Placement Interview Experience

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Department: Electronics and Telecommunication Engineering

Batch: 2022

Company Name: Texas Instruments India Pvt Ltd.

Job Role: Analog Engineer

Domain of Your Role*(Software Development/Consulting/Core Electronics, etc)***: Core Electronics**

Cut-off: 70% in Btech, XII, X education.

Interview Process*(How many rounds were there and what were the rounds?)*:
1st round: Technical + Aptitude MCQ test
2nd & 3rd rounds: Technical interviews
4th round: HR

Questions asked in the each stage of the process:
1)**WRITTEN ROUND**: It consists of 20 analog and 20 aptitude MCQ Qn with sectional time of 45 min and 30 min resp.
The questions were typically based on Transient Analysis of RL(v imp for written test), RC circuits, Diodes circuits, basic amplifier circuits, op-amp circuits(imp), Buffer, basic knowledge of filters, bode plots.
In our case almost 30-40% qns were similar to our 3rd year internship written test for both analog as well as aptitude part.

2)**INTERVIEW ROUND**: in my case there were two technical interviews approx. of 1 hrs each. Here they mainly focused on basic RC circuit(both time and frequency response, imp for interview),op-amp config. Positive and negative feedback, op-amp with mos, conditional feedback Questions.

At first they start with a basic circuit and then go on modifying the same circuit to a moderate level and you need to catch the concept for each circuit. Feel free to ask for hints/help at any stage if you feel you are going the wrong way or not getting the concept. Try to interact with the interviewer instead of just giving two-word answers, or being silent. Tell him what you are

thinking for the particular circuit, you will automatically get to know where you're making mistakes.

Some examples I am writing here so that you can get an idea about the interview.

Example1: a negative feedback config of op-amp was given, he asked me to draw the transfer function, then he modified the circuit to a practical integrator ckt by inserting a capacitor, then asked me about circuit behaviour, cutoff freq, roll-off factor and other parameters and then he again changed the circuit to positive feedback config- which was basically Schmitt trigger, so he asked me to tell the name of the circuit the draw the transfer function by doing analysis.

Example2: a simple RC circuit was given, So at first he asked me to tell about the time and frequency behaviour of the circuit, as no input and output port was given so I asked him to mention the ports, he mentioned it, then he applied a step voltage and took the output from capacitor (so basically a low pass filter in freq response), so I told him about the behaviour for time response, so he asked basic questions about a cap transient like the initial slope of charging, time constant etc, then he modified the circuit by adding one more capacitor parallel to the series resistor then asked me about time response for 1 v step voltage, time constant, s.s. output, initial output, then again he added one more resistor in parallel with the output capacitor and told me to draw the output.

In the end, he asked me two puzzles and about my projects in the first round.

The level of questions in the second interview round was a bit tough. So I tried to be more focused on behaviour and concepts of circuits instead of focusing on the answer. That's why at the end of the interview, the interviewer told me that your basics are clear.

Reason behind selection results*(Which skills helped you the most to get the job?)*:
Being confident while solving the questions during the interview. Question-solving Approach must be clear at that time. Being clear with the basics(as even he asked me why the charge/current in series is constant). Asking for a hint whenever I think going in the wrong direction, GATE preparation helped a lot.

Preparation Strategy*(How did you prepare for the non-interview rounds? How did your preparation evolve for the interview rounds?)*:

As the Analog subject itself takes the concepts of network theory, control system, device physics and signal system. So, Be thorough with the Basics of these subjects.

Solve as many questions as possible from the op-amp, transient part. Your basics with capacitor should be very clear ;) because the interviewer can insert a capacitor, resistor at any point in the circuit.

Ideal sources (current or voltage) with RC circuits are important topics in the interview. So the behaviour of L or C with these sources must be very clear.

You need not to solve bigger circuits of differential amplifiers or multistage amplifiers, but be clear with basic config. of mos,bjt.

Hope you're preparing for the GATE Examination so try to catch the latest question pattern of Network and Analog Electronics.

Watch the interview experience of TI from YOUTUBE, you will get to know about the level of question and approach.

TIPS: if you are preparing for GATE, try to finish at least network, digital, analog with clear numerical analysis again before the start of 7th Sem, So that during the placement you don't require to start a subject from very basics.

Try to practice aptitude from websites or books before the start of the placement session, because time management in the written round is very important. And almost every company ask aptitude in their written round.

I would also say at the end Luck matters a lot, so don't just focus on one company. maybe u r more interested in one particular domain, and going to get a job in another domain :)

READ:

https://www.linkedin.com/pulse/how-prepare-texas-instruments-analog-engineer-profile-harsh-goyal-1

ALL THE BEST!!!

Resources to prepare from -

Necessary Resources*(Must Do)*:

Analog electronics from Sedra Smith or Razavi,

Electronics 1 and Electronics 2 by Razavi are easily available on youtube.

IIT-Madras Course by Nagendra Krishnapura.(Numerical Analysis is imp.They asked a direct question in the interview)

Advanced Resources*(Can Do)*:
Ali Hajimiri Videos on analog circuit.

Anything else that you'd like to share with the students: