**INDRAPRASTHA INSTITUTE of INFORMATION TECHNOLOGY DELHI**

# Placement Preparation Manual

## General (B.Tech & M.Tech)

# 1. scope

This guide is best suited for B.Tech (CSE) students who have passed 4th semester and are keen to sit for IIIT-Delhi campus placements starting from 7th semester. M.Tech (CSE) students can use this guide in their first year at IIIT-Delhi.

This is strictly an internal IIIT-Delhi document for IIIT-D's students – it is not to be shared with anybody outside the Institute.

Performing well during semesters is essential, at the same time for securing a good job some additional preparation will always prove beneficial. Proper planning and a rigorous brush up of a lot of aspects which include technical, aptitude and your personality traits is required to yield good results during campus placements. This guide is intended to help you in this.

# 2. what companies expect?

Based on inputs from technical and HR managers who visit our Institute for placement, we have compiled this list.

## Must HAVEs

- Strong Technical Fundamentals (Refer to Section A3)
- Strong Coding Skills (Refer to Section A4)
- Strong Aptitude and Analytical Abilities (Refer to Section A5)
- Willingness to stay with the company
  - This can't be taught or acquired. Your passion and interest towards a particular profile or company will automatically ensure this.

## Other vital traits/capabilities which companies want:

- A good approach to problem solving
- Ability to apply theory to practical scenarios
- Find mistakes in your own solutions and improve accordingly
- Curiosity to learn and think out of the box
- Confidence in whatever you say
- Adaptability and Team work

## Some Myths

- "I got rejected because I didn't answer all the questions"

    It's not compulsory to answer all the questions neither they expect from you. Be sure of one thing, even the person who is interviewing you doesn't know everything.

- "He asked me something which I didn't know at all. But I tried to answer it somehow"

    It's good if you have some idea about the problem and can propose a good approach to it. But it's advised to say a flat 'NO' instead of some gibberish answers.

- "I don't know but it seemed that the interviewer didn't want to offer me a job"

    Remove this block from your mind. Every company that visits the campus spends a couple of lac of rupees for a recruitment drive. They are there to hire you, not reject you. They grill you on different aspects just to ensure that only deserving candidates should enter the company.

- "I had 2 technical interviews but 'X' had only 1. Then also I got rejected"

    For most of the companies, number of technical interviews depend from candidate to candidate. They might choose a particular candidate even in a single go or might reject someone even after four rigorous rounds. It's all about your individual performance.

# 3. Usual selection procedure

There is a similar pattern for most of the companies that visit IIIT-Delhi. Initial stages work like more of filtering rounds.

## Filtering (either on CGPA/ Resume)

- Many companies mandate a CGPA criterion of 6-7. CGPA above 7 lets you sit for 95% of the companies.
- Research labs give preference to 9 pointers and above.
- Although CGPA is an important indicator of your academics but during placements, CGPA only works as

## Usually Written Round (Pen Paper/ Online)

- Either Aptitude exam or Technical exam (MCQ + coding)
- Either both (Aptitude + Technical)
- Might be followed by a coding exam (pen paper or

## GD or Case Study

- Mostly for consulting companies

> **Personal Interviews**
> - Technical Rounds (2-3 or more)
> - HR Round
> - Every interview aims at testing different skillset of the candidate like DS, DBMS, CN, OS, etc. or non-technical aspects (mentioned in section 2)

In most of the companies, each round is an elimination round. A lot of companies will test you via a CEO/CTO/Sr. Manager interview (which is usually last). This interview holds extreme importance as these interviewers are usually the final decision makers.

# A. During the year (3$^{rd}$ year)

## A1. what courses to choose in 3$^{rd}$ year?

If you are aiming at top-notch core technical companies:

- Look for courses that offer projects opportunities. This is the year when you can add number of good projects to your profile. **Projects are usually the interview starters.** They help the interviewer know that which all areas you have worked in.

- Opt for courses which help implementing fundamentals learned in first 2 years.

- Opt for (if offered) or participate actively in **Competitive Programming** (hands on programming opportunities)

- Opt for **Software Engineering**. Companies are very much interested in development cycle of any software. How testing phase to be executed? How to design test cases for particular application?

- Opt for **Advanced Algorithms**. The main motive is to keep in touch with DS and Algorithms and companies are really interested to test you on algorithms.

