



# COIMBATORE INSTITUTE OF TECHNOLOGY

(GOVERNMENT AIDED AUTONOMOUS INSTITUTION)

CIVIL AERODROME POST, COIMBATORE-641014.

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## PLACEMENT AND TRAINING CELL

PLACEMENT YEAR 2020-2021

NAME	:	Gowtham K
ROLL NUMBER	:	1705011
DEPARTMENT	:	Computer Science
EMAIL ID	:	gowtham2028@outlook.com
CONTACT NUMBER	:	8300653921
COMPANY NAME	:	JIVOX
COMPANY TYPE	:	DREAM
JOB DESIGNATION Stack	:	Software Engineer / Software Developer - Full
SALARY (CTC)	:	15LPA
INTERN OFFERED ?	:	YES
BOND	:	NO

HAVE YOU PLACED ? : YES

(Please comment this section **in detail** to guide your juniors in bright way)

COMMENTS ON SELECTION PROCESS :

Entire process was conducted online.

ROUND 1 :

- Round 1 has 18 Technical Aptitude questions (with negative marking), No general aptitude questions were asked
- 4 coding questions are given to solve
- 1:30 hour (+ 30 min extra ) time was given
- Aptitude questions were based on Java oops concepts , Data Structures, Networks, http headers, http vs https , CDN, DNS, Distributed systems

Have you cleared the round : YES

Details about Questions on 1<sup>st</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
String	count the number of palindromic substring in given string	sliding window / dynamic programming
String	given a string, return last two characters as one string separated by space eg : "hello" -> "o l"	Index Access
Array	count number of duplicates in an array	sets/ hash map
Array	Running sum Given array of elements , find a minimum element such that the running sum always remains greater than or equal to 1	find the absolute for minimum value in prefix sum array and add 1 to it

ROUND 2 : (Technical HR)

1. Two coding questions were given and asked to solve it
2. First I was expected to give the correct approach and then to code
3. I was able to find correct approach to solve the problem after giving 4 different approaches for first problem
4. For second problem I gave a brute force solution and coded it but time complexity has exceeded for my code

5. So I was asked to optimize it ( HR gave me few hints when I asked him) , then I found the correct approach ( using heaps )
6. HR asked me to give full explanations on heaps align with it's operations.
7. Then, I was asked to give an explanation for polymorphism with real world examples.
8. Then he asked what is deadlock. I explained the concept along with a few examples.

Have you cleared the round : YES

Details about Questions on 2<sup>nd</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
Array	Given two arrays A and B , find whether B is a subsequence of A eg: [ 5 ,7 ,9,2 ] is subsequence of [ 3,5,0,7,1,1,9,2]	sliding window approach
Array / Heaps	Perform K operations on given array elements such that sum of array is minimum operation : choose an element and replace it with $\text{ceil}(\text{element}/2)$	Using heap, retrieves the max element and perform operation on it (repeat K times)

ROUND 3 (Technical HR) :

1. HR discussed about projects I'd mentioned in my resume
2. About 50 min went on project discussion
3. Difference between Front end/ Back end/ Full Stack Developer
4. I had a live website which I did on my own completely. This helped me to explain why I love full stack development( company works on that domain ).

Have you cleared the round : YES

Details about Questions on 3<sup>rd</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
DS	Time complexity Analysis ( Difference between $O(1)$ and $O(n)$ )	Explained time complexity order with examples

ROUND 4 :(Technical HR)

1. HR tested my logical and problem solving skills.

2. HR asked me why I haven't used java in the previous round. I explained to him the reason.
3. He gave an problem on mutex and semaphores ( also he gave me an intro to mutex concept )
4. problem statement :  
 Assume there are N threads  
 A threads must print "Hello" first and wait until all other threads prints "Hello"  
 And then thread should print "world"

He also gave me the starter code:

```
class mutex:
    lock()
    unlock()
    critical section: (as explained above)
    print("hello")
    print("world")
```

considering 4 thread - final output should be : hello hello hello hello world world world world

5. He gave me 5 **horse puzzle** - There are 25 horses. You can not use any timing devices like a stopwatch. Also at any instant you can conduct a race between any 5 horses. Your task is to find the top 3 fastest horses with the minimum number of races.

