

PRE-PLACEMENT TRAINING PROGRAM

REPORT- 2019-20

Pre-placement training was organized for final year students which focused on current industry concepts as well as training for placement. Pre-placement training focused on over all development of candidate in order to prepare for various placement drives. The following aspects are included and conducted in the training.

Data Structures with C & Advanced Java Programming: Q-Spider Training Software Institute, Bangalore in association with Department of CSE has conducted a 18 days hand-on training on Data Structures with C and Advanced Java Programming during weekends of April/May and continuously from 10th July-17th July,2019. Mr. Manish Raj, Mr. Rohan Prabhu, Mr. Shariq and Mr. Mohammed Idris trainers were taught Data Structures with C as well as Advanced Java Programming using hands-on session. About 136 final year students were trained by above resource persons.

Algorithms and Image Processing Applications: Dr. Mohammed Javed, Assistant Professor, IIIT, Allahabad was a resource person for the first session on 18th July, 2019. He was addresses about the various Engineer traits and Algorithms with live examples. He also addressed about the research perspective of Image Processing Applications.



Initially Dr. Javed explained about the 10 characteristics of engineers that includes Team Player, Continuous Learning, Creativity, Problem Solving, Analytical Ability, Communication Skills, Logical Thinking, Mathematical Ability ,Attention to Detail and Leadership.



He also explained about the purposes of Image processing and its applications like:

- Visualization - Observe the objects that are not visible.
- Image sharpening and restoration - To create a better image.

- Image retrieval - Seek for the image of interest.
- Measurement of pattern – Measures various objects in an image.
- Image Recognition – Distinguish the objects in an image.

Database Applications & Networking

On 18th July,2019 Ms. Shruthi Shetty and Ms. Ankitha Shetty Department of CSE were handed the Database Applications and Networking concepts. Later they also done the assessment of all the students based on basics of Database and Networking Concepts.