- Opt for **Graph Theory**. Helps you in understanding a lot about how different objects are linked and related to each other. Gives a better understanding of various proof techniques. Companies like Google, Facebook use graph theory vastly.
- Go for courses like **Mobile Computing**. A lot of companies are working on iOS, android, windows mobile apps these days.
- Big data is the field of this century. Courses like **Data Mining, Data warehousing, Information Retrieval,** etc. will help you out for all data analytics companies.

## A2. how to manage your credits?

In all (if not doing B.Tech Honors), one needs to do 18 courses in 2 years ($3^{rd}$ and $4^{th}$). Following is an approach we advise to you. (No approach is well suited for everybody, so select whatever works for you, according to your capability and capacity).

- Do 5 courses in $5^{th}$ semester. You need to devote sometime to your concepts studied in first 2 years.
- Do 4 courses in $6^{th}$ semester. Because you should actually start rigorous preparation for placements.
- Do 4 courses in $7^{th}$ semester. Because placements are on-going, it becomes sometimes difficult to cope up placements and subject load together.
- Do 5 courses in $8^{th}$ semester. Because most of you will be placed by this time and can manage with 5 courses.

NOTE: Next 3 sections talk about what to cover in technical, coding and aptitude. But Section C gives you a rough timeline on how to plan and go about starting your preparation for campus placements.

## A3. technical knowledge revision

Knowledge in different domains of computer science is a strong advantage in placements – perhaps the strongest advantage you can build for yourself. Companies often focus a lot on fundamentals. While revision cannot replace doing

the courses well, even if you have done well in your courses in 1<sup>st</sup> and 2<sup>nd</sup> years, revision is essential as it is likely that you will have forgotten many concepts. Refer to various online resources or textbooks to get a better understanding on your weak concepts. Be sure of one point, they'll never ask you high level concepts – the focus mostly is on fundamentals. Everyone understands the fact that it's not practical to mug up the every concepts or syntax. Just keep your fundamentals clear.

**Must Revise Topics** (Link to question bank)

- Data Structures & Algorithms
    - Strings
    - Arrays, Stacks, Linked List
    - Trees (Graphs if you have time)
    - Heaps
    - Sorting algorithms
    - BFS & DFS

    Implementing all basic DSA in C, from scratch and without code references is the best way to learn them. You need to be clear with fundamentals because interviewers do a lot of modifications to data structures.

    Sample question – "Flatten a binary search tree into a doubly linked list"

- Operating System
    - Scheduling Algorithms
    - Page Replacement Policies
    - Virtual Memory Concept
    - Processes & Threads
- Computer Networks
    - OSI Model
    - TCP / IP
    - How browser requests are handled? (Ex. What happens when google.com is requested by the user?)
    - Subnets and NAT
- Databases
    - ER Model

- SQL Queries, All types of Joins
- Normalization

**Some resources:**
- Cracking the Coding Interview Book
- Geeks for geeks
- Career Cup
- Sameerbsws.blogspot.in

# A4. how about coding?

Strong coding capability is absolutely essential – ability to write efficient and high quality code, and ability to improve it further, will be checked by pretty much all good companies. So, you need to really practice (as there is no other way for coding) writing code, and then improving it using understanding of algorithms and data structures (to improve space and time complexity), operating systems (to improve the run time efficiency using understanding of how caching, process switching, etc. works), databases (how queries are executed) etc.

In your learning phase or during practice, use online resources, textbooks, documentation, man pages, etc. It's helpful to clear your concepts. The more you refer to resources, the better the understanding.

But yes, make a habit of writing the code from scratch. It's perfectly fine to use IDE during the initial days but when it comes to placements, you have to practice without a compiler or any sort of integrated environment.

Three main aspects:

- **Practice code using pen and paper**
    - Write at least 3 programs per week (without any IDE or any reference) using pen and paper.
    - Interviews will always consist of pen paper coding.
- **Practice on online platforms like Codechef, SPOJ, etc.**
    - Refer to Appendix A for various online competitions.
- **Participate in at least 3 Hackathons** (either online or organized by FooBar or Byld) during each semester.
- In case of errors, **debug your code yourself**.

- Practice this: start solving a problem with the worst possible approach. Then do multiple iterations, in each **making your code more efficient in terms of space and time.**

# A5. aptitude and analytical abilities

- Focus mainly on **problem solving** and **logical thinking**
- You might not solve a question but a **good approach** is something an interviewer is looking at.