Have you cleared the round : YES

Details about Questions on 4<sup>th</sup> round:

**[ JIVOX usually conducts long coding round on campus interviews]**

AREAS TO PREPARE :

1. Data Structure
2. oops concepts
3. OS, DBMS
4. Problem solving
5. SQL

SITES / BOOKS YOU SUGGEST FOR PREPARATION FOR THE PROCESS :

1. GeeksforGeeks
2. Hackerrank.com
3. interviewbit.com
4. Data Structure Specialization Course - Coursera
5. Leetcode
6. code signal
7. RS Agarwal for general apti

OVERALL EXPERIENCE :

1. First round aptitude questions were tough to answer.

2. Coding questions were easy-medium type.
3. Company people were so friendly.
4. HR expects to have clear understanding on the project you have done
5. Also, They expect projects that you have done on your own other than course projects( mini and main projects).
6. HR didn't want me to code the HR programming questions completely. They were very concerned about the approach I'm using. And also whether I'm able to apply my knowledge in the correct place.
7. I was questioned a few times why I haven't used java throughout the process( since the company mostly uses java as a backend ).

#### GENERAL TIPS :

1. Be prepared with general apti before you face the first company. This helps you to focus on core concepts.
2. Solve as many as problems you can in hackerrank, leetcode etc.,
3. Learn about the basic concepts of problem solving like prefix sum approach, sliding window approach greedy approach etc.,
4. I used to watch youtube videos on how to solve the famous coding questions. This helped me to find better approaches while solving new problems.
5. Learn the basics of java since most companies test oops concepts based on JAVA.
6. For coding you can use any language. But be fixed with one language and solve all problems using that language. Switching languages might not make you remember basic in-built functions.
7. Also learn how to implement stack, queues, linked list, heaps, sets, hashmap using the language you had chosen.
8. **It is advised to learn C++ or python.** It takes less time to learn these languages as well as it's easier to implement the above mentioned Data structures.
9. For long coding rounds, learn how to use files and different operations like insert, search, delete records etc., (If you know python learn how to use DB since it becomes easier to solve problems)
10. **HR never expects you to know all the technical concepts.**
11. If you don't know the answer or the right approach for the question asked, be confident to ask for a hint and try to build a solution with that.
12. Ask as many questions until you get a good understanding of the problem statement and then start giving your answers. It's better to answer step by step other than solving the question entirely and giving the full answer.
13. stay calm and focussed throughout the placement process
14. Learn about the company before you attend the HR rounds. Pre-placement talks help you understand the company domain.
15. DO as many as small projects other than your mini and main project and upload your code to **github**. Even if it is a simple website HR gets inspired, if it solves any real time problem. Uniqueness of your project idea is more important.
16. When you explain about your project, first explain what inspired you to do the project and the problem it solves. And then get into technical stuff.
17. Update your linkedin profile regularly. (Though you don't have any updates, do make modifications twice a day. Linkedin sends the 1% recently updated profile to HRs of different companies).
18. Resume matters a lot. Be clear about the skills you know and your area of interest. Questions will be asked based on that during HR rounds.

19. DO few certifications on coursera, udemy, udacity, unacademy etc., . This gives HR the confidence that you have capability to learn on your own.

