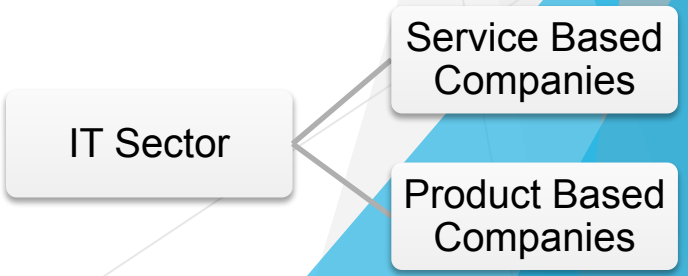
PLACEMENT GUIDE



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updated on 09/08/2021

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About this Guide

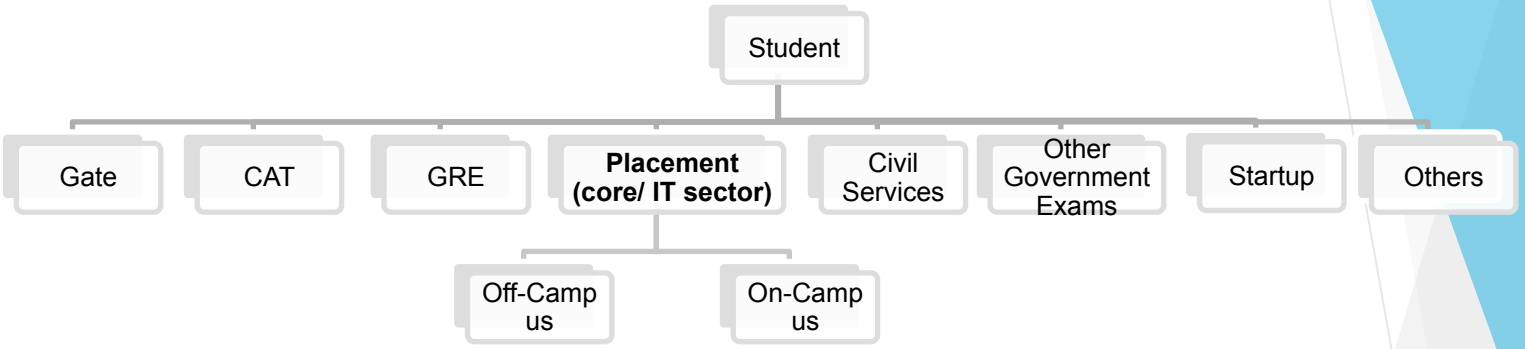
- This guide can be followed by any student irrespective of their branch and year of study.
- It is created with the purpose of providing guidance to the blooming minds.
- I would suggest, take help from this guide and do not follow it blindly.
- The content is based on my own personal experiences and research.
- **To access the links in this guide: Download the pdf and open the file on laptop.**
- Created by:
  Anupriya Nishad (ECE, MMMUT-2021 Batch)

  For doubts contact only on weekends on Instagram:
  https://www.instagram.com/anupriya__95/

  LinkedIn: https://www.linkedin.com/in/anupriyanishad/

  Some of my Interview Experiences:
  https://github.com/Anupriya1729/InterviewExperiences

POSSIBLE PATHS



In this guide, we will be discussing “How to get a job in the IT sector?”.

Students from CSE, IT, ECE, EE branches can easily target this.

While ME, CE, CHE, and other branch students can face some problems as some companies allow only CS and circuit branches to apply. Still they have many options to apply.

