resume showcasing your core knowledge along with a good GPA helps. Make sure to be thorough with Strength of materials, Fluid mechanics, Thermodynamics, and manufacturing technology. Recommended books for preparation would include: RK Bansal for FM and SOM, Cengel and Borgnakke for Thermo.

PROCESS

The selection process for SLB was simple with a Resume Shortlist and a PI.

Make sure to try and highlight your core knowledge and problem-solving skills.

The PI was a HR + technical round. The panel members asked me what fascinated me about mechanical engineering, and specific questions regarding my favourite subjects were asked. They also questioned me on my projects and courses I had done online. Make sure that you are thorough with what you put in resume. The HR questions were based on conflict resolution and working in a team environment. The technical questions will often be based on application of what you have learnt to a real-life engineering problem.

EXPERIENCE

The internship duration at Schlumberger was 8 weeks and I learnt a lot during my time there. I was a part of the drilling and measurements team of Schlumberger Technical Services. The project I was assigned involved developing an analytical calculator to calculate stresses, strains and bending load distribution of oil drilling components subject to the downhole underground conditions.

SCHLUMBERGER

It involved a lot of practical application of the concepts of solid and fluid mechanics and variation of material properties under severe conditions faced downhole. I also worked on a secondary project involving the design of a measuring device for a reamer tool used to enlarge the oil well diameters in CREO. The guidance provided by the senior engineers was excellent and the team was extremely helpful and accommodative. Several joint ideation sessions were held were all the projects that were being carried out by the team were discussed and everyone could pitch in their ideas to help. My project was regularly reviewed by my mentor and the team lead. I had to present my final presentation to the project manager and all my teammates, describing the applicability and the diverse use cases that my project would see. My internship at Schlumberger was a transformative experience, and it not only helped me to hone my technical skills but also understand how an engineering organization functions, and how to work strategically and in collaboration with peers to achieve success

PROCESS & EXPERIENCE

"A very senior (S) and old person of the company was presiding over it the whole time with 2 (P) other people in the lot-1 of them I think was from the higher rungs and the other probably reported to them. Towards the beginning I was questioned more by the senior and old person (S) and towards the end the other 2 (P) took over. However, they were very friendly and cooperative throughout the whole time.

The flow of the PI:

1.I enter the zoom meeting and find out there is a panel of 3. Immediately greeted by S - Hello Mr. Surya Narayan. Thank you for participating with us. We would like you to introduce yourself in this following order- your name, where you are from, the languages you know, the projects/internships you have done and any hobbies you might have. Please go ahead. I introduce myself- "" I am R Surya Narayan, from Hyderabad. I know 4 languages -English, Hindi, Tamil, and Telugu. I have done 2 internships in the summer of COVID-19 remotely with Prof.Dr. Swain in IIT Roorkee on projectile impacts on soils and another one with Dr. Satheesh at IIST on developing codes for High Temperature Gas Dynamics in the Julia programming language. Both were done remotely. Regarding my hobbies, I like Carnatic music and love playing the piano.

2. S- seemed a little confused with the internships I mentioned (TBH he wanted to avoid all questions into those projects), so he immediately went- ""that's great. You are currently in your 4th semester?"". I replied ""yes sir, I am"". After that the following questions were asked:

S- ""Did they teach you about compressors?"". Me- "" yes sir very much, just touched them this semester"".

S- ""Okay so define to me what a compressor does""

Me- ""compressor ...blab blab""

S- ""okay good, could you please list out the steps in a reciprocating compressor""

Me-answers (with special emphasis on the thermodynamic nature of the processes and the cycle diagram)

S-""That's good. So now let's define what volumetric efficiency is from this""