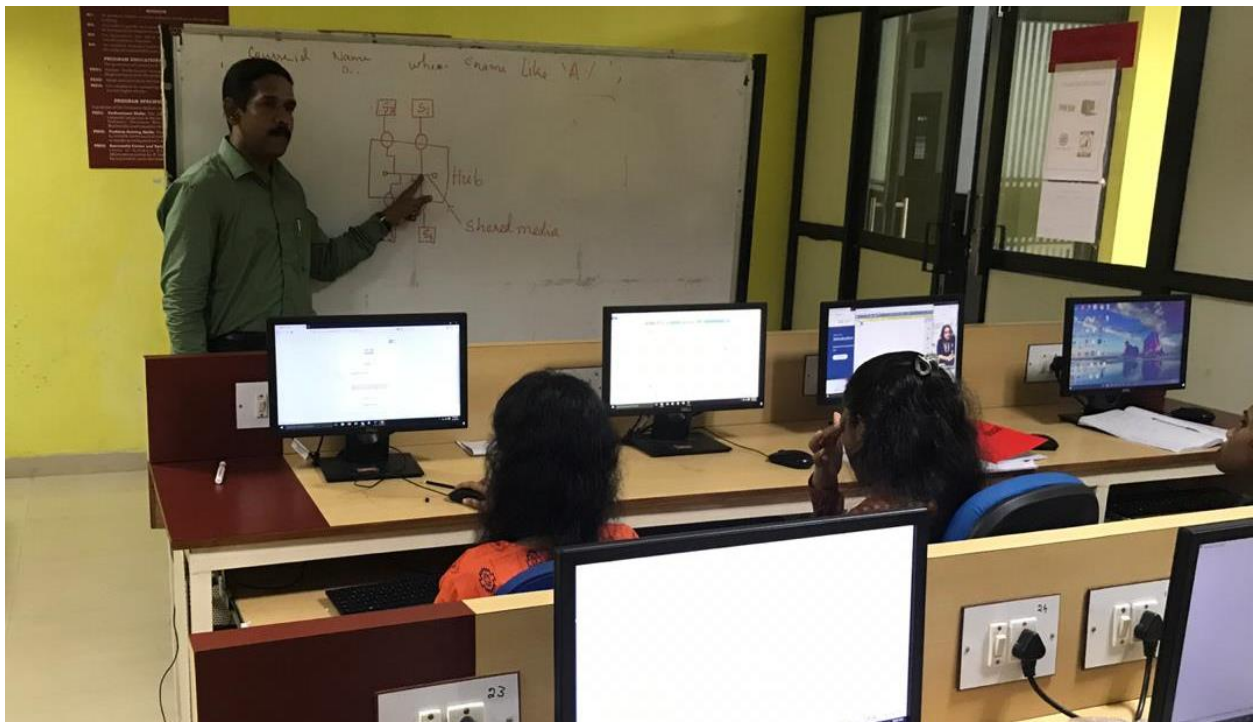
Big-Data Analytics Hands-on Workshop

On 19th July,2019 Dr.Sumith N, Department of CSE handed a hands on workshop on Big Data Analytics. She has addressed about the various concepts of BDA with hands-on session from 9-5 PM.



Hands-on Workshop on Networking

Dr.Jaidhar C D, Depat of CSE, NITK, Surathkal was the resource person for the 18th July,2019. Dr. Jaidhar C D has taken session on Networking with Network Packet Tracer Software. Initially he addressed with live examples in simulations. In the afternoon session he explained and demonstrated the various networking components like switch, hub, router etc.



Programming with C & Data Structures

On 20th July, 2019 Prof. Padma Reddy, Professor, Sai Vidya Institute of Technology, Bangalore was the resource person for the topic Programming with C & Data Structures. He has addressed the students about C Programming concepts starting from Preprocessor directives to Data Structure concepts with live examples.



Data Structures & Algorithms

Dr. Prasanna Kumar H R, Professor & Head-ISE, PES Institute of Technology & Management, Shimoga has delivered a session on Data Structures and Algorithms. Dr. Prasanna Kumar has started the concepts of Data Structures that includes structure, arrays, stack, queue , linked lists, trees and graphs with live examples. He also discussed about Design & Analysis Algorithms with Time Complexity Issues.



Dr. Prasanna Kumar also discussed the Need of Analysis , types and Applications of Algorithms with the live examples. On 21st July Afternoon session he discussed about the various placement related question and answers for the students.



Focus Academy for Career Enhancements (FACE) Aptitude Training

The 8 days Aptitude Training was conducted to final year CSE students First Phase during 22nd to 25th July,2019. The second Phase was conducted during 30th July to 2nd August,2019.



This training helped the students to understand the aptitude topics such as number systems, percentage, perfect loss problems, preposition, problems on time and work, speed time and distance, probability, direction problems, questions related to blood relations, permutation and combination, simple equation. More than sufficient questions were solved in the class. They also gave useful tips to answer the group discussion and interview rounds.



Training on IoT and its Applications

2 days training on IoT and its Applications was conducted on 26th & 27th July,2019 for final year CSE/ISE/ECE students. Dr. Mohit P. Tahiliani, NITK Surathakal addressed the topic on “Need for Speed:Minimize the impact of Bufferbloat on IoT Applications ”



Mr. Vishal Rathod, Research Scholar NITK Surathkal took the hands-on training on IoT Applications to the students.

Workshop on Git-Hub Coding Skills

2 days workshop on Git-Hub coding skills was arranged for final year CSE/ISE/ECE students on 26th & 27th July, 2019. Mr. Sagar from Dlithe Software, Bangalore was the resource person for 2 days. He explained and demonstrated the students about creating GitHub accounts as well as uploading the contents to GitHub.



Workshop on Git-Hub Coding Skills

One day workshop on Git-Hub coding skills was arranged for final year CSE/ISE students on 26th July, 2019. Mr. Sudeep D, Epitas Software, Mangalore was the resource person. He explained and

demonstrated the students about to creating GitHub accounts as well as uploading the contents to GitHub repository.



Workshop on AWS

4 days Workshop on AWS(Amazon Web Services) was conducted for CSE final year students from 5th to 8th August,2019. Mrs. Seema Nair from Callibre Code Solutions, Bangalore was the resource person. AWS introduction, EC2 instance creation, Elastic IP mapping to server topic was completed on day 1 of the training.



Remote connection to AWS server, EC2 snapshot and recovery was completed on day 2 of the workshop. Cloud watch monitoring, s3buckets creation & settings, AWS Cli commands are completed on 3rd day of

the workshop. On final day, s3 bucket backup to server, MongoDB No SQL DB creation and basic queries were discussed.