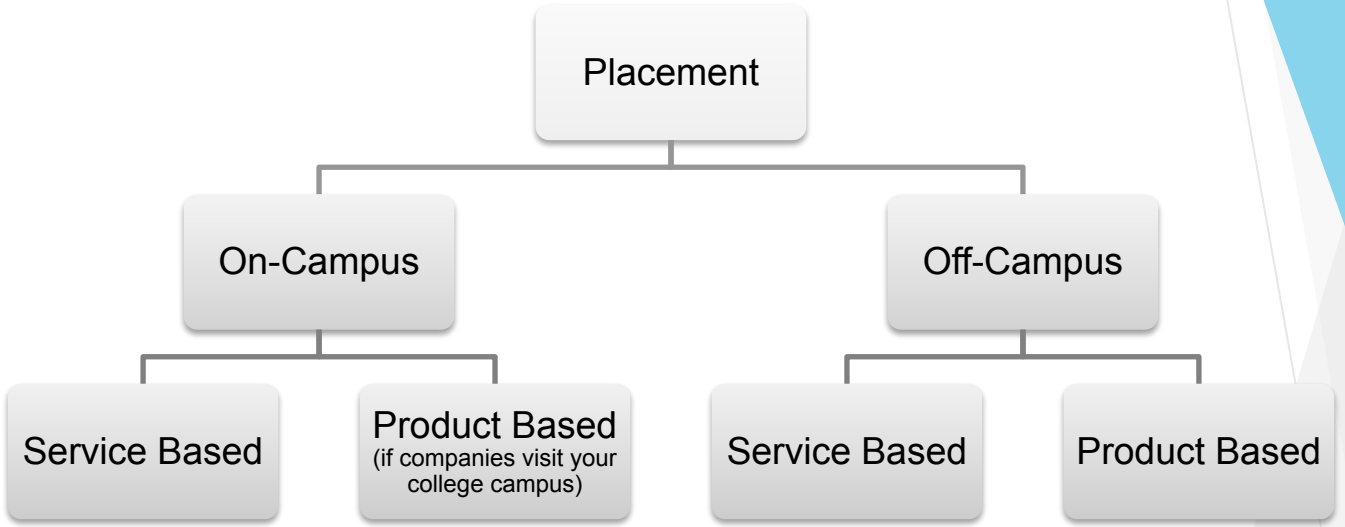
Do's and Don'ts

- **LinkedIn:** Every student should have an account on LinkedIn. LinkedIn not only helps you get connected with people but also allows you to showcase your skills and work to experienced people & recruiters.

Understand the power of right networking.

- **Resume:** Create a Resume if you don't have one. At this point, you might not have many things to put in your resume, but your resume will be now fill in the blanks thing for you. It will give you a clear view of what things to do so that your resume looks good.
- Create a **group** of people. **People with a common interest** will help you in your journey.
  Always do healthy competition with them.
- **COMMUNICATION SKILLS:**
  Effective communication is very important for cracking the interviews.
- Practice whatever you learn.
- Do not waste the first two years of college.
- Explore various things in the first 2 semesters. Grab any opportunity to speak in public. Participate in events.
- Don't get too much involved in college societies. Maintain a balance.
- **Don't run after certificates**, gain skills.
- Be open to learning new things and be aware about the opportunities around you.

PLACEMENTS



I have not mentioned startups separately. Startups can also be service based or product based so it will be covered in the given 2 headings.

PRODUCT BASED COMPANIES

1. Google
2. Apple
3. Tower Research
4. Uber
5. Directi (Media.net, Zeta)
6. LinkedIn
7. Microsoft
8. Amazon
9. Adobe
10. Cloudera
11. Twitter
12. Flipkart
13. Yahoo
14. Rubrik
15. Salesforce
16. Slack
17. Oracle
18. MindTickle
19. Paypal
20. Rippling
21. Goldman Sachs
22. Intuit
23. De Shaw (Arcesium)
24. Walmart
25. ServiceNow
26. Xilinx
27. GitHub
28. Nutanix
29. InMobia
30. Norton LifeLock
31. Codenation
32. Cure.Fit
33. Intel
34. Atlassian
35. Qualcomm
36. Visa
37. eBay
38. BNY Mellon
39. Expedia
40. Paytm
41. Swiggy
42. Grab
43. Morgan Stanley
44. VMware
45. NVIDIA
46. DropBox
47. HackerRank
48. Urban Company
49. Citicorp
50. OYO
51. Cisco
52. Hotstar
53. Hike messenger
54. Ola
55. MakeMyTrip
56. Samsung
57. Times Internet
58. Zomato
59. BYJU'S
60. Dream11
61. Siemens (Mentor Graphics)
62. Junglee Games
63. Dunzo
64. Rivigo
65. Arista Networks
66. Airtel
67. NetApp
68. SAP
69. Synopsys
70. GreyOrange
71. Unacademy
72. Myntra
73. ThoughtWorks
74. Cadence
75. [24]7.ai
76. American Express
77. Juniper Networks
78. BrowserStack
79. Citrix
80. RedHat
81. Ixigo
82. Grofers
83. Snapdeal
84. ClearTax
85. BankBazaar
86. Livspace
87. 1mg
88. Master Card
89. BigBasket
90. PayU
91. Sirion Labs
92. AJio
93. Practo
94. Info Edge
95. J.P. Morgan
96. Mobikwik
97. Proptiger
98. Akamai
99. ClearTrip
100. Dell

