



CHILDREN'S EDUCATION SOCIETY (Regd.)
THE OXFORD COLLEGE OF ENGINEERING

(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi).

Approved by A.I.C.T.E. New Delhi.

Recognised by UGC Under Section 2(f)

Bommanahalli, Hosur Road, Bangalore - 560 068.

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Quality assurance initiatives of the institution

Activities conducted under Collaborative quality initiatives with other institutions

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SUMMARY

The IQAC makes an earnest effort to institutionalize quality assurance strategies and processes. It organizes quality related programmes/ activities under Collaborative quality initiatives with other institutions for promoting and improving quality culture per year.

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Activities conducted under Collaborative quality initiatives with other institutions

2017-18

Sl. No.	Title of the collaborative activity	Name of the collaborating agency with contact details	Name of the participant	Duration	Nature of the activity	Name of the department
1	Soft Skill Training	Seventh Sense Talent Solutions, #4, 1st floor 23rd A, 10th Main Rd, 2nd Phase, J. P. Nagar, Bengaluru, Karnataka 560078	5th Sem Students of Dept. of MCA	6 Days	Soft skill Training	MCA


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THE OXFORD COLLEGE OF ENGINEERING

DEPARTMENT OF MCA

SoftSkill Training Report conducted from 18th to 23rd september 2017

Conducted on :From 18th to 23rd september (6 days)

Conducted by: Seventh Sense Talent Solutions, Bangalore

Conducted at: 6th floor, new building room no. N617

Attended by: 5th semester MCA students



The session was taken by the following trainers on mentioned topics:

S no	Date	Trainer	Topic
1	18/9/17-FN	Raghu	Subject, verb, agreement
2	18/9/17-AN	Nagesh	Resume writing, Email Etiquettes
3	19/9/17-FN	Raghu Nandana	Reading comprehension, closet test
4	19/9/17-AN	Partha Sarathi	Coding-decoding, odd man out

5	20/9/17-FN	Partha Sarathi	Probability and partnership
6	20/9/17-AN	Ahshata	Tenses, idioms and phrases
7	21/9/17-FN	Jayanth N	Permutation and combination
8	21/9/17-AN	Megha	Calendar
9	22/9/17-FN	Manisha	Business Communication
10	22/9/17-AN	Jyotsana	Blood Relationship
11	23/9/17-FN	Ahana	Creative thinking
12	23/9/17-AN	Sneha	Public speaking

The Session was useful to develop personality of students as it covered sessions on different topics related to the context and it also helped them to know their hidden talents during the activities conducted by the trainers. Student Raja Paul was identified by the trainers as most participative students in that class.



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Activities conducted under Collaborative quality initiatives with other institutions

2018-19

Sl. No.	Title of the collaborative activity	Name of the collaborating agency with contact details	Name of the participant	Duration	Nature of the activity	Name of the department
1	Soft Skill Training	Seventh Sense Talent Solutions, #4, 1st floor 23rd A, 10th Main Rd, 2nd Phase, J. P. Nagar, Bengaluru, Karnataka 560078	5th Sem Students of Dept. of MCA	6 Days	Soft skill Training	MCA
2	Soft Skill Training	Seventh Sense Talent Solutions, #4, 1st floor 23rd A, 10th Main Rd, 2nd Phase, J. P. Nagar, Bengaluru, Karnataka 560078	4th Sem Students of Dept. of MCA	3 Days	Soft skill Training	MCA


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DEPARTMENT OF MCA

SoftSkill Training Report conducted from 14th to 16th March 2019

Conducted on :From 14th to 16th March 2019 (3 days)

Conducted by: Seventh Sense Talent Solutions, Bangalore

Conducted at: 6th floor, new building room no. N617

Attended by:4th semester MCA students



Softskill sessions

The session was taken by the following trainers on mentioned topics:

S no	Date	Trainer	Topic
1	14/03/19-FN	Basil Baby	LSRW Productive and Receptive
2	14/03/19-AN	Ankit	Negotiation and Team building
3	15/03/19-FN	Naveen Gowda	Assertive Communication, Speech Organization
4	15/03/19-AN	Bhargavi P	Presentation skills
5	16/03/19-FN	Krishna Bai	Creativity and Innovation
6	16/03/19-AN	Bhargavi	Riddles, Mutual Understanding

The Session was useful to develop personality of students as it covered sessions on different topics related to the context and it also helped them to know their hidden talents during the activities conducted by the trainers.

THE OXFORD COLLEGE OF ENGINEERING

DEPARTMENT OF MCA

SoftSkill Training Report conducted from 03rd to 11th October 2018

Conducted on :From 03rd to 11th October 2018 (6 days)

Conducted by: Seventh Sense Talent Solutions, Bangalore

Conducted at: 6th floor, new building room no. N617

Attended by: 5th semester MCA students



Session attended by students



Student Raja Paul receiving award

The session was taken by the following trainers on mentioned topics:

S no	Date	Trainer	Topic
1	03/10/18-FN	Raghu	Subject, verb, agreement
2	03/10/18-AN	Nagesh	Resume writing, Email Etiquettes
3	04/10/18-FN	Raghu Nandana	Reading comprehension, closet test
4	04/10/18-AN	Partha Sarathi	Coding-decoding, odd man out
5	05/10/18-FN	Partha Sarathi	Probability and partnership
6	05/10/18-AN	Ahshata	Tenses, idioms and phrases
7	09/10/18-FN	Jayanth N	Permutation and combination
8	09/10/18-AN	Megha	Calendar
9	10/10/18-FN	Manisha	Business Communication
10	10/10/18-AN	Jyotsana	Blood Relationship
11	11/10/18-FN	Ahana	Creative thinking
12	11/10/18-AN	Sneha	Public speaking

The Session was useful to develop personality of students as it covered sessions on different topics related to the context and it also helped them to know their hidden talents during the activities conducted by the trainers. Student Raja Paul was identified by the trainers as most participative students in that class.



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Activities conducted under Collaborative quality initiatives with other institutions

2019-20

Sl. No.	Title of the collaborative activity	Name of the collaborating agency with contact details	Name of the participant	Duration	Nature of the activity	Name of the department
1	Internship	IEEE photonics	Final year students Dept. of CSE	1 year	Internship	CSE
2	Webinar	IEEE CS student chapter	CSE all year student	1 Day	Webinar on Agile Methodologies	CSE
3	Webinar	IEEE CS student chapter	CSE all year student	1 Day	Webinar on Introduction of GIT	CSE
4	Webinar	IEEE CS student chapter	CSE all year student	1 Day	Webinar on Robotic Process Automation	CSE
5	Webinar	IEEE CS student chapter	CSE all year student	1 Day	Webinar on Cloud Service Providers	CSE
6	Webinar	IEEE CS student chapter	CSE all year student	1 Day	Webinar on Role of Data Analytics in IOT and IIOT	CSE

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AGILE METHODOLOGIES

Rajesh Pasupuleti

Program Delivery Manager,
Accenture Pvt. Ltd.