The key is to develop a knack for it. So keep at it every now and then:

- ⬚ Take online aptitude tests such as on [wiziq.com](wiziq.com)
- Try out brain game apps such as Lumosity
- ⬚ Checkout websites such as [indiabix.com](indiabix.com) and [skillgun.com](skillgun.com)
- Even grade $10^{th}$ mathematics is a good place to refresh the topics.
- Do logical reasoning and problem solving questions from preparation books of SAT, CAT, GMAT, GRE, etc.

All you basically need is common sense and aptitude. Sharpen it a little with tools and you have practiced your 'Analytical Abilities'. The people who come out at the top are those who have fun doing it. So, do these little exercises at regular intervals but make sure you have fun too. A fresh and happy mind can achieve far more than a pressurized one.

# A6. difference for research profiles

Research profiles seek for research work, so while everything discussed above remains, you can consider these to improve your chances:

- Opt for Research BTP (research) / Undergraduate Research / Independent Studies with different professors during your $5^{th}$ and $6^{th}$ semester.
- Try to do substantial work and get it published. Good conference/ journal publication will give you an upper hand in front of your peers.
- Look for internships for summer before placements with R&D labs or with professors at different universities.
- Try to contribute to the on-going work in various research groups at IIIT-Delhi.

# A7. a preparation timeline

This is a suggested timeline/schedule for preparation.

$5^{th}$ **Semester**: Use this semester to revise your weak areas from $1^{st}$ and $2^{nd}$ year (Mainly from DSA, DBMS, CN, OS). Because $6^{th}$ semester onwards, we would advise you to do hands on practice rather than concepts.

## December (after $5^{th}$ semester)

<u>Up to 15-20$^{th}$ December</u>

- Identify which all companies visit IIIT-Delhi
- Make a proper excel which all areas do they work in? Which all areas do they test upon?
- What kind of companies would you like to sit for?
- Finally, make a list of areas you need to do hands on practice in Data Structures and Algorithms, Operating Systems, Computer Networks and Database Management Systems.

<u>Up to 31$^{st}$ December</u>

- Pick up a language (C / C++/ Java only) you are most comfortable with.
- Revise the basis of the language if required.
- Practice one question everyday (till June). You may start from very basic questions if required.
- CodeChef or SPOJ will be good platforms to practice.

## $6^{th}$ Semester:

### January – Mid February

Dedicate these days entirely to Data Structures and Algorithm

- Topics (must revise): Heaps, Trees, Graphs, Linked List, Strings, Sorting Algorithms. Identify more if required.
- Dedicate fixed number of days to each of the subtopics and practice only those problems during those days.
- Do implement the various data structures from scratch. Code all possible functions specific to that data structure.

- Make sure you test your code. Check boundary cases. Try to increase its efficiency if possible.
- Mid February – 1$^{st}$ Placement Mock Test, organized by Byld/ Foobar.
- Make sure that one problem everyday remains active.

## Up to February end – Mid Semester Exams

## March
Dedicated to Databases and Management System
- Although not many companies test on this, but yes all of them working for Data Analytics, Data Engineering, Big Data, E-commerce, etc might ask a couple of questions from this domain.
- Pick one querying language.
- Practice a lot of database design questions. Learn how to translate an ER model to tables.
- Make sure that one problem everyday remains active.
- Mid March – 2$^{nd}$ Placement Mock Test, organized by Byld/ Foobar.

## Up to Mid April
- Practice 8-10 aptitude questions daily. Class 10$^{th}$ mathematics can be a good start.
- Mid April – Appear for Placement Mock Test 3 (AMCAT, elitmus, etc.)

## Up to April End
- Prepare for end semesters and final project deliverables.

## Summer (after 6$^{th}$ Semester):

## May
- Till mid may, revise concepts from operating systems
- Next half of the month, revise concepts from computer networks.
- Must revise topics are mentioned in previous sections. Class lectures and text book should be enough.

### June

- Start looking for company specific questions. GeeksforGeeks should be a good resource for it.
- Look for what individual companies look for during interviews?
- Trim your CV. Add only worthy projects. Highlight your strengths.
- Be sure of every word that is mentioned in your CV.

