

## PLACEMENT MANUAL – SOFTWARE COMPANIES (ver 2.0)

Hi everyone. This is [Anubhav Agarwal](#) from IT-05. For the ignorant lots, *like me*, I was recruited in D.E Shaw & Co. on 1<sup>st</sup> Aug'08 and Aricent before that. Here I am going to outline my experience of placement session (although I only had a little bit of it, as I was out from the mainstream job hunting in less than a week☺)

Basically, this manual suits more for those who haven't yet started preparing for placements or are procrastinating, like I was, an year before, and I am hence writing this doc keeping in mind what I heard from my seniors that time around plus my own modifications to it based on my experience. [Read Disclaimer.](#)

First of all, let me tell that those in IT have maximum advantage in the placement season (for IT companies) mainly because they have already studied the subjects that they would be asked in placements. So IT guys just need to revise everything and you are ready to take on any company interview. Also those in ECE with their %ages not in top-league should not try aiming for their core companies, as ECE cores will always be partial about your college percentages and department ranks. [Read Disclaimer.](#)

Now I would say, the right time to start studying specially for placements has almost come. Although I started my preparations seriously in-and-around April but I could manage it only because of my extra-hard work in later months i.e. June and July. Directly coming to the point, the most important subjects required to get through Software companies are C, Data Structures and OS. I could even mark the chapters for you, but let's not go in fine details in the beginning itself.

Below, I will be giving you the exact things (*and no hazy/fuzzy tips that one may never be able to implement*) that one should appropriately do, **in order**, to land him/her in a good job (*read as a highly probable A-job*). Remember, you are sitting in your Campus Placements starting from July end, and this chance will only come once in your life time, so it's very much necessary that you leave no stone unturned and have the right arsenal with you to carry you forward. Also my advice to those who are aiming for MBA/GRE/Civil services is not to leave placement preparations totally, please try to strike some balance and try to devote some time for the subjects mentioned below. It won't be a tough task, if you start sooner than later.

## FOR C Language

Those who don't have any experience with C, they should start with "**Let US C**" by YK for getting acquainted with C language and its features, and then move on to "**The C Programming Language**" by Kernighan & Ritchie and do it thoroughly. This book is very important and I must say that many of the functions and the logic used or taught in the book are asked directly in placements written/interview.

Those who already have studied C previously, its better if you still have a 1 day glance through **Let Us C** and then quickly move on to **K&R** book. Do this book thoroughly as I mentioned before.

At the same time, completing these books without testing your C skills is not advisable, hence you should also ensure that you do almost all questions of "**Exploring C**" and "**Test your C skills**"(many questions overlap) by YK. At least this is what I did and many of my friends also. And it will take sufficient time to complete these, but don't try to rush through them. Learn the concepts involved in answering each question and keep linking all information that you are gaining.

This will take care of your C Portion completely, and you don't have to take any further tension regarding C language wrt placements. C portion will take around 21 Days with serious hard work into it. If you are taking less time, then either you are rushing, or you are going real great.

## FOR C++

C++ is literally a class ahead of C, but it's not necessary to do it. One could very well manage by knowing C and basic OOPS concepts only. FOR OOPS concepts and C++ fundas, the book recommended is "**Turbo C++ programming**" by Robert Lafore (Galgotia publications). Try to understand why is C++ more useful than C, and relevance of OOPS concepts in modern day programming. When you feel the need of OOPS in modern programming you will automatically feel the urge of learning the basic OOPS concept and you will always remember them too. This thing is very well taken care of in Robert Lafore book completely *based on Borland TurboC++ IDE* that our college labs use on windows.

I would recommend C++ to be done only by those who have done this in their XI-XII duration, others should leave C++ for now, and continue with Data Structures instead.

### Some resources you would need (ebooks available on net)

- The C Complete reference (ver 4)
- The C++ Complete reference(ver 3)
- Object-Oriented Programming in C++ [Macmillan, Robert Lafore]
- ANSI C Standard (Official Standard of C set by ANSI – *(difficult to find)*) This book is a definitive answer to all of your C doubts.
- Google → comp.lang.c frequently asked questions

## FOR DATA STRUCTURES

Again, those who have not been familiar with C and the concepts of Data structures should first go in with the “**Data Structures with C**” by YK and quickly move on the “**Data Structures using C**” by **Tanenbaum**. This book is **the** most important part of your placement studies, and one needs to understand each and every concept written in this book. The concepts may be asked directly, or their mix-match applications can also be asked. Hence understanding the concepts is necessary.

After mastering this book, which should take fairly quite a lot of time,(3 weeks approx.) finish the pdf “**Crack the Interview**” once, again by understanding the logic applied to answer each question. This pdf is an exclusive collection of some of the most frequently asked questions in placement interview, and, seriously most of the questions I have heard of in our placement season were also from this book itself. So this is again very important.

I specially emphasize on Linked List, Trees, and Searching and Sorting chapters of Tanenbaum book.

## FOR OPERATING SYSTEMS *(remember the manual is only for S/w companies)*

Software companies often ask questions from operating systems also in their written and interview session. The subject is quite interesting for those who have interest in computing and there are only few chapters to be done from Galvin book namely, “Operating Systems” edition 6 or 7. Proper understanding of the concepts presented in OS will also help you understand some finer details of C language also, such as Memory models, heap, static memory etc.