18th June, 2020

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Agile Methodologies

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Webinar Poster



The poster is for a webinar titled "AGILE METHODOLOGIES" presented by IEEE CS TOCE. It features a dark green background with white and yellow text. At the top, there are logos for IEEE Computer Society, The Oxford College of Engineering, and IEEE. The central text reads "DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING IEEE CS TOCE Presents Webinar on AGILE METHODOLOGIES". Below this is a portrait of Rajesh Pasupuleti, Program Delivery Manager at Accenture Pvt. Ltd. To the right of the portrait is an illustration of a smartphone and a pen. At the bottom, contact information is provided: an email address (santhoshcp@ieee.org) and an Instagram handle (@ieee_toce). The date and time of the webinar are "JUNE 18, 11AM -12PM", and the URL is "http://bit.ly/toce_agile".

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 **IEEE**

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
IEEE CS TOCE Presents Webinar on

AGILE METHODOLOGIES



Rajesh Pasupuleti
*Program Delivery Manager,
Accenture Pvt. Ltd.*

✉ santhoshcp@ieee.org

📷 [@ieee_toce](https://www.instagram.com/ieee_toce)

JUNE 18, 11AM -12PM

http://bit.ly/toce_agile

About the Webinar

The Webinar on “**Agile Methodologies**” was hosted by Mr. Rajesh Pasupuleti on June 18th, 2020, to provide a clear perception about the various Agile Methodologies and the extent of improved efficiency they offer.

Rajesh Pasupuleti is currently working as a Program Delivery Manager at Accenture Pvt Ltd. He has over 15+ years of experience in IT Program Delivery Management and IT Infrastructure Operations Management. He is a certified Program Management Professional (PMP), Certified Scrum Master and SAFe Agilist. He is currently managing 8 Scrum teams.

The Webinar was hosted on the Google Meet platform. It was attended by 63 participants. 21 among them were IEEE members and the remaining 42 were non-IEEE members.

His presentation emphasized the unique advantages provided by Agile approach in the dynamic business environment. He focused on how the Agile Methods are incremental development methods, inculcated with continuous iterations, to meet the changing customer requirements. He also discussed the various agile methodologies such as scrum and scrum artefacts. He gave an insight into the Kanban and its aspects. He explained about the extreme programming, which was developed by pushing iterative development to the ‘extreme levels’.

The doubts and questions posed by the participants were clarified. They were encouraged to explore more about the agile aspects, to gain knowledge about the subject and master it, as it is of great need in the present world - with the ever-changing requirements of the customer.

Agenda of the webinar:

- Introduction about the Agile Methodologies.
- Comparison between the Waterfall model and Agile Approach.
- Key values and Principles of Agile.
- Various Agile Methodologies such as scrum, Kanban .
- Key features in extreme programming and how these relate to the general principles of Agile methods.

List of Participants (IEEE Members)

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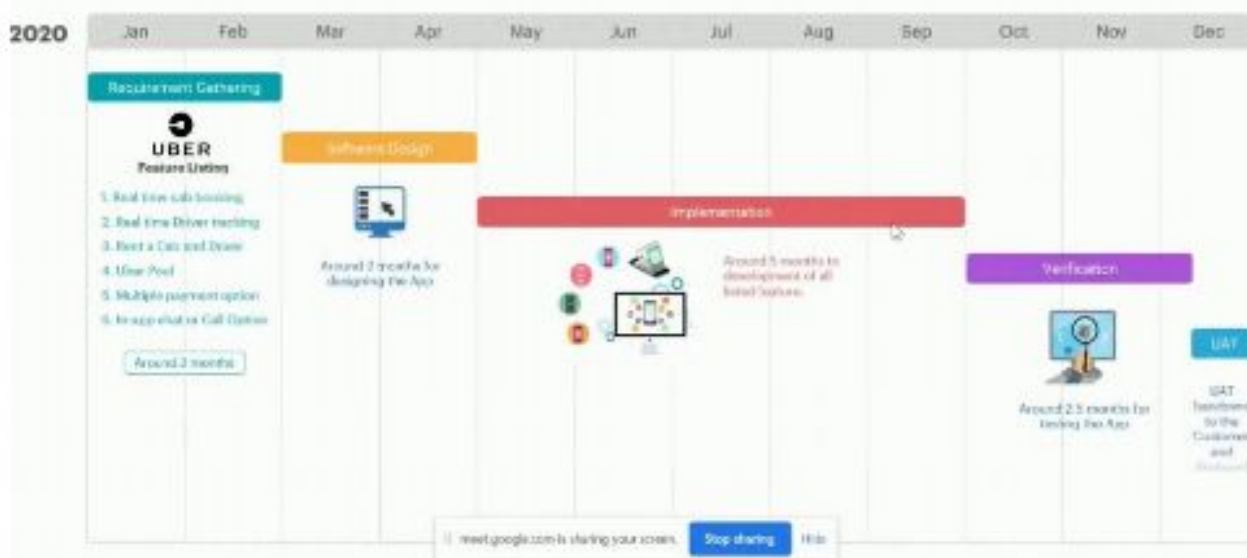
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38	Ruchitha Kodavali	-	-

Photos from the Webinar

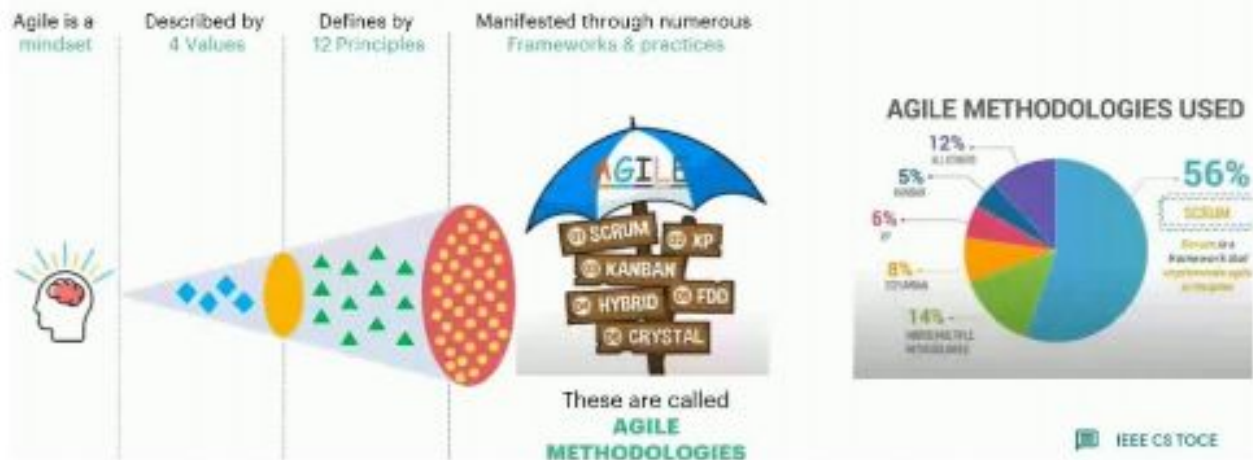


What if **Uber** is developed in Waterfall Methodology?