### July

- Right from July 1, solve 3-5 questions a day from Cracking the coding interview. Follow this book blindly.
- Start framing answers for HR rounds.
    - 30-40 sec Introduction. It should be aligned to the profile offered by the company.
    - How your profile aligns with different companies work areas?
    - Your short and long term goals
- Try mock interviews with your friends.
- Appear for Placement Mock Test 4 (AMCAT, elitmus, etc)

### July End

- Placement Season commences.
- Before each process, go through JD thoroughly.
- Research about each company well and finally appear for it.

# B. pre-placement preparation (may – july)

In this portion we will discuss some specific actions you can take during the summer just before the placement.

# B1. prepare for HR questions

Following link will be sufficient to help you prepare HR questions:

[Link to the HR questions](#)

Some tips:

- Your introduction should be aligned with the profile offered. It's should be 'YOUR' introduction so just talk about yourself not family/ friends.
- Every company you sit for, is the dream company for you.
- Project yourself in a manner that you are perfectly aligned with the profile being offered.
- You have to make the HR believe that you are flexible with locations and timings.
- Don't ever give a hint that you are planning/want to pursue higher education. Except a handful of organizations, none of them wants such people who move out of the organization without contributing much to them.

# B2. tips to finalize your resume

- Follow the campus format floated by the placement cell.
- In 'Expertize area', only mention the courses you are confident about. Interviewers will surely ask something from this.
- Don't mention every other project you have done so far. Only include those which are substantial enough and can be discussed with the interviewer.
- Each project you include in you CV, mention language and major technologies used, the scope of every project and team size.

# B3. homework before applying to any company?

- Read **Job Description** thoroughly.
- Read about what all **verticals** company works in.

- Browse about some of the **company products**.
- Be aware about company's establishment, its various offices, approx. revenue figures and recent advancements, culture, etc.

  This research will help you make a decision whether you want to sit for the company or not. If yes, these questions will help you engaging better during the company's pre-placement talk (usually happens on the day of the campus recruitment drive).

  Also, this research lets you answer a lot of answers during the interviews. o  Why do you wish to join the company?
    o  If given a chance, what you would like to change at the company?

**MUST TRY:** Enquire if some alumni can be contacted who is an employee there. He is possibly the best person to tell you about the company insights.

# B4. tips for any company interview

- Do a lot of company specific questions. Look for online resources that talks about previous year questions. (Ex. Amazon focuses on trees, etc).

- Don't loose it. Keep yourself cool and give your best shot. Most interviewers try to help you reach the solutions.

- Companies like such people who have ability to take hints and come up with a solution. This shows how well or easily one can apply concepts to approach a problem.

- Make sure that you think aloud because the interviewers are keen in knowing your thought process.

- In case of coding questions, it is okay to start by giving the easiest solution (like brute force etc) and say that this is the worst approach. Mention complexity details at each stage. Then keep suggesting improvements in your solution and discuss the problems at each stage. This shows that you understand why something is wrong and what would make it right.

- Be thorough with your CV. Recall your projects once because they are usually the starters as mentioned before.

# Suggestions from Graduating Batch 2015

With the successful end of placement session for the graduating batch 2015, the placement cell is proud to congratulate the deserving students. This is what some of the students suggested when asked few questions:

### What courses I should take in 3rd year?

- Particularly for placements, courses with projects are highly recommended, they are something you can talk about. Moreover, courses such as Practice of Programming are great for placements.
- This is a vital year. You can choose the courses of streams you are interested in and on the other hand you need maintain your Gpa for placements. So it is a tradeoff. If you are not familiarized with the concept of streams, take two or more courses from different streams in the 5th and 6th semester and streamline your interest.
- If you take the courses that you are interested than it will be easier to understand them and also save time for placement preparations.

### How many credits I should take every semester after the $2^{nd}$ year?

- Every student has his own choice depending upon the area of interest. What is really preferred is to aim for 5 courses each semester, providing an option of a 6 month internship as well as dropping a course or two if needed.
- A summer term course may help in lessening the semester.
- Be more focused and try taking extra courses in $3^{rd}$ year, because here you can explore new fields.

### What technical knowledge is required for placements?

- Be thorough with the basic courses namely DSA, OS, DBMS, CN.
- You should be absolutely confident in at least Programming one programming language.
- Courses such as Competitive and Practice of Programming provide the candidate an edge.

### How to improve my coding?

- Start from algorithm designing, practice it and start writing in any language you are familiar with.
- Don't jump into all languages together. Make at least one as your strong suite.
- Practice on HackerRank, HackerEarth, CodeChef, etc. Very effective.
- Take part in activities by FooBar and Byld.