PRODUCT BASED STARTUPS

1. Postman
2. Gojek
3. Cure.fit
4. Cars24
5. Razorpay
6. Dunzo
7. Udaan
8. Urban Company
9. Zerodha
10. CRED

and more……

Most of the product based startups hire in the same was as product based companies do.

But for many of them the process is variable. Sometimes they also focus on your development skills. So the hiring process completely depends on the startup you are applying for.

SERVICE BASED COMPANIES

TCS
Infosys
Wipro
Cognizant
Accenture
HCL
Capgemini
IBM
DXC Technology
NTT DATA

I’ve tried to list major service-based and product-based companies. However, there are more companies than the ones listed above. You may explore them on Google or LinkedIn.

PREPARATION

Steps to follow:

- Master one programming language
- Data Structure & Algorithms
- CSE Core subjects
- Skills in a particular domain (at least 1) –
  some popular ones are: Web Development/Android/Machine Learning. I've discussed only about web development here. You may explore the other options on YouTube, Udemy, Coursera, etc.
- Minimum 2-3 decent projects
- Internships (at least 1)
- Achievements **(**They are not mandatory but to make your resume stand out you should have some achievements in your Resume**)**
- Aptitude & Reasoning – It is important for on-campus placements, TCS NQT, E-litmus, Amcat, Hiring test by Goldman Sachs, and so on.

Meanwhile, try to maintain your **CGPA.**
Many companies have CGPA cutoffs. Mostly it is around 7 or 7.5 but for companies like Cisco, it can be as high as 8.5 cgpa. Try to give your best but don't get over-burdened by the academics.

Roadmap Link: http://bit.ly/roadmapTUF

Programming Languages:

C++/Java/Python are the most popular languages.

Pick any one and get command over it. Students are often confused about the fact that which language to select, which is the best language etc.
There is no as such best language. It totally depends on what you want to do.
If you want to do coding then I would suggest you to go with C++.

C++ is my preferred language for coding and a large number of people prefer it for coding due to many reasons.
- It is both object oriented & functional
- Short crisp syntax
- Large community support

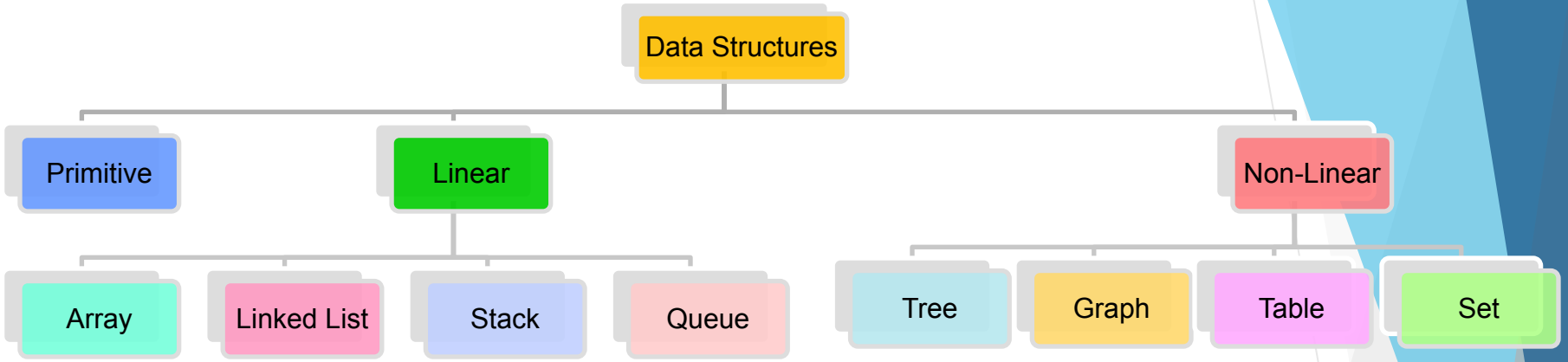
Practice the language for at least 10 days on:
https://www.hackerrank.com/