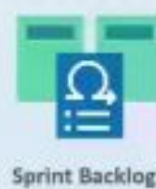
What are **Agile Methodologies**

AGILE METHODOLOGY is a practice that promotes continuous iteration of development and testing throughout the software development lifecycle of the project.



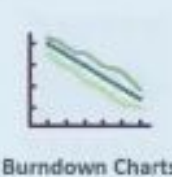
Scrum Artifacts

Product backlog is the ordered list of tasks and requirements the final product needs



List of all items from the Product Backlog that need to be worked on during a Sprint

A burndown chart is a graphical representation of the amount of estimated remaining work



Sum of work completed in a sprint combined with all work completed during previous sprint

Values of Agile



People Over processes and tools

Working software over comprehensive documentation



Customer collaboration over rigid contracts

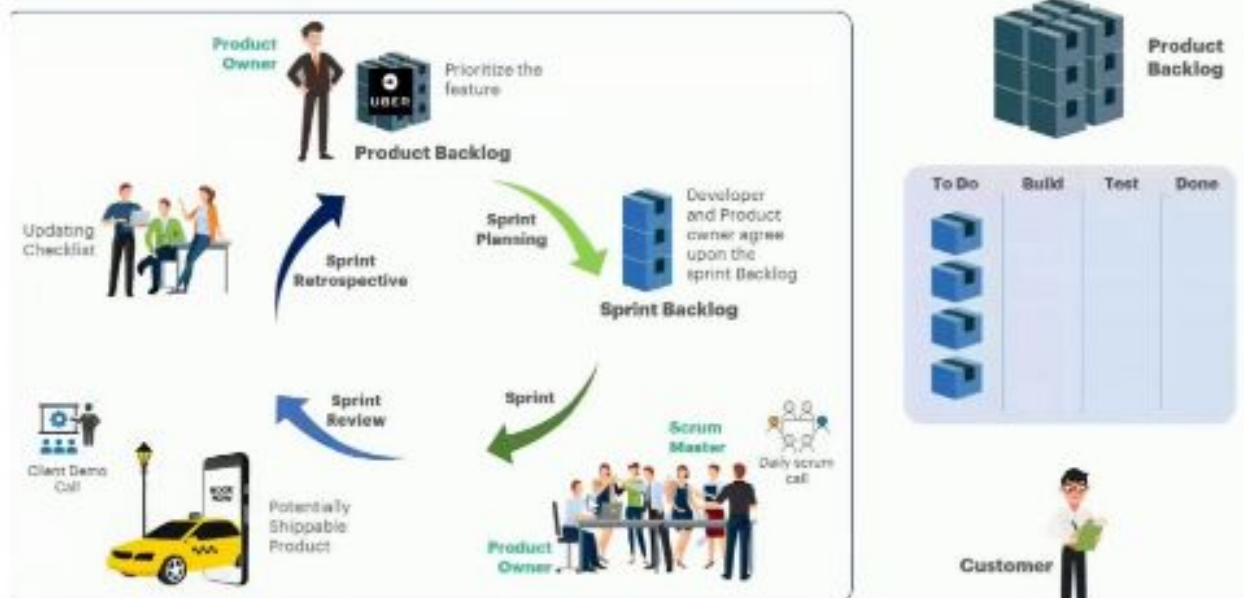
Responding to change rather than following a plan



Principles of Agile

- 1 Satisfy the Customer
- 2 Welcome changing requirements
- 3 Deliver Working software frequently
- 4 Frequent Interaction with Stakeholders
- 5 Motivated individuals
- 6 Face-to-Face Communication
- 7 Measure by working software
- 8 Maintain constant pace
- 9 Sustain technical excellence and good design
- 10 Keep it simple
- 11 Empower self-organizing teams
- 12 Reflect and Adjust Continuously

Scrum Ceremonies (UBER)





Intro to Git

Harpreet Kaur

17th May, 2020

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Intro to Git Webinar

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Webinar Poster

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 **IEEE**

Department of Computer Science
IEEE CS TOCE presents
Webinar on

Intro to Git

By Harpreet Kaur

May 17, 2020
11:30AM Onwards

Register at
bit.ly/toce_git

Contact - santhoshcp@ieee.org

 [@ieee_toce](https://www.instagram.com/ieee_toce)

About the Webinar

The Webinar on “**Intro to Git**” was hosted by **Ms Harpreet Kaur** on 17-05-2020, to provide an introduction to Git and serve as a quick-start guide.

Harpreet Kaur is a student member of the IEEE CS TOCE chapter. She is currently pursuing her Undergraduate Degree in Computer Science and Engineering from The Oxford College of Engineering, Bengaluru. She is well versed in Python and aspires to be an IT professional.

The Webinar was hosted on the Google Meet platform. It was attended by 38 registered participants. 22 among them were IEEE members and the remaining 16 were non-IEEE members.

The history of Git, Why Git is popular among software engineers and Git Characteristics were discussed in the webinar. The basic commands needed to start working with Git were explained.

Her presentation included examples of Git usage and how Git has changed the history of software version control. The session concluded with a Q&A session. The doubts and questions posed by the participants were clarified. They were encouraged to explore more on Git to gain a deeper understanding and to implement it.

List of Participants (IEEE Members)

Sl. No.	Name	Email ID	Organization
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Photos from the Webinar



Uses of GIT

- Easily recover files.
- Who introduced an issue when?
- Rollback to previously working state.

How was GIT created?

- Linus Torvalds
- He started writing Linux kernel.
- 1991-2002: Linux dev. In patches, files.
- 2002: Realise a need of VCS.
- 2002-2005: Used Bit keeper VCS.
- 2005: Free of charge status was revoked.
- Started dev. Of GIT DVCS.