Workshop on Ad.Java & J2EE, JQuery

Workshop on Ad.Java & J2EE, JQuery was conducted on 5th to 8th August,2019 for final year CSE students. Mr. Charles Antony, Techno-voice, Mysore was the resource person of the workshop.



Java is one of the most popular programming languages used to create Web applications and platforms. It was designed for **flexibility**, allowing developers to write code that would run on any machine, regardless of architecture or platform. Students were trained on various aspects of advanced java like as stated above.

Workshop on Block Chain Technologies

One day workshop on Block Chain Technologies was conducted for the part of the pre-placement training. Mr.



Workshop on Mathematical Applications

Dr. Chandru Hegde, Mangalore University was the resource person of the workshop on Mathematical Applications on 28th July, 2019. Dr. Chandru Hegde discussed the topics of the mathematics like Linear Algebra, Probability & Statistics and Optimizations.



Personality development and Public Speaking

Ms. Kannan Thandi trained students on Personality development and public speaking on 11th & 12th August, 2019. She emphasized the need for being confident in public speaking which helps the students to face the interview. Trainer also spoke about various skills that students need to develop for their future.

IN-HOUSE TRAINING

Students had session on various topic like python application, web programming, database applications, Big data analytics, OOMD, OOPs concepts, Algorithms, Java, IoT etc., by faculties of our department.

1) Object Oriented Concepts with C++ by Ms. Shilpa.

The session started with explanation on Basics of Object Oriented Concepts such as Classes, Objects and Member Function. There are 4 major principles that make an language Object Oriented. These are Encapsulation, Data Abstraction, Polymorphism and Inheritance. These are also called as four pillars of Object Oriented Programming. Encapsulation is the process of hiding the information by warping data inside the classes. Classes contain member function and member data.

Different types of member functions were discussed such as static member function, constant member function, inline member function and Friend functions. Inline function is a function that is expanded in line when it is called. When the **inline function** is called whole code of the inline function gets inserted or substituted at the point of inline function call. A **static member function** is a special member function, which is used to access only static data members, any other normal data member cannot be accessed through static member function. A const or a **constant member function** can only read or retrieve the data members of the calling object without modifying them. A **friend function** of a class is defined outside that class' scope but it has the right to access all private and protected members of the class.

Polymorphism in C++ means that a call to a member function will cause a different function to be executed depending on the type of object that invokes the function. Types of polymorphism was discussed.

All the concepts were demonstrated with programming example and later MCQ test was conducted related to the concepts which were taught.

2) Networking by Ms. Ankitha Shetty.

She addressed on various topics of networks like Classification of network: based on: Transmission media, Topology, Size of the network. She also discussed about working of Packet switched and circuit switched network and also Difference of the same. Functions of each layer of OSI and TCP/IP model. Five major processing-mode categories of Firewalls that is Packet-filtering firewalls, Application gateways, Circuit gateways, MAC layer firewalls, Hybrids was explained Classification of IP address, introduction on IPV4 and IPV6, IP address classes, static and dynamic assignment, port number was explained. Basics, types and working of DNS were explained to students. Cryptography: Block cipher and Stream cipher, Symmetric, Asymmetric method of cryptography. MCQ test was conducted related to the concepts which were taught.

3) Python Application Programming by Prof. Sayeesh

The session started with Introduction to Python, Identifiers and keywords, operators, conditional statements, looping statements, functions, built-in functions, lists, tuples, dictionary, regular expressions. Different programming examples for conditional statements- if, if-else, nested if, chained if and looping statements- while, for. Different programming examples for lists, tuples, dictionary and regular expression. Session was concluded by solving different types of objective type questions.

4) Big data analytics by Dr. Sumith N

As the technology is evolving, it is producing enormous data. The internet, its users and devices are the largest contributors of data. Big data has specific characteristics, namely volume, velocity, varsity and variety. Due to these characteristics, analyzing big data is a challenge.

Machine learning algorithms plays a vital role in analyzing big data. Machine learning algorithms can be broadly categorized into supervised, unsupervised and reinforcement learning techniques. A supervised learning techniques build a models after learning sufficiently from the examples. Data for such a learning system are always classified. Some of the algorithms discussed in the session were K- nearest neighbours, decision tree, linear regression, naïve Bayesian classifiers. Hands on training was given to students.

An unsupervised learning techniques builds the models by looking at the input data without prior training. The dataset is always unclassified. Some of the algorithms are K- means cluster analysis, PCA and factor analysis. Hands-on for k means was given.