Book:

https://books.google.co.in/books?id=tVc6VQoxhqkC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Other resources for learning C++ :
Free C++ Tutorial
Beginning C++ Programming - From Beginner to Beyond
GFG 20 day curriculum
C++ STL in 45 minutes

Data Structures :



Advanced Data Structure are not listed here, they are required only in case of competitive coding or in hiring process of companies like Codenation etc.

Study DS from GEEKS FOR GEEKS: https://www.geeksforgeeks.org/

Take help from YouTube or you can also enroll in any course if you want. If you are getting a structured course then it is worth spending some money on your skills.

Sites for Practice:

HackerRank: https://www.hackerrank.com/ (For Beginners)

Leetcode: https://leetcode.com/
(Do at least 10 easy questions related to each concept first then move to medium then to hard)
Try to solve more number of medium questions once you are done with the basics.

Algorithms

- Analysis of Algorithms
- Searching and Sorting
- Greedy Algorithms
- Dynamic Programming
- Pattern Searching
- Other String Algorithms
- Backtracking
- Divide and Conquer
- Geometric Algorithms
- Mathematical Algorithms
- Bit Algorithms
- Graph Algorithms
- Randomized Algorithms
- Branch and Bound
- Quizzes on Algorithms
- Misc

Important DSA out of the ones listed above:

Arrays
Searching and Sorting
Binary Search and it's modifications
Two Pointers
Strings
Linked Lists
Stacks
Queues
Recursion and Backtracking
Hash maps and Sets
Bitwise Manipulation
Trees
Heaps
Greedy
Dynamic Programming
Graphs and Topological Sorting
Union Find
Tries

Resources

DSA: https://cp-algorithms.com/

https://www.geeksforgeeks.org/data-structures/ https://www.geeksforgeeks.org/fundamentals-of-algorithms/

https://drive.google.com/file/d/1FMdN_OCfOI0iAeDlqswCiC2DZzD4nPsb/view

https://leetcode.com/ https://cses.fi/book/book.pdf https://atcoder.jp/

DP: https://leetcode.com/discuss/general-discussion/458695/dynamic-programming-patterns

Backtracking: https://leetcode.com/discuss/interview-question/1098081/Famous-Backtracking-Problems

Competitive Coding:

Being in touch with CP is highly advisable as it helps a lot in coding tests. Even if you are not liking it in the beginning, sit for at least 1 contest in a week. (Upsolve: solve the questions you were not able to solve after the contest gets over using the editorial provided.

CP(Competitive coding) SHEET: https://bit.ly/tuf_CPList https://www.codechef.com/ https://codeforces.com/ https://a2oj.com/

Interview Questions:

https://www.interviewbit.com/ □ InterviewBit

SDE SHEET (interview questions) : https://bit.ly/takeUforward_SDE , For Coding Interview Practice : https://www.pramp.com/

YouTube Channels:

take U forward , TECH DOSE , Code Ncode , https://www.youtube.com/channel/UCJqx8MM4gDPDy8TqVVlPyLw □ Arsh Goyal

✅CP SHEET: https://bit.ly/tuf_CPList

✅SDE SHEET: https://bit.ly/takeUforward_SDE

✅Placement Series: http://bit.ly/placementSeries

CSE CORE SUBJECTS:

1. Object oriented programming (OOP) concepts
2. Database Management System (DBMS)
3. Operating System (OS)
4. Software Engineering
5. Computer Networks (depends on the company you are interviewing for)
6. System Design (depends on the company you are interviewing for)

Resources:

- Geeks for Geeks
- https://www.youtube.com/channel/UCA6yfpYhy5sWMjRGOT-OAIQ
- https://www.youtube.com/results?search_query=gate+smasher
- https://drive.google.com/drive/u/0/mobile/folders/1v1Vu91TQuzASmK7pQ_QrSOrpW4LC6w1V
- https://practice.geeksforgeeks.org/courses/SDE-theory