ROBOTIC PROCESS AUTOMATION

Prof Ashwini N

Assistant Professor

Dept. of CSE

**BMS Institute of Technology,
Bengaluru.**

20th July 2020

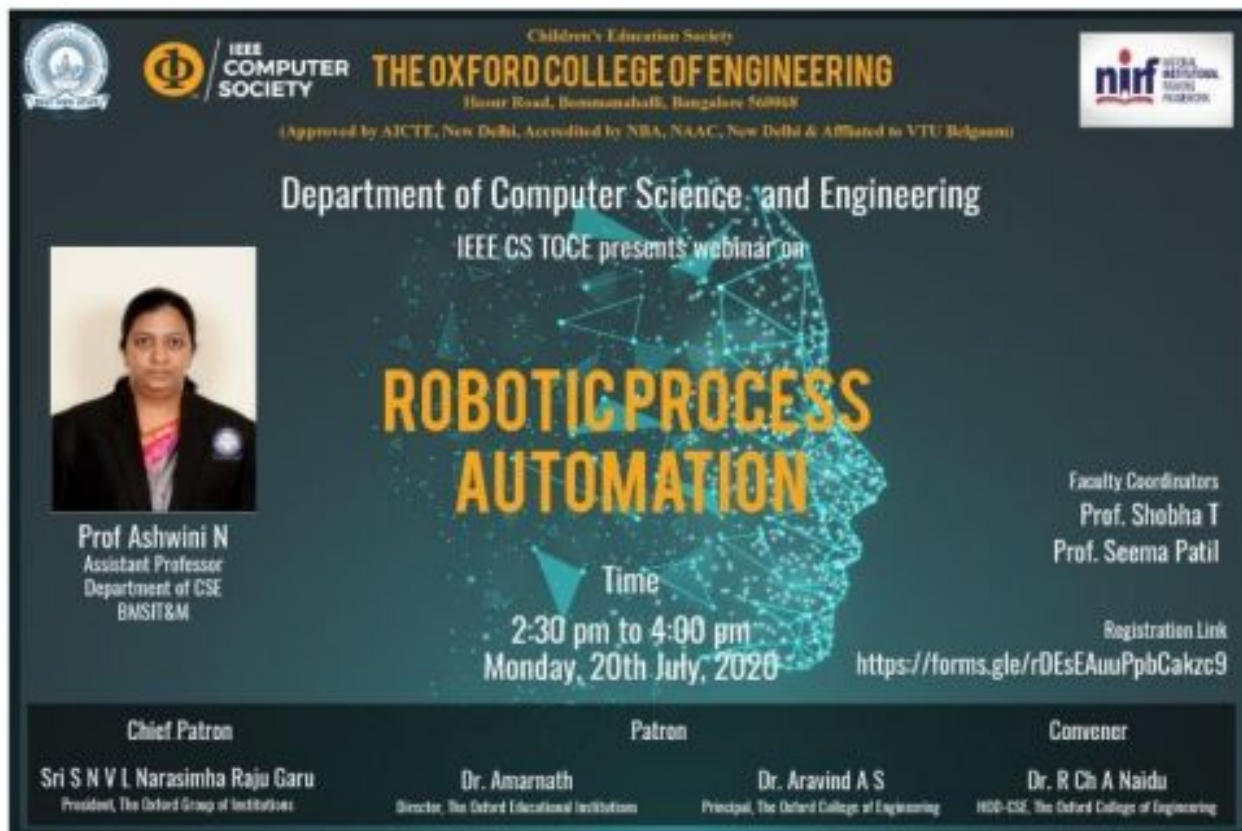
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Robotic Process Automation

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Webinar Poster



The poster is for a webinar titled "ROBOTIC PROCESS AUTOMATION" presented by IEEE CS TOCE. It features a portrait of Prof. Ashwini N on the left. The background is dark blue with a glowing network diagram. Logos for The Oxford College of Engineering, IEEE Computer Society, and NIRF are at the top. The bottom section lists the Chief Patron, Patron, and Convener.

THE OXFORD COLLEGE OF ENGINEERING
Hosur Road, Bommanahalli, Bangalore 560068
(Approved by AICTE, New Delhi, Accredited by NBA, NAAC, New Delhi & Affiliated to VTU Belgaum)

Department of Computer Science and Engineering
IEEE CS TOCE presents webinar on

ROBOTIC PROCESS AUTOMATION

Time
2:30 pm to 4:00 pm
Monday, 20th July, 2020

Registration Link
<https://forms.gle/rDEsEAuuPpbCakzc9>

Faculty Coordinators
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Prof. Seema Patil

Chief Patron
Sri S N V I Narasimha Raju Garu
President, The Oxford Group of Institutions

Patron
Dr. Anarnath
Director, The Oxford Educational Institutions

Convener
Dr. Aravind A S
Principal, The Oxford College of Engineering

Dr. R Ch A Naidu
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About the Webinar

The webinar on “**Robotic Process Automation**” was hosted by **Prof. Ashwini N** on 20th July 2020 from 2:30 PM to 4:00 PM. The session focused on the Automation aspects of Processing using Robotics.

Prof. Ashwini N is currently working as an Assistant Professor in the Department of Computer Science and Engineering, BMSIT&M, Bengaluru.

The webinar was hosted on the Microsoft Teams platform. It was attended by 183 participants. 6 among them were IEEE members and the remaining 177 were non-IEEE members.

The presentation began with the Introduction of Automation. The various types of Automation like Software Automation, Business Process Automation & Robotic Process Automation were explained. A brief introduction for RPA (Robotic Process Automation) was given and the presentation then focused on more in-depth aspects of RPA.

The tools and applications of RPA, along with practical examples were discussed. The links to download and install RPA were provided. The steps involved in installing RPA were demonstrated. The session included a practical demo of ‘Creating a bolt’. Videos of case studies of RPA were shown. As students were a large part of the attendees, a video that showed how students can generate data using RPA was played. The presentation was concluded with the benefits of RPA. The session ended with a Q&A section. Questions and queries raised by the attendees were answered.

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Photos from the Webinar


Introduction to
RPA - Automation Anywhere



**AUTOMATION
ANYWHERE**
Go be great.



By,
Ashwini N
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Agenda

- Automation
- Types of Automation
- Robotic Process Automation(RPA)
- Installation Steps
- Hello Bot Creation-Example
- Case studies
- Benefits of RPA
- Conclusion



Most employees are
unable to do meaningful,
creative work ?



○ Types of Automation

- ★ Software automation
- ★ Business Process Automation (BPA)
- ★ Robotic Process Automation (RPA)

Robotic Process Automation (RPA)

"Specialized software robots that automate high-volume, repetitive, rule-based tasks in an auditable and reliable way"

- **Robotics:** These are the entities which mimic the actions of humans.
- **Process:** It is a step by step procedure which leads to an effective activity-for example, the process of building a house.
- **Automation:** It is defined as a process which is performed by robots without human involvement

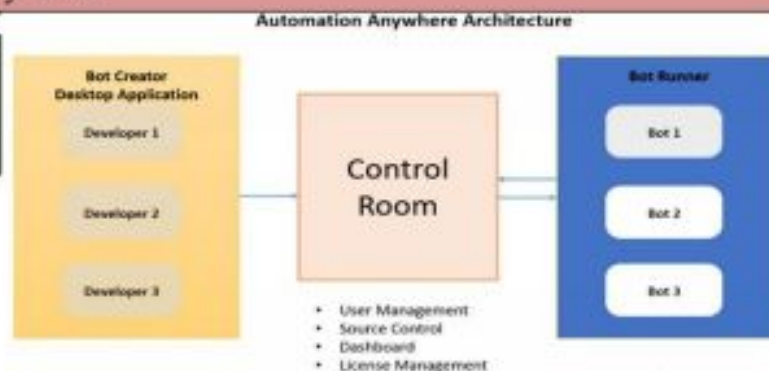


Automation Anywhere Architecture

Automation Anywhere is a distributed architecture. In this architecture, the control room will be the centralized manager.