The important topics that I can share are

- Process concepts
- Threads
- Semaphores
- Paging and Segmentation
- Virtual Memory

This will be a cake walk for COE students who will complete OS in 6<sup>th</sup> sem, and for IT students who did it in 4<sup>th</sup>. This will take not take more than 7 days even for unfamiliar students (ECE/IC guys), and 2-3 days for COE/IT.

## FOR UNIX/Linux

Learning UNIX/Linux is not few days work, it takes a lot of time to master it, so you should only plan to do the basics of UNIX OS, and learn some frequently used commands and little bit of shell scripting. This won't take a lot of time, and ensure that you revise these things if you don't practice them on Linux. Remember that doing this is very much necessary, and you should not skip this in any case whatsoever as few questions related to simple UNIX commands and concepts are often asked in the interviews.

I would recommend "**UNIX Shell Programming**" by YK again, and doing around first 6-7 chapters from it. This will take around 2-3 days when done for the first time, and 3-4 hours next time during revision. Again, this would only help you tackle some of the questions (and not all) in written and interview related to UNIX, but this would definitely help improving your chances of cracking the interview and making the interviewee believe that you do not know Linux so well as you haven't been taught it, but still have a good idea about it, which is all you have to prove to them.

## FOR Algorithms

I can't elaborate much on this as I myself didn't studied this after 5<sup>th</sup> sem. So I would only say it is important but only for understanding the time complexity fundas, understanding some basic Algorithm techniques like Divide and conquer, Greedy Algorithms etc.

Rest would be taken care of by "Data structures using C" by Tanenbaum book itself.

The book to be followed is

- Introduction to Algorithms 2<sup>nd</sup> edition by Cormen
- Algorithms from Sartaj Sahni(Galgotia publications)

## FOR Networking(IT only)

If you are in IT you already know Networking sufficient for placements, just revise it thoroughly during June-July time and you are done. And if you are in COE, it would be better if you leave the subject untouched. This won't be affecting your chances at all as you have not been taught the subject yet in your curriculum.

For the IT guys Theoretically, the Forouzan book is more than sufficient and for practical purpose, the 5<sup>th</sup> sem Lab work of Socket programming should be revised seriously. The pdf you would need is "Beej's Guide to Network Programming".

### Important Topics

- OSI Layers
- Networking Devices(ch-15)
- IP Addressing (IPV4 and IPV6 both)(asked more in Adobe and DE Shaw)
- TCP protocol
- WWW and HTTP (asked exclusively in Yahoo)

### Some resources (**on net**)

- Forouzan Slides available
- Beej's guide to Network programming ( for Socket programming )
- Beej's guide to UNIX IPC

## FOR Database

Read "**Database System concepts**" by Korth, which is the book prescribed by faculty during IT-5<sup>th</sup> sem and COE-6<sup>th</sup> sem. Note that, this is not very important, but few topics such as

- Normalization
- ACID properties

are asked almost always, so don't skip them for sure.

## FOR Software Engg. (IT only)

IT guys should also read **Sangita Sabharwal book of Software Engineering**, although you will be doing the subject in 6<sup>th</sup> sem also so this won't take more than a day. This subject has been regularly asked in D.E Shaw interview since last 2 years.

## Important Links

[Placement Manual \(ver 1.0\)](#) ← *Those who were confused why I named my manual ver 2.0*

<http://placementsindia.blogspot.com/>

<http://www.jobsrain.com/jobs/index.php?board=8.0>

<http://www.freshersworld.com>

<http://www.chotandarad.com>

Orkut Communities – Ask your doubts, Share your solutions and find more than one way of doing typical problems here. Developing this thinking is essential for success. Contributing and discussing more in these forums will help you and others learn gradually.

- [Target Placements](#) -- Read past discussions and interview experiences also.
- [C/C++ Programmers](#)
- [Data Structures Puzzles](#)

Google group

- [Placements09](#) – nice collection of company information and resources used by Class of '09

## Winding Up

Now I am coming to the end of all what I could share with you. Finally I would just conclude by saying, that being an average student in class does not make or break your chances of cracking an A-job, it's your hard work that you put now, especially in the last few months. I believe placements are not much different from the Semester exams, when you can manage those exams well with just last weeks preparation, you will surely succeed with a 2-3 months plan for cracking campus placements. I did and so did many of my friends, so there is no reason you can't. Good luck ☺.

For any more help, feel free to contact me on [anubhavit@gmail.com](mailto:anubhavit@gmail.com). I would be happy to receive your queries, feedback, or comments. Wishing you all a great success.

## DISCLAIMER

Obviously, this doc is not something to be followed blindly, and one should go according to his/her plan and strategy. This is just a doc to give students the right pointers so that they can take a head start and not waste more time as I am quite apprehensive about the placements next year due to ripple effects of Recession on the Global economy.

Also, I would like to reiterate that I have written this cookbook manual to help esp. those

- who do not come in the top-league(top 15%) in their departments
- or who haven't done great projects
- are in the range of 65%-70% in IT and around 70% in COE (approximately) **after dropping**,
- Have one or two supplementary papers pending

so that even they have a great future ahead and aren't deprived of any chances only because either they started late, or they didn't network like their peers.

Those above any of these conditions already stand a great chance of good A-job and even those below should not lose hearts as B-grades are still on for taking, and if luck clicks one never knows.

Also my advice to ECE guys is also my own sole opinion, and one is always free to follow their hearts.