EXXONMOBIL

Me- answers
Next:
S- ""great. So, let's say we want you to select a compressor for a job, what all would you look at?
Me- ""First lay out the requirement of the job in terms of the pressure ratio, then look at the specs like peak compression that the compressor can achieve, number of stages, power that the motor consumes, intercooling stages (if a dual stage), and the cost.
S- ""That sounds fine. So now tell me what is the kind of flow inside a compressor""
Me- a little clueless I say intermittent as air enters, compresses, and leaves.
S-""You are close but not yet there!""
Me-""I am not sure""
S- ""Never mind! Pulsating was the word I was looking for. Maybe they didn't bring that up. No worries!
Me- Oh yes sir, haven't heard of it until now
S- ""That's alright. Because of the pulsating flow ... (adds some info I can't recollect)""
Me-that's interesting
S-""Over to the others for questions""
P-""Hi Surya. You mentioned your internship was in high-temperature gas-dynamics. Did u study a gas-dynamics course yet""
S- ""No sir haven't
P- ""So define to me what Mach number is""
Me- answers giving both the force-definition and the formula
P-""So how the denominator is always 343m/s right? while calculating it?""
Me- absolutely no. We must calculate it at the mean flow temperature sqrt (gamma R T)
P-""That's right, so sketch to me what a nozzle is and what a diffuser is and show it to me on the camera""
Me- draws and shows
P-""yes that's good, what do each of these do?""
Me-tells
P-""right, define Pascal's law""

EXXONMOBIL

Me-tells
P-""fine, so hydraulics and pneumatics use pascals law, correct? But where do they differ?""
Me- tells
P- ""So which do you think is better at higher pressures?""
Me- Umm confused. Let me try. At higher pressures air is bound to get compressed more rather than transfer pressure to the walls. So lesser the likelihood of failure. so maybe because of that pneumatic pipeline are better
P-""Ah no, it's the opposite. Think why""
Me- Okay I was wrong. So irrespective of getting compressed the walls would always experience the same pressure (Pascal's law). So, liquids are better at transmitting as they at least don't get compressed. So, they transmit better than air (cuz they are incompressible)
P- ""Yes you are right. Define stress and strength to me""
Me- answers
P- ""Okay so in a stress strain graph, name the different points""
Me- blab blab
P-""Right so while designing what would you take- yield or ultimate strength""
Me-Ultimate
P-""but what if the material yields?""
Me-Ah yes sir, My bad. I remember sir telling us we have two factor of safeties, one all the way up to failure and other only up to yielding.
P-""Yes exactly so factor both in when you design""
Me- sure sir
P-""I see you have done all internships as a single student with no experience of working in teams. Do you have anything to say on that?""
Me- I was a part of the 3D aeromodelling club where I worked with teams' sizes between 3 and 7 for building model airplanes. So yeah, I have had that experience too.
P-""that's good. You have any questions for us?""
Me- I would like to know if there are teams that focus on computational modelling in ExxonMobil. I find myself increasingly interesting in that domain these days and would like a peek into the industry.""

EXXONMOBIL

S- That's a good question, we do have vendor based CFD happening in our Tech centre. But usually, we like doing some analysis ourselves. (Blab. Don't remember)
Me- That's great to hear. So, would be possible to choose projects if offered an internship?
S- Usually we assign teams as per the availability and requirement. But we also keep in mind the background. So don't worry (at this point I felt I almost got selected)
Me- That's great to hear sir. Thank you very much. Is there an option to convert to a PPO later if offered?
S- yes very much. That depends on the performance. But you go say to anyone you did an internship at ExxonMobil; it has some value!
Me-""Thank you sir. Pleasure talking to you""
S-It was a pleasure to have you to. We wish you luck for your results! goodbye!"

DR. REDDY'S LABRATORIES

PREPARATION

Prepare general core topics mostly thermodynamics and som.

PROCESS

Dr.reddys had conducted an OT completely on core subjects(mainly on SOM, thermodynamics,automobile engineering.)

Questions are based on the basics and going through the notes will be enough.

Then there was an interview for 15mins. There were questions based on internships I have done before and my fav subject. I told my fav subject is thermo and they asked questions like what are the three laws of thermodynamics, explain different cycles and pretty generic stuff).

There were not many hr questions.

EXPERIENCE

I have done an internship on "Man power Optimization". It was a techno managerial role. We used industrial tools to come up with solutions. It deals with increasing the productivity of man power by incorporating lean manufacturing and minimizing the waste or non value added activities performed by the operator. We have used various industrial and ergonomic tools and got to conclusions on what improvements can be done.

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