This architecture mainly consists of Bot Creators and Bot Runners connected to control room, as shown in the figure. Automation Anywhere architecture has three primary components. They are:

- Control rooms
- Bot runner
- Bot Creator





ROLE OF CLOUD SERVICE PROVIDERS

Mr.Naveen Mukundaraj

Asst. Manager, Network Architect
Sify Technologies

11th July 2020

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Role of Cloud Service Providers

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Webinar Poster

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
IEEE CS TOCE PRESENTS WEBINAR ON
ROLE OF CLOUD SERVICE PROVIDERS



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About the Webinar

The Webinar on “**Role of Cloud Service Providers**” was hosted by **Mr. Naveen Mukundaraj** on 11th July 2020, to provide a deeper understanding about the cloud services, the advantages it offers and the major role played by it to handle the increased demand to store data.

Mr. Naveen Mukundaraj is currently working as a Network Architect at Sify Technologies, Chennai.

The Webinar was hosted on the Google Meet platform. It was attended by 66 participants.

The presentation focused on how the data is stored, accessed and managed in the cloud. He explained about the cloud computing technology, its benefits and the types. He provided a detailed description of its working. He also discussed the various Cloud Service Providers and the crucial role they play in managing our data, without the scarcity of storage. With the increasing data every day, and the challenges to store it is easily curbed by the cloud technology. The participants were encouraged to explore more Cloud concepts, to get knowledge about the subject and understand it.

Agenda of the webinar:

- Introduction to Cloud.
- Description of Cloud Computing.
- Role of Cloud Service Providers.

List of Participants

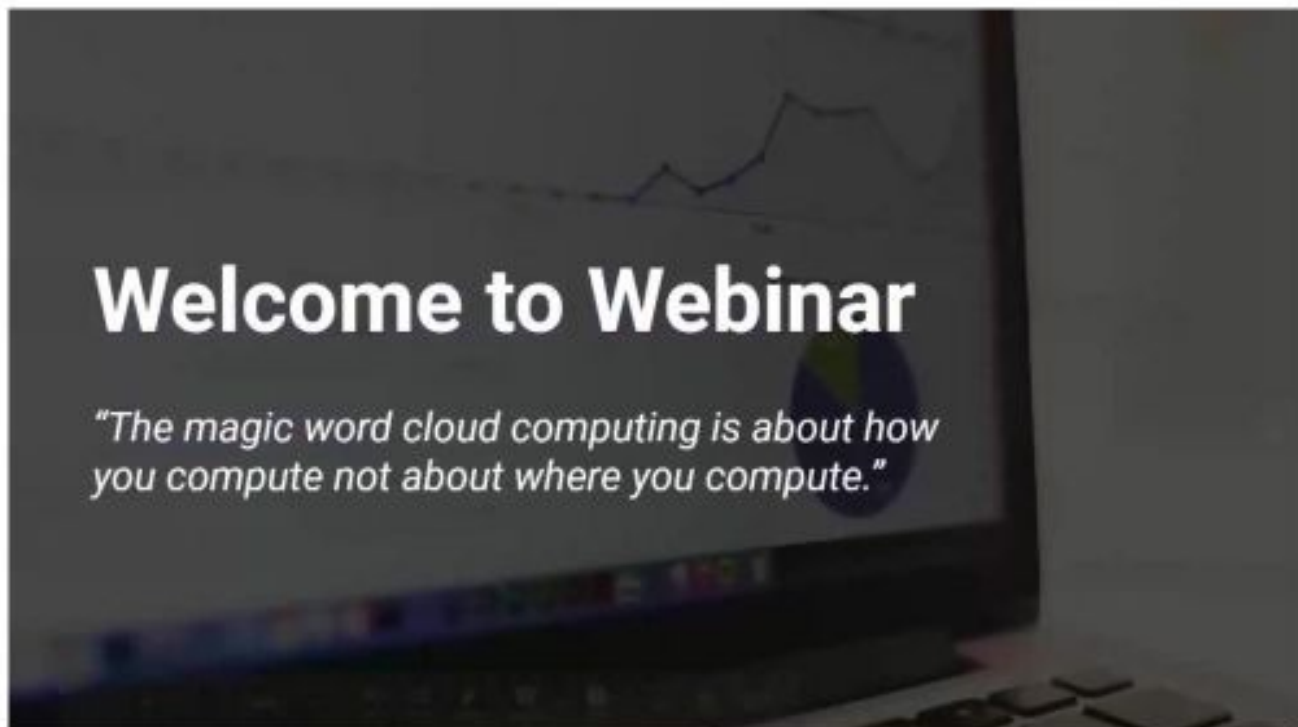
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57	P KOKILA	kokilaparamanandam@gmail.com
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Photos from the Webinar



Cloud computing is the on-demand availability of computer system resources, especially data storage (cloud storage) and computing power, without direct active management by the user. The term is generally used to describe data centers available to many users over the Internet.

-Wiki

Cloud Benefits



Cloud Services

Cloud Software as a Service (SaaS)

- Use provider's applications over a network

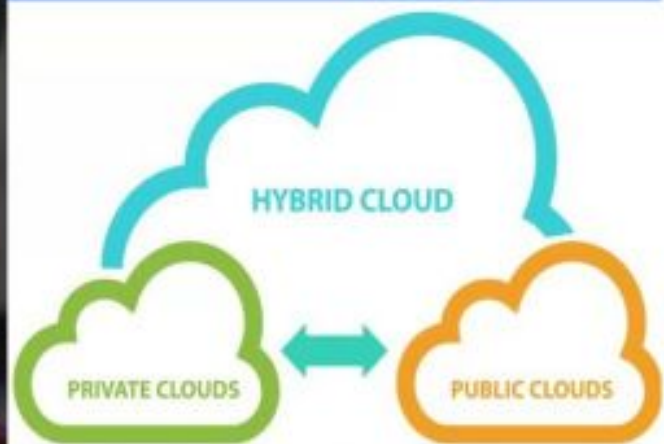
Cloud Platform as a Service (PaaS)