Further, evaluation of the model was demonstrated with hands on training.

5) Ms Shruthi Shetty J 18-07-2019 Database Applications

The session started with the Introduction to Database and Database Management Systems. Explained advantages and applications of DBMS. The types of Database languages like Data Definition Language (DDL), Data Manipulation Language (DML), Transaction Control Language (TCL) were also explained. Commonly used terminologies like Entity, Attributes, types was attributes and various integrity constraints were explained.

Keys like Primary, Foreign, Candidate and Super keys with explained with an example. Programming language- Structured Query language and its various constructs were explained with Relational Algebra functions and examples. Example queries were solved in the session.

Functional dependency: An attribute A is said to functionally determine attribute B if each value of A is associated with only one value of B. A is called the Determinant while B is called the Dependent. Full Functional Dependency: If A and B are attributes of a relation, B is fully functionally dependent on A if it is functionally dependent on A, but not on any subset of A. Partial Functional Dependency: If A and B are attributes of a relation, B is partially dependent on A if it is dependent on subset of A. Transitive Functional Dependency: If A, B, and C are attributes of a relation such that if $A \rightarrow B$ and $B \rightarrow C$, then C is transitively dependent on A via B. Along with this Normalization and normal forms were explained. Three normal forms were explained with example.

All the concepts were explained with example and later MCQ test and query both on SQL and Relational Algebra was conducted related to the concepts which were taught.

6) Algorithms by Mrs. Mangala Kini

Algorithms are an essential aspect in today's world. It is a basic to all the problem solving. The session included introduction to algorithms. Asymptotic notations are the important concepts that help in knowing the efficiency of any algorithms. There are three notations: O-notation, Θ -notation, Ω -notation. The basic selection of these notations for various algorithms was given. Followed by explanation on various techniques like Divide and conquer brute force, decrease and conquer, dynamic programming, backtracking, etc. The algorithms that implement the above technique were also explained in the session. The algorithms namely sequential search, linear search, bubble sort, merge sort, quick sort, heap sort was explained along with its efficiency and applications. Some problems like Knapsack, travelling salesman was solved in the session.

Graphs are also a type of problem that can be solved by various algorithms like Floyd, Warshall was explained with example.

7) Web programming by Mrs. Harshitha G M

Topics Covered: Introduction to Web programming, Web servers, Web browsers, DNS, Web, Internet, History, and Practical Implementations of html.

The session started by giving introduction to Web Programming: A brief History of the internet, web, web servers, web browsers, URL's, DNS, HTTP was discussed. Practical Implementations of html- all basic tags, with the concepts of CSS and hyperlinks and images.

8) Database Management System by Ms. Reena Lobo

The session included discussion on Different types of keys , attributes, Entities. Relational algebra-Select and project (Unary operators), join and division(Binary operators).SQL- Insert, delete and update statements in SQL. Exist and not exists, Like, Between and minus operators.

All the concepts were demonstrated with examples and later test was conducted related to the concepts which were taught.

9) Mobile application development by Ms. Reena Lobo

The session started by informing about Basics of Android such as Introduction to android, setting up android studio, setting up AVD(Android Virtual Device).Discussed about different files in android such as java, manifest and resource. Different types of Layouts such as Linear, relative and absolute layout and also different types of orientation. Creating a new project and create app with .xml and .java file.Unlike Java (which is Back Bone of android app), xml helps to design any android app , how it will look , how components like buttons , textview , etc will be placed and their styling. Apart from these .xml is also used for parsing data either from database or server into your android application (Xml parsing). Android Studio is an IDE tool which is used to create Android Apps. The language used to develop an android app is Java.

10) Latex by Dr. Sumith

During the session students were introduce to various aspects of Latex tools as follows:

Installing Latex: Latex is a free software and can be downloaded from miktex.org. The editor can also be downloaded from texstudio.org.

Input file structure: In a LATEX environment, LATEX takes the role of the book designer and uses TEX as its typesetter. But LATEX is “only” a program and therefore needs more guidance. The author has to provide additional information to describe the logical structure of his work. This information is written into the text as “LATEX commands.”

Following environment variables are used to further add contents to the document

1. Environments:
2. Header and footer
3. Title page
4. Section and paragraph
5. Figure
6. Table
7. Enumerations and lists
8. Math equation
9. References