Web Development:

Start by reading about :
How does the internet works? How does the website work? What is HTTP? What is a server? What is DNS?
(Search on YouTube or read articles on medium.com)
Article: https://academind.com/tutorials/how-the-web-works/
Video: https://www.youtube.com/watch?v=hJHvdBlSxug

Front-end: includes the portion of the website which the user can see
Back-end: consists of all the business logic and the background functioning.
Basics that everyone should know:
HTML, CSS, Basics of Java Script
Resource: https://www.w3schools.com/ , https://www.freecodecamp.org/
Frontend Frameworks: React, Angular, Vuejs, etc
Backend : NodeJs, Django, Flask, Spring boot, etc
A full-stack web developer is also required to know about databases and database integration.

https://www.udemy.com/topic/web-development/free/

Paid Course:
https://www.udemy.com/course/the-complete-web-development-bootcamp/
https://www.udemy.com/course/python-and-django-full-stack-web-developer-bootcamp/

Roadmap:
https://www.youtube.com/watch?v=GLk7-imcjiI

Code Editors
- VS Code (https://code.visualstudio.com/download)
- Brackets (http://brackets.io/)
- Atom (https://atom.io/)
- Sublime Text (https://www.sublimetext.com/3)

PROJECTS

- https://www.youtube.com/watch?v=SI5ISZa0IL0&t=516s
- https://www.youtube.com/watch?v=Y6AA3aGxuxk&t=238s

Projects can be in any domain. Whatever technology you opt, make sure you have a good understanding of it.
Know the ins and outs of your project.

Internship

You should plan your preparation such that at the end of your 2nd year or 3rd year you should have at least one internship in your hand.

Also try to get a 6 months intern in your 8th semester if your college allows it.
In this covid time you can also go for off-season internship as colleges are closed.

Start applying and doing research about the companies as early as possible.

Internships are potential chances of getting you a **PPO (Pre-placement offer)** from your dream company.

You can apply though:

1. Careers page of a company
2. LinkedIn
3. Ask for a Referral on LinkedIn or any direct contacts
4. Internshala
5. Cold mailing

Try to do an internship in the Software development, web development, problem setter or related domain. Doing an content writing intern or campus ambassador intern won't help.

Achievements

- Good ranks in coding contests on Codeforces, Codechef, Leetcode weekly and biweekly.
- Coding contests by big brands like Google – Hash Code, Code Jam, Kick Start etc.
- Securing decent position in hackathons – https://www.hackerearth.com/challenges/ , https://devfolio.co/hackathons , Smart India Hackathon
- Getting selected for Open Source Contribution programs
  Google Summer of Code (GSoC) : https://medium.com/mobile-development-group/a-complete-guide-for-gsoc-a1fa9a3aff76
  HacktoberFest, Outreachy, MLH Fellowship.
- Offline competitions
- Teaching (Example: Taught web development to 20 students)
- Doing research work under any professor in IIT, NIT etc.

RESUME

- Ideally should be of 1 page
- Should not contain a photograph (until asked explicitly by the company)
- Should have a proper layout
- A good resume is not only about how it looks but more about the content it has.
- Must have sections in a resume:
  Education, Skills, Internships, Projects, Achievements
  Optional: Position of Responsibility, Extra-curricular
- Writing about certificates of participation does not add any value.
- Writing about completed ‘abc’ course from ‘xyz’ website does not add any value.
  Take courses to gain knowledge, not to add it to the resume.

To create a proper resume:
1. https://novoresume.com/
2. https://www.overleaf.com/latex/templates/
3. You can also create a simple formal resume on Microsoft Word.
4. You can get the resume template I used to apply for all the jobs from TNP Cell, MMMUT.

You can search for more sites if you do not find the above ones useful.