- Deploy customer-created applications to a cloud

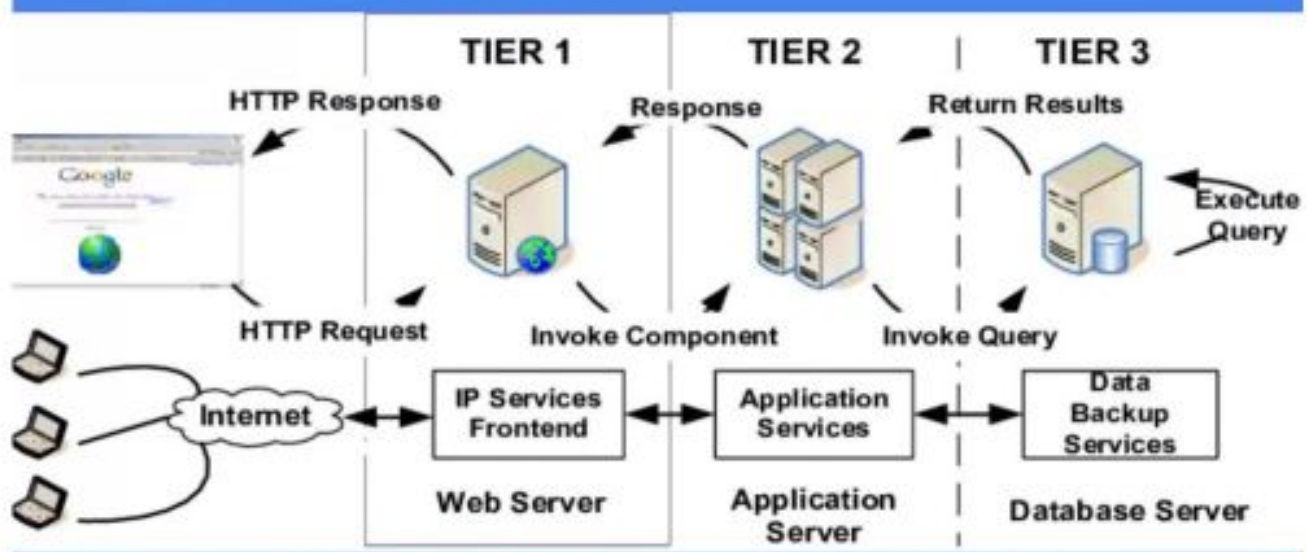
Cloud Infrastructure as a Service (IaaS)

- Rent processing, storage, network capacity, and other fundamental computing resources

Types of Cloud



User accessing hybrid cloud example





ROLE OF DATA ANALYTICS IN IoT

AND IIoT

Dr. Selvaraj Kesavan
Advisor Solution Architect,
DXC Technology, Bangalore

16th June, 2020

16th June, 2020

16th June, 2020

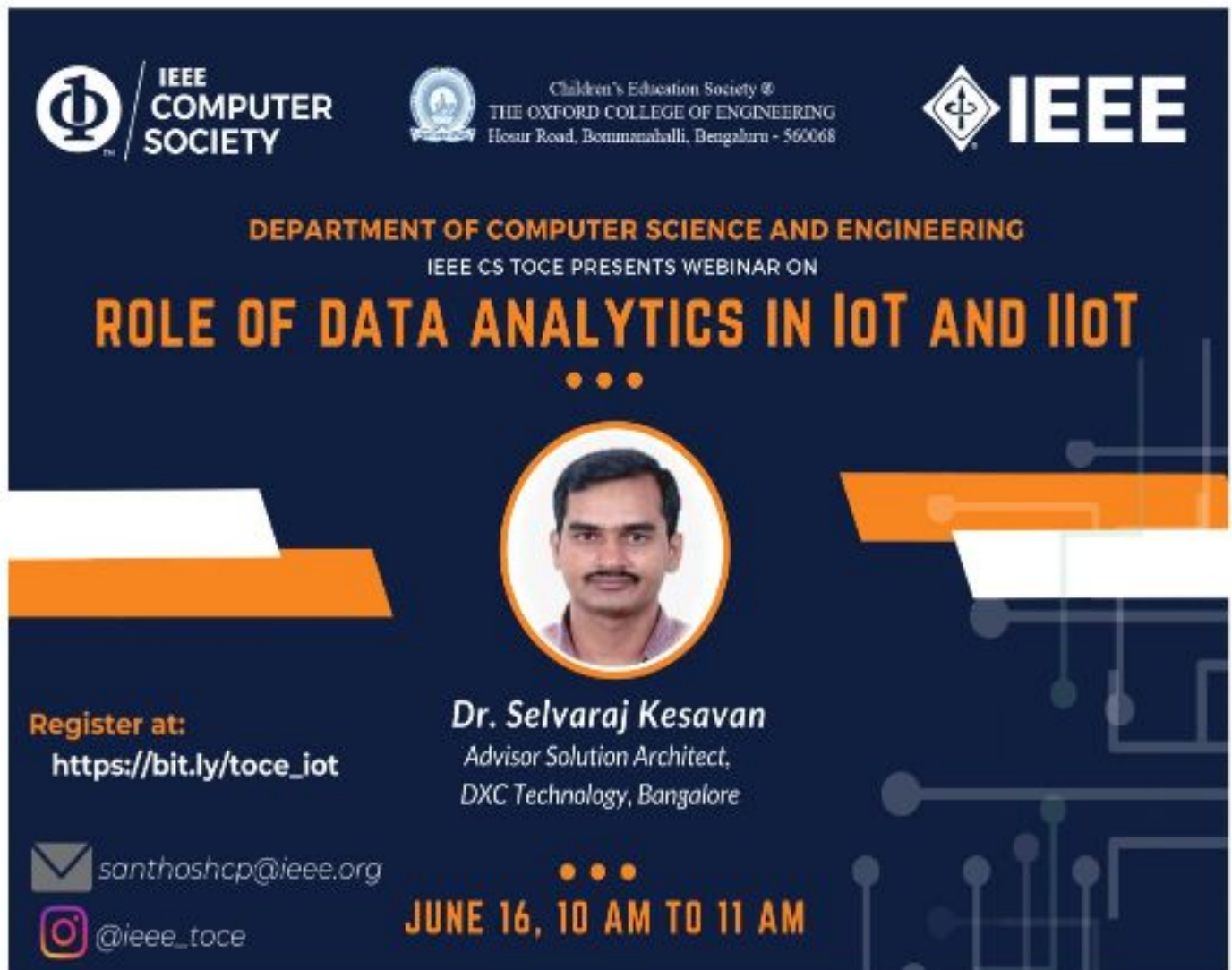
Table of Contents

Role of Data Analytics in IoT and IIoT


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Webinar Poster



The poster is a dark blue rectangle with orange and white geometric shapes on the left and right sides. At the top left is the IEEE Computer Society logo. At the top center is the logo of The Oxford College of Engineering. At the top right is the IEEE logo. The text is centered and uses a mix of white and orange colors. The title 'ROLE OF DATA ANALYTICS IN IOT AND IIOT' is in large orange letters. Below it is a circular portrait of Dr. Selvaraj Kesavan. To the left of the portrait is the registration link. To the right is the speaker's name and title. At the bottom left are email and social media contacts. At the bottom center is the date and time.