20. **ALL THE BEST**



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## PLACEMENT AND TRAINING CELL

PLACEMENT YEAR 2020-2021

NAME	:	NISHOK N J
ROLL NUMBER	:	1707035
DEPARTMENT	:	IT
EMAIL ID	:	njnishok03@gmail.com
CONTACT NUMBER	:	9080549379
COMPANY NAME	:	JIVOX
COMPANY TYPE	:	DREAM
JOB DESIGNATION	:	FULL STACK DEVELOPER
SALARY (CTC)	:	15
INTERN OFFERED ?	:	YES
BOND	:	NO
HAVE YOU PLACED ?	:	YES

(Please comment this section ***in detail*** to guide your juniors in bright way)

## COMMENTS ON SELECTION PROCESS :

### ROUND 1 :

Online Aptitude[18] with negative marking and Coding[4] conducted on Hackerrank platform. The Aptitude tests your understanding on concepts of Networks, Distributed systems, OOPs concepts in Java and some concepts of data structures and algorithms, the Aptitude was a mix of “pick only one” type and “pick one or more” type, it was challenging in the former case, students need to be sure of the answer before submitting. Followed by the Aptitude, The Coding part having 4 questions based on arrays and strings concept which was an easy-medium ranged problem, if students have some good experience in problem solving it would be a cake walk.

Have you cleared the round : YES

Details about Questions on 1<sup>st</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
Arrays	Running sum	Maximum of absolute value of prefix sum array + 1
Arrays	Count of duplicate elements	Sorting/Using Sets
Strings	Reverse last 2 characters of a string with space separated and return as a string	Index Access/Stack
Strings	Palindrome substring	Brute Force(check all substrings)/Dynamic Programming

### ROUND 2 :

Technical HR Round 1 was Pair Coding in Hackerrank platform. I was asked about my resume, make sure that the resume is updated and honest. I was then given programming questions based on the prefix sum array concept and a follow up question of finding sum of k length subarray. The HR was friendly, I shared my opinion and approach about the problem and consulted with him, it was more of a team effort than a single sided. I asked a lot of questions and corner cases to the HR to get myself clear about the problem and test cases. After the coding session was over, I was asked to answer a couple of technical questions and sql queries . I answered some, some I acknowledged the fact that I couldn't. Overall it was a smooth Experience, there is no need to be anxious, the HR was friendly.

Have you cleared the round : YES

Details about Questions on 2<sup>nd</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
Array	Prefix sum array	Dynamic Programming
Array	Sum of k intermediate elements of array	XOR operation/Prefix sum index subtraction



### ROUND 3 :

Technical HR Round 2 was Pair Coding in Hackerrank Platform, I was asked to solve 2 coding questions. This time the questions were posted to me, with details and sample test cases. I explained my opinion and approach to the HR for the questions, he guided me and made me come to the right track and when the approach was correct, I was asked to code the same. It was easy to implement after I proposed the approach for the questions instead of directly putting my hands into coding. After the coding session, I was asked questions based on my resume and a couple of technical questions on OOPs Concept. Similar to the last round, the HR was friendly, nothing to be anxious about and it was more of a team effort.

Have you cleared the round : YES

Details about Questions on 3<sup>rd</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
Arrays	Minimum sum of array after k operations on elements: operation: $\text{ceil}(\text{array}[\text{element}] / 2)$ and push it back.	Used heap sort(Priority queue) and did operation on top elements and pushed back.
Strings	Elimination of substring as '01' or '10' in a string and return the resultant string	Stack conditional push and pop operation.

### ROUND 4 :

Technical HR round 3 was Pair Coding in Hackerrank platform. I was asked to give an sql query to remove duplicates from a table having 2 columns using group by. using select and delete statements. I could do it by select statement, but tried to do it by delete statement. After that I was given a puzzle to solve, to find the top 3 racers with the minimum number of races to be conducted of a set of 5 races with 5 contestants done before. I said the first approach that came up in my mind and was asked to optimize it, I tried to my best extent, the HR was really supportive, guided me and gave some hints. but atleast could make upto only 90% of the solution. The HR asked a couple of questions about my resume and projects I have done, and asked about my interest. It was a good experience.