Service-Based vs Product-Based

- A product-based company is a company that makes products that might or might not be related to software. However, they do need the IT department to make that product more sellable. In Simple words, Product based companies are those that create some products like Oracle, Adobe, Samsung, etc. are product-based companies.
- A service-based company is the one that provides customers, clients the ultimate solution to their requirements or a service to another company.
- For someone who is preparing for placements, it is important to understand the difference between the hiring process of the two types of companies.
- Service-based companies like TCS, Infosys, etc hire fresher mostly through the tests/contests that they organize on yearly basis.
  The level of the test is descent and one can crack it with moderate preparation.
  Some of the exams like TCS NQT contain more questions on aptitude (but also have a coding section).
  The Programming section is common in all the tests but if you are targeting these companies then make sure you focus on Aptitude also.
- The interview process of Service Based companies mostly consists of 1-2 Rounds.
  The interviewers focus more on the basic concepts and Resume (For lower packages 3.5lpa)
  But for higher-paid roles offered by these companies, they test the candidates properly so you need to have a good understanding of whatever you gave mentioned in your resume and basics of CSE core subjects.
- Product Based & Fintech companies hire mostly through Hiring Contest or Resume based selection for the interview process to begin.
- Hiring Contests are majorly focused on Problem Solving but companies like Goldman Sachs also ask Aptitude, Numerical Reasoning, Abstract Reasoning, etc in their hiring test.
- The number of interviews can vary anywhere between 1-6 rounds.
- The interviews are majorly focused on problem-solving skills, CSE core concepts, and topics listed in your resume.
- Various rounds can be: Technical Round, Code pair interviews, Bar raiser round, HR round

On-campus vs Off-campus

On-campus	Off-campus
More Chances of getting hired as competition is less.	Getting hired is a bit harder, but definitely possible.
The number of rounds is generally lesser.	The number of rounds depends totally on the company.
You can get placed with minimal coding in companies like cognizant. They test majorly on Aptitude and ask basic questions in the interviews.	You need to be well prepared.
CTC range is narrow for most of the colleges (Except IITs, NITs, BITS etc)	CTC has a wide range. How much you can grab depends purely on your preparation. TCS offers 3.5 min in off-campus While **SDE1** salaries at Amazon can be around 35 lpa.

Interview Preparation Tips:

- **Know your resume:** Prepare well about all the projects, internships, skills, etc that you have mentioned in your resume.
- **Read interview questions** for each topic that you are preparing from geeks for geeks, interviewbit, javatpoint, https://www.interviewbit.com/oops-interview-questions/ , or similar websites.
- Give at least 10 mock interviews on pramp.com before the actual interview.
- Do company-specific preparation when interviews are near.
- Read at least 10-15 interview experiences on geeks for geeks or similar websites.
- For code pair interviews:
  1. Explain your approach instead of directly jumping to the code section
  2. Start from brute force
  3. Talk about your assumptions if any
  4. Do clear conversation and speak while you code
  5. Give proper names to the variables and try writing clean code
  6. Writing comments is always a plus point
  7. Talk about Space and Time Complexity of your code
  8. Optimize the brute force solution
  9. Talk about Space and Time Complexity of your code & the tradeoffs
  10. Always ask the interviewer whether he/she is satisfied with your approach or more optimization is needed.
- Wear formals. Make sure you have a proper internet connection and phone on silent mode in case of a virtual interview.
- Prepare few HR questions and do some research about the company.

To know about opportunities:

- https://www.linkedin.com/in/arshgoyal/
  https://www.youtube.com/user/ARSHG1998
  https://t.me/goyalarsh
- Visit career page of companies
- Be active on LinkedIn. Follow people who post about job openings. Follow recruiters.

How to approach the recruiters?

- Apply directly for the job on careers page (depends a lot on your resume)
- Job opportunities through coding contests and hackathons
- Take referral to ensure that you get the test link.
  Approach the right person on LinkedIn or in your contacts with you resume and job id/link
- Cold mailing the recruiters with a short message and resume.

Note: If you want to take referral then take it before applying to the job opening. You will receive a referral link, then apply using that link.

Entire Process

This is the general process followed by most of the companies if your are applying to any job opening:

1. Application stage : Apply through any of the process mentioned in the above slide.
2. Resume shortlisting stage
3. Test : Test link will be received. The test can contain coding questions, CSE core mcq , Aptitude questions or a mix of any of the things mentioned before.
4. Various Interview rounds can be- Technical Round, Code pair interviews, Bar raiser round, HR round. (Depends on the company)

All the best