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 **IEEE**

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
IEEE CS TOCE PRESENTS WEBINAR ON



ROLE OF DATA ANALYTICS IN IOT AND IIOT

• • •



Register at:
https://bit.ly/toce_iiot

Dr. Selvaraj Kesavan
Advisor Solution Architect,
DXC Technology, Bangalore

 santhoshcp@ieee.org
 [@ieee_toce](https://www.instagram.com/ieee_toce)

• • •
JUNE 16, 10 AM TO 11 AM

About the Webinar

The Webinar on “**Role of Data Analytics in IoT and IIoT**” was hosted by Dr. Selvaraj Kesavan on 16-06-2020, to provide a clear insight about the crucial role played by the data analytics in Industrial IoT.

Dr. Selvaraj Kesavan is currently working as Advisor Solution Architect in DXC Technology, Bangalore. He is a Senior IEEE Member. He has 16+ years of experience in architect, design and development of Cloud, IoT, Embedded, Multimedia, Machine Learning and Mobile Application Solutions. He holds a Ph.D. with many research publications in international journals and conferences. He is a certified AWS Solution Architect.

The Webinar was hosted on the Google Meet platform. It was attended by 58 registered participants. 23 among them were IEEE members and the remaining 35 were non-IEEE members.

The presentation emphasized the importance of Data, and how the data collected from various sensors, should be processed efficiently using the data mining tools. The data is then used to make strategic business decisions. He also explained the aspects of IoT-key technology. Various analysis methods like clustering, DBSCAN to extract meaningful data from huge data sets were discussed. He gave an idea about the Big data tools, data visualization and IoT asset management and Predictive Maintenance.

The participants were encouraged to explore more on Data Analysis ,to gain a deeper understanding and to implement it in the real world, which is supposed to hold a great demand in the next few years.

Agenda of the webinar:

- Introduction about the IoT and IIoT.
- How the data collection, storage, processing and visualization takes place?
- Brief explanation about the Analytics.
- Cloud infrastructure and platform services for Analytics.

List of Participants (IEEE Members)

Sl. NO.	Name	Email ID	Organization
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23	Pushpalatha S	pushpala29@gmail.com	Panimalar Institute of Technology

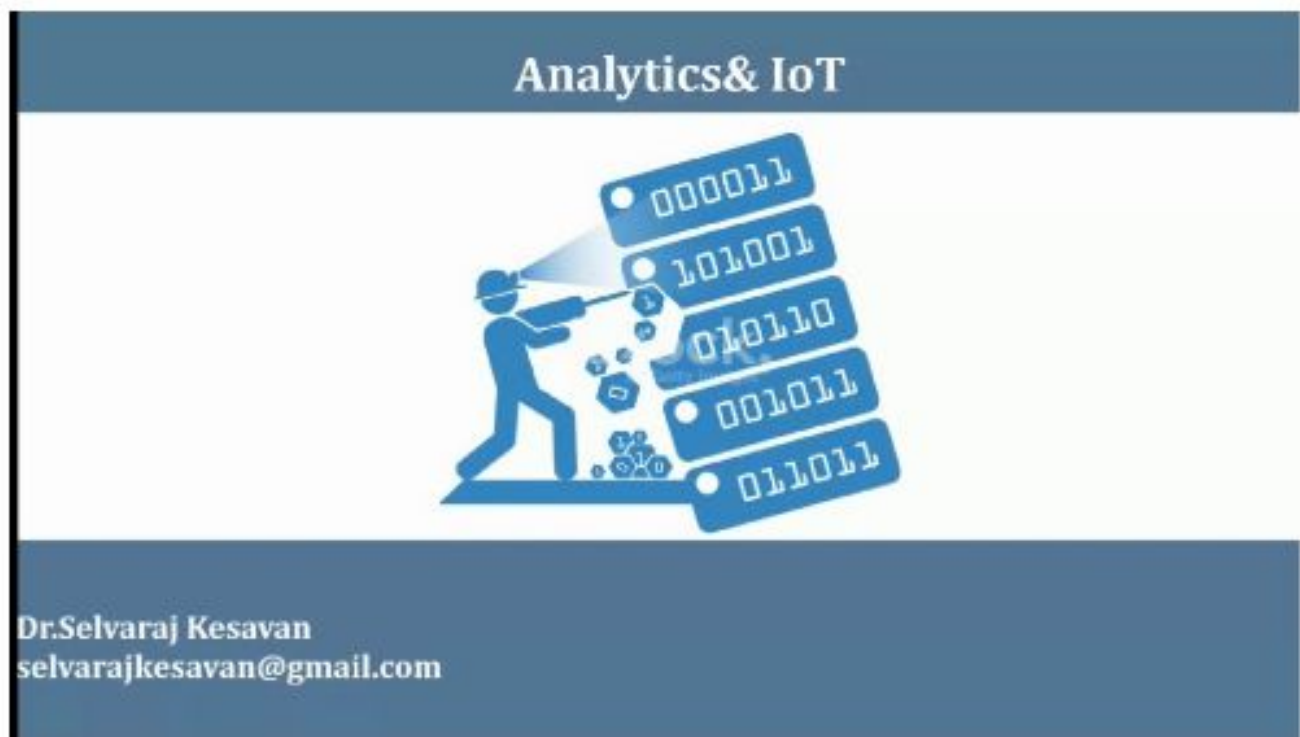
List of Participants (non-IEEE Members)

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11	Nidhi Sangalore	nidhisanganore@gmail.com	The Oxford College of Engineering
12	S Merline Mary	sagayaraj1jms@gmail.com	The Oxford College of Engineering