Have you cleared the round : YES

Details about Questions on 4<sup>th</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
SQL	Remove duplicates	Select col1,col2 from table group by col1,col2
Puzzle	Top 3 of the race	1.Race with all the top 1st racers in the respective sets 2.Race for 2nd, 3rd positions

## ROUND 5 :

General HR Round was a smooth process, HR asked me questions regarding the resume, interests, projects and some technical questions on basic core concepts of computer science and some other domain specific such as browser cache, cookies, etc.

## AREAS TO PREPARE :

Problem Solving, Data structures and algorithm, OOPs Concept, Operating Systems, DBMS Concepts, (SQL queries on joins and group by), Distributed Systems and Networks.

## SITES / BOOKS YOU SUGGEST FOR PREPARATION FOR THE PROCESS :

### **Problem Solving/DSA/SQL Queries:**

GeeksforGeeks, Interviewbit, Leetcode, Hackerrank, Codechef

### **Aptitude:**

Indiabix, R S Aggarwal.

### **Puzzles and Conceptual Learning:**

GeeksforGeeks

## OVERALL EXPERIENCE :

The Interview process was smooth, First round was easy to clear, succeeding rounds required good conceptual understanding on core concepts, Intermediate problem solving skill and a clear understanding on the projects done. The HR people were friendly and supportive, the online hackathon platform for pair coding sessions were hassle free and smooth. On the whole, It was a good experience.

## GENERAL TIPS :

1. Make sure you are capable of tackling questions based on your resume.
2. Talk out what goes on your mind about the problem given to you for solving, so that the HR gets to know where you face the problem and can try to help you.
3. Be sure of the what you answer and beware of the followup questions
4. Ask questions to the HR to get clarity for the problem you are given with (This is adapted in a software development environment to get clarity on the requirements of the client).
5. Be confident in Answering questions, if not don't answer.
6. Don't be in a hurry to find the answer, think about the problem share your opinion with the HR and move on step by step.



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## PLACEMENT AND TRAINING CELL

PLACEMENT YEAR 2020-2021

NAME	: Maithreyan K
ROLL NUMBER	: 1631026
DEPARTMENT	: M.Sc Software Systems
EMAIL ID	: suryamaithreyan@gmail.com
CONTACT NUMBER	: 8939327471
COMPANY NAME	: Jivox
COMPANY TYPE	: DREAM
JOB DESIGNATION	: Full Stack Developer
SALARY (CTC)	: 15 LPA
INTERN OFFERED ?	: NO
BOND	: NO
HAVE YOU PLACED ?	: NO

(Please comment this section ***in detail*** to guide your juniors in bright way)

## COMMENTS ON SELECTION PROCESS :

ROUND 1 : The online test consisted of 4 Programming questions and 18 technical question and time limit was 2 hrs. The technical questions were mostly asked on topics like Java and web predominantly. The programming questions where comparatively easy.

Have you cleared the round : YES

Details about Questions on 1<sup>st</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
DS & Algo	Palindromic Substring	Expand from centre idea.
DS & Algo	Duplicate Elements	Hash Table
DS & Algo	Swapping last two characters in the string	Swapping the index values.
DS & Algo	Find the min value to be added to make the sum of array non-negative at any point	Find the min-value and add it before.

ROUND 2 : This was the first face to face interview. Started with explaining my projects had few questions from my resume and how I implemented the project. Then we went into the interview.

Have you cleared the round : YES

Details about Questions on 2<sup>nd</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
DS & Algo	“1010011” remove all ‘01’ or ‘10’ – return string length after removing	Used Stack to pop elements if they are different.
DS & Algo	Merge sort space complexity vs quick sort	O(n) vs O(log n)
OS	Deadlock	Conditions for deadlock
OS	What is semaphore?	Signalling mechanism

ROUND 3 :

This round consisted of questions related to fundamentals and was also asked about my projects here. They also asked my interest in working in this domain and I replied positively. And also, few questions on how the web works.