### How to improve my aptitude and analytical skills?
Practice

### If I want a research profile, what should I do?

- Do a number of research projects. Professors are very helping. You are at the right place.
- Exploit BTP/IP credits from $6^{th}$ semester itself. Go deep into one thing.

### How do I prepare for HR questions?

- Always study a company profile, and note some points about company. Also, listen to company presentations very carefully as sometimes questions are asked directly from that.
- Present yourself to the Hiring Manager with respect to company profile, this increases your chances as you tend to show interest in the company.
- Always ask questions.

### How do I finalize my CV?

- Prepare a 2 page CV. Not a line more.
- Projects are the most important part of your CV. Increase as many as you can.
- Add only those things which you is absolutely sure.

"Listen to your elder's advice. Not because they are right, but they have more experience of being wrong"                                    -Unknown

# Placement preparation at IIIT-D

IIIT-Delhi has a culture where students believe in sharing knowledge and experience with other students, be it with same batch, juniors or even seniors. And with time we see tradition becoming culture.

Students volunteer on their own and are given full freedom to run the module as they feel to benefit the students best possible. Dr. Pankaj Jalote, director IIITD and placement cell provides all kind of support required and asked by placement module team.

Placement Module Team:

1. From Jan, 14 – Jul, 14 – Deepanker Aggarwal and Kshitiz Bakshi
2. Fram Oct, 14 – Jul, 14 – Ankur Sial, Nishant Sharma, Sarthak Bajaj, Siddhant Jain and Utkarsh Gupta.

## Batch 2015

- Student module team took full 3 hour exam on topics: coding, aptitude and computer science in February, 14.
- College organized an AMCAT exam on same topics in March, 14.
- Student module team took summer classes every Saturday for 2 months in May-June 2014. They taught various topics in DSA and OS.
- For students remained unplaced, another session of placement studies was taken by student module team in October- November 2014.

## Batch 2016

- Student module team took 2 full 3 hour exam on topics: coding, aptitude and computer science in November, 14 and in March, 15 respectively.
- College organized an AMCAT exam on same topics in March, 14.
- Student module team took semester classes once or twice a week (1-2 hrs. session) from Jan, 15 – Mar, 15.
- Student module team took summer classes every Saturday for 2 months in May-June 2014. They taught various topics in DSA, OS, DBMS and CN.

- Backpack course was formed named "placement studies" with more than 200 students enrolled.
- About 50 hrs. of classes were taken.
- Assignments and other resources were provided.
- Final test will be taken on 5<sup>th</sup> July, 2015 to mark the end of placement module session. The same test will be mandatory for all those students who have CGPA up to 7.5. Based on performance participation in A+ companies will be decided.

# Appendices – Guidelines, FAQ, advise, etc.

## appendix a: what if you don't get selected for first couple of companies?

The whole graduating batch (approx. 200-250 students) can't be placed in the first week itself. You don't know what the interviewer is looking for. Some low pointers will get placed before. CGPA will be a criterion for most of the companies in the final selection. You might have answered everything, but still got rejected. Whatever you think, but this is how it works. Learn from these experience and try to improve on the weak points.

An important note about placements is that companies are happy to reject 100 deserving candidates in order to ensure that they don't hire even one undeserving candidate. This means false positive rates are very high, but there are no false negatives. Getting selected means you're probably great, getting rejected doesn't mean you're worthless. Hiring a misfit is the worst mistake they can make, and recruiters are happy to avoid this in favor of rejecting some people who may be good fits. Thus it is important not to lose hope or faith in yourself.

Take a deep breath, calm down, look at your previous mistakes and look at what is going wrong. Is it written test or specific kind of problems during the interview? Are you not able to write code on paper? Are you not able to approach the problem in a required manner? Analyze the problems being faced and then improve accordingly.

What is important is that the placement cell works hard and dedicatedly to have all of you placed. There are numerous opportunities, and you should be ready to take them. Study hard. Do not be afraid of coding, especially on pen and paper. Do not get disheartened if a company does not select you. There are ample more opportunities waiting to be converted.