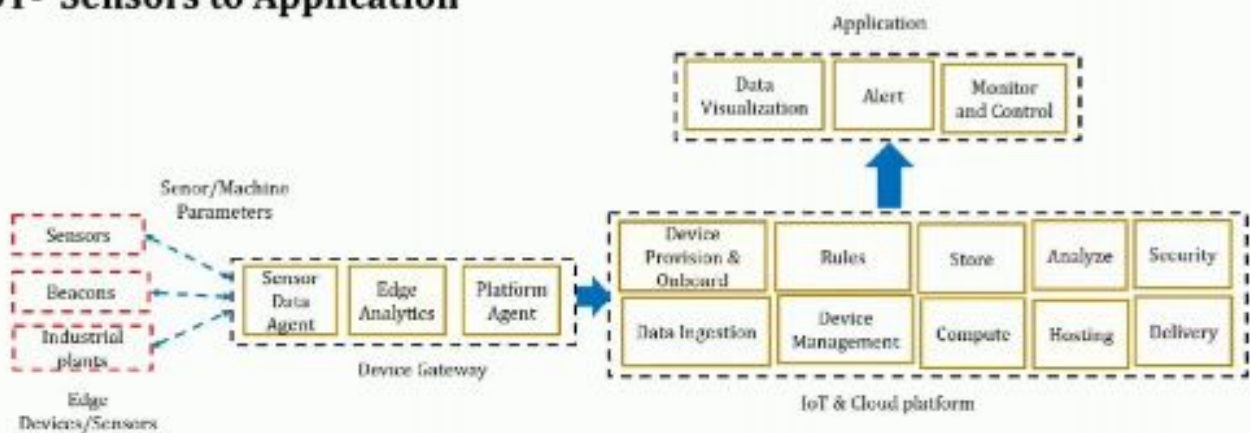
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34	Subasree	subasree.sr@gmail.com	Valeo
35	Sumitha Jaiber	-	-

Photos from the Webinar

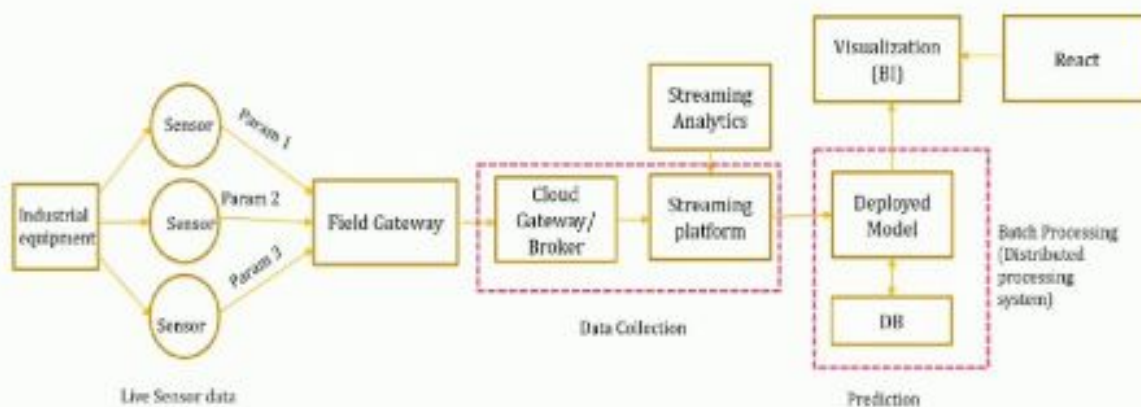


IOT- Sensors to Application



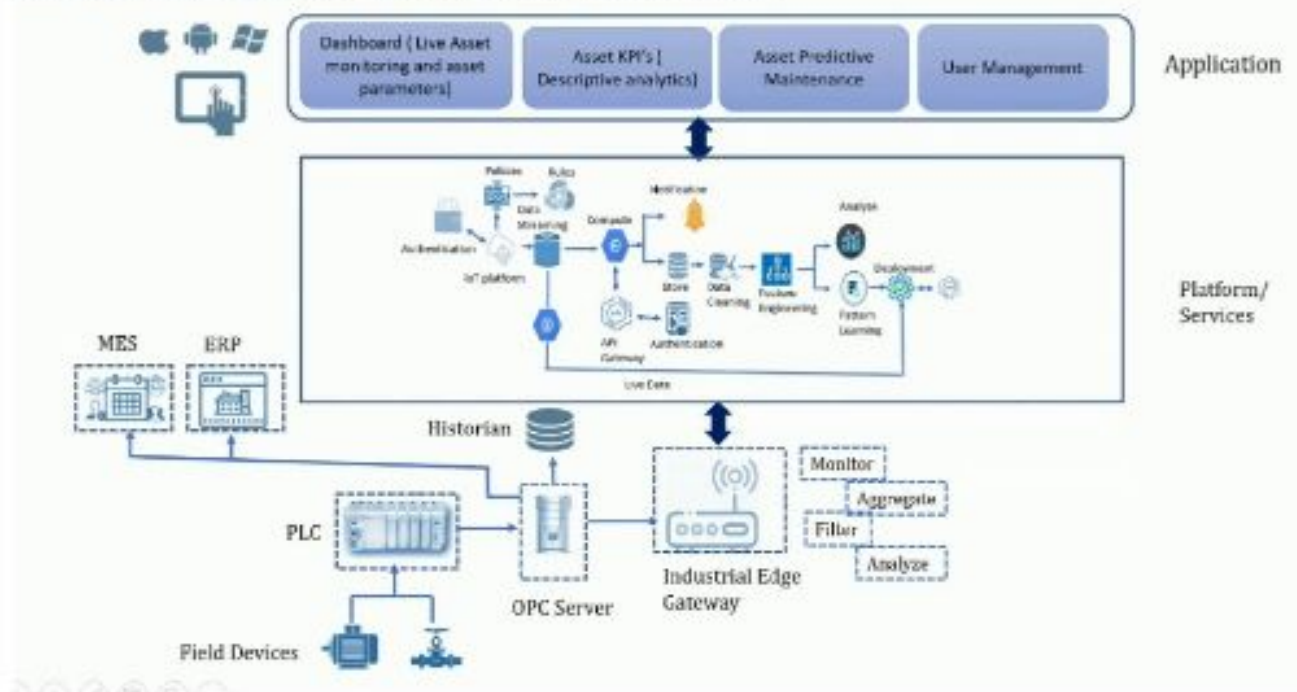
- Edge Devices/Sensors source for the real time data .
- Device gateway collects data from multiple edge devices, filter aggregate and ingest the data to the cloud platform for further processing and analyzing
- IoT platform enable device onboarding, data ingestion, device to cloud and cloud to device communication
- Cloud platform receive data, store, process and generate insights
- Application helps to visualize the dashboard ,monitor and control the devices.

Deployment and production



18

IoT asset management and Predictive Maintenance





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 Ph: 080-61754601/602, Fax: 080 - 25730551
 E-mail: engprincipal@theoxford.edu Web: www.theoxfordengg.org

Activities conducted under Collaborative quality initiatives with other institutions
2020-21

Sl. No.	Title of the collaborative activity	Name of the collaborating agency with contact details	Name of the participant	Duration	Nature of the activity	Name of the department
1	Aptitude and Recruitment Essentials	FACE (Focus 4- D Career Education Pvt. Ltd.), No. 12, Lakshmi Nagar, Thottipalsyam Piruvu, Coimbatore, Tamilnadu 641014	Final year students of all branches	50 hours	Training	All Engineering Branches & MBA, MCA
2	Faculty Development Programme	AICTE	Faculties	2 