Have you cleared the round : YES

Details about Questions on 3<sup>rd</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
DS & Algo	What is the need for Data Structures and Algorithms	To optimize a solution
OS	What's Cache? What's Cookie?	Cache to access data faster
Web	What happens when you type google.com	DNS to IP
DS & Algo	Dynamic Array	Explained how it works and its complexities.

ROUND 4 :

The round started with asking about my interest in working as a full stack developer and more on front end development. And I replied positively that I am willing to learn. We started with the interview, question on OS, DBMS and OOPS and one logical question.

Have you cleared the round : NO

Details about Questions on 4<sup>th</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
OS	What's Mutex, implement it for a task of printing using multiple threads.	I explained mutex, but needed some hint in implementation.
DBMS	Remove Duplicate elements from a table when all columns values are same	Done using Group By
OS	Virtual vs pure virtual , Inheritance vs composition	Came up with points like, Abstract class ,dynamic bidding.
Logical	Number of race required to find the top 3 fastest horse out of 25 horses , 5 track race course	The logic used was the 2 <sup>nd</sup> fastest horse can only loose to the fastest horse, total race required was 7.

AREAS TO PREPARE : Data Structures and Algorithms, DBMS , Web basics, OOPS and OS.

SITES / BOOKS YOU SUGGEST FOR PREPARATION FOR THE PROCESS : Leetcode, Geeksforgeeks , Youtube channels, Hackerrank.

OVERALL EXPERIENCE : The experience was good, the interviewers were kind and helpful.

GENERAL TIPS : Be good with the fundamentals concepts, and also prepare the basics required for the role you are interviewing for, it will be an added advantage.



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## PLACEMENT AND TRAINING CELL

PLACEMENT YEAR 2020-2021

NAME : ASHWIN RAM S

ROLL NUMBER : 1704006

DEPARTMENT : ECE

EMAIL ID : ashwinsjachu@gmail.com

CONTACT NUMBER : 9600842404

COMPANY NAME : JIVOX

COMPANY TYPE : DREAM

JOB DESIGNATION : Full Stack Developer

SALARY (CTC) : 15 LPA

INTERN OFFERED ? : YES

BOND : NIL

HAVE YOU PLACED ? : NO

(Please comment this section ***in detail*** to guide your juniors in bright way)

## COMMENTS ON SELECTION PROCESS :

### ROUND 1 :

- 18 MCQs and 4 Programming questions. Total time allotted : 2hrs
- MCQs based on Java and Networking.

Have you cleared the round : YES

Details about Questions on 1<sup>st</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
Problem solving	String slicing	
Problem solving	Frequency in a array	
Problem solving	Palindromes in a string	Slicing

### ROUND 2 :

- Live coding round in Hackerrank along with technical question in DSA, OOPs & SQL

Have you cleared the round : YES

Details about Questions on 2<sup>nd</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
DSA	Middle element in linked list	Floyd algorithm
DSA	Merging two unsorted arrays	Heap sort
SQL	Query to find the maximum number and query to find the last two entries	



ROUND 3 :

- Live coding session in Hackerrank along with few technical questions in DSA & SQL
- Time complexity based questions

Have you cleared the round : YES

Details about Questions on 3<sup>rd</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
OOPs	Inheritance based problem	
Problem solving	Array based question with XOR operation	

ROUND 4 :

- Live coding session in Hackerrank with two problems based on DSA

Have you cleared the round : YES

Details about Questions on 4<sup>th</sup> round:

QUESTION DOMAIN	QUESTION	SOLUTION / HOW DID YOU APPROACH
DSA	Array based question involving sorting	Heap sort
DSA	Remove a given pattern form a binary string	Stack

AREAS TO PREPARE :

Data structures, OOPs & SQL. Thorough knowledge in coding problem solving

SITES / BOOKS YOU SUGGEST FOR PREPARATION FOR THE PROCESS :

W3schools, Programiz, Java point

OVERALL EXPERIENCE :

Challenging

GENERAL TIPS :