# appendix b: crave for good work, not high compensations

There needs to be a stronger emphasis on how a profile is aligned with the candidate's short term and long term objectives. That is the reason why a candidate needs to have a certain idea about how the job is going to be beneficial to them. Once you have that picture in mind, you will be in a better position to reflect on what a job has to offer. The brand equity of a firm, the kind of work you will be engaged in, the personal development and growth it offers to you, it's scope and relevance in today's fast-changing world, etc. should be the key factors influencing your decision.

This is only the beginning, and there is limitless growth ahead. Remuneration should not be our concern at this stage. Things like job profile, brand name should be put above the package.

# appendix c: what your seniors say?

Following are a couple of points that your seniors believe that this helped in their recruitments by various companies:
- Strong fundamentals
- Practice & writing code on paper
- Revising topics specifically in line with the company's domain of work.
- Practice questions from GeeksForGeeks
- Previous years questions

- In prelim round during a campus drive, do not devote all time towards one section. They may have sectional cutoffs.
- Resume is of least importance for many companies. Interviewer may ask a couple of questions about your projects mentioned.
- Positive attitude, calm and humility
- For converting internships into offers:
- Hard work & Honesty

Having listed all the above, never get disheartened. Luck is invariably always a factor. It's necessary, but not sufficient. So do your best.

# appendix d: coding competitions for IIIT-Delhi students

## Large Scale Events

- ACM ICPC: Online Prelims in October, On-site regionals in December Compensation: Complete travel expense

- Programming competitions at Tryst, IIT-Delhi's Technical Festival (held in March beginning)

- Microsoft HackCon (Registrations and online qualifiers for this year were in January, it was the first Hackcon this year. 1st years can't participate. Microsoft IT offered direct interviews for internships to the winners, along with hefty prizes. This isn't another app making hackathon. It's actually system and server hacking stuff.)

- Yahoo HackU (HackU is generally for IIT students only)

- Techfest (IIT-Bombay): Techfest International Coding Challenge is biggest event (online prelims), held in Jan beginning

- Techkriti (IIT-Kanpur) : held in March beginning

- Asian Programming Contest (online), held in March end

- India Hacks (held on Hackerearth every year, worldwide participants, good prizes, programming based contest, Algorithmic, approximate, codegolfing problems), held in March end.

- Facebook Hackercup (Held every year)

- Google Codejam (Held every year)

## Delhi Fests

- Innovision, NSIT's Technical Festival: Mid-February (poor quality)

- Sankalan DUCS (decent quality fest), held in March 2nd week

- DTU Aurora, held in Feb 2nd week

- IGIT (bunch of 3-4 fests by different societies ), held in March 3rd week.

## Monthly events

- Codechef Monthly Challenge (10 day long contest)

- Codechef Monthly Cook-off (2:30 hour contest)

- Codechef Lunch Time (2:30 hour contest, IOI style)

- Hackerearth Monthly Easy Challenge (Good for beginners - Generally held on 1st day of month)

- Hackerearth Monthly Contest (Generally held on last day of month)

- Hackerearth Hiring Challenges (Participating in them can help to think about what a company expects)

- Topcoder SRM's (Time not fixed and time may be unusual like 4:30am)

- Codeforces Contests (Have good problems and there can be as many as contests during a month)

- Hackerrank Weekly Challenges (1 day to solve 1 problem - new problem everyday)

- Hackerrank Hack Contest

- Hackerrank Ad-infinitum (Maths based contest)

## Outstation Fests

- Technie, IIT Guwhati – Happens in July every year

# appendix e: Recourses and initiatives by placement team

### Link to Resources for preparation: **Link**

- Question banks from past placement drives at IIITD
- Resume Format of IIITD
- Placement Policy
- EBooks for preparation
- Placement Modules
    - o  Lecture Slides
    - o  Quizes

**Help to Unplaced Students**

- Sessions for unplaced students
    - o  Technical sessions with faculty coordinators
    - o  Personality grooming session with Prof KM Pathy
    - o  Extra placement drive after 2nd phase

**UpcomingActivities for 2017-18 Batch**

- Core comprehensive exam (Details given below)
- Refresher Module (Details given below)
- Mock Interviews

# Core Comprehensive Recommendations

## Common for both CSE and ECE:-

### 1. Aptitude Exam - Based on CAT pattern
- Verbal Ability and Reading Compensation(VARC) - 15 Questions
- Data Interpretation and Logical Reasoning (DILR) - 15 Questions
- Quantitative Analysis(QA)                    - 15 Questions
- General Knowledge and Current Affairs          - 15 Questions

It will be an exam with **negative marking**.

Total time for the exam will be **90 minutes**.

### 2. Coding Exam : Based on clustering of companies (Common to all)
- Duration : 2 hrs
- 6 questions - one from each section
    - Stacks, Queues, Linked List
    - Sorting and Searching
    - Trees
    - Graphs
    - Dynamic Programming and Greedy Algorithm
    - Math, PnC, AdHoc

## Only for CSE:-

### Two exams
- Based on clustering of companies - one paper per cluster
- Duration : 2 + 2 hrs
- CSE - 2 Clusters - Based on Difficulty and content
    - Data Structures & Algorithms
    - Analysis and Design of Algorithms
    - Computer Networks
    - Operating Systems
    - Database Management Systems
    - Programming - Java / C++ / Python
        - Syntax / Error Debugging / Output
        - OOP Concepts
        - Library Implementations

## Only for ECE:-

### Two exams
- Signal and Systems
- Principles of Communication Systems
- Field and Waves

- o   Integrated Electronics
- o   Linear Circuits or Circuit
Theory  o  Digital Circuits
- o   Digital VLSI

## Date of the Exam - 10th , 11th March

- Before leaving for Mid Recess , so holidays are not affected (or blocked for exam prep)
- 2 weeks for preparation after Midsem exams

### *PlaceCom - Mock Interview/Referesher Module for Preparations*
### Placement Prep Week (May 1st to May 7th)

## Exams and Timings

- **Aptitude - 2hr** *- 10am to 12pm*
- **Written Exams (CSE/ECE) - 2hrs** *- 1pm to 3pm*
- **Online Coding - 2hrs** *- 4am to 6pm*

## Schedule

### Set1 - Mock Company A
Day 1 - Written Exam (CSE / ECE) + Online Coding + Aptitude
Day 2 - Result Declaration + Feedback + Group 1 formed (Max 10 students per stream)
Day 3 - Interviews for Group 1

### Set2 - Mock Company B (For those who didn't qualify in set 1)
Day 4 - Written Exam (CSE / ECE) + Online Coding + Aptitude
Day 5 - Result Declaration + Feedback + Group 2 formed (Max 10 students per stream)
Day 6 - Interview for Group 2

**Day 7 - Discussion of the process** and Placement 101 (Dressing and soft skills) by Placecom passing out members

## Organising Team : 6 people.

- Saurabh De - CSE Coordinator
- Prikankshit Mor - Non Tech Coordinator
- Karishma Babbar - ECE Coordinator
- Siddharth Jain
- Kartik Gupta
- Shubham Agarwal

3 overall coordinators and 3 helping for checking, setups and organizing.
Stipend can be given as given in the refresher modules. So it can be refresher module.

**Papers designing responsibilities**

- **Aptitude Papers** - Kartik, Prikankshit
- **Online Coding** - Saurabh, Siddharth
- **Written Paper for Stream**
  - **CSE :** Saurabh, Siddharth
  - **Non-Tech:** Prikankshit, Kartik ○ **ECE :** Karishma

**Exam Structures and Syllabus**

**Aptitude Test (2hrs)**(Topics listed below)
- Verbal Ability and Reading Compensation(VARC)
- Data Interpretation and Logical Reasoning (DILR)
- Quantitative Analysis(QA)
- General Knowledge and Current Affairs
- Behavioral Ethics

**Programming Exam (2hrs)**(Topics listed below)

- Stacks, Queues, Linked List
- Sorting and Searching
- Trees
- Graphs
- Dynamic Programming and Greedy Algorithm
- Math, PnC, AdHoc

**Exam for CSE Students (2hrs)**(Topics listed below)

- Data Structures & Algorithms
- Analysis and Design of Algorithms
- Computer Networks
- Operating Systems

- Database Management Systems
  - Programming - Java / C++ / Python
  - Syntax / Error Debugging / Output
  - OOP Concepts
  - Library Implementations

**Exam for ECE Students (2hrs)**(Topics listed below)

- Signal and Systems
- Principles of Communication Systems
- Field and Waves
- Integrated Electronics
- Linear Circuits or Circuit Theory
- Digital Circuits
- Digital VLSI

Total time for each exam will be **2hrs.**

The exams will have with **negative marking** (to stop guess work and give students reflection of actually how much they are confident about their subject and how much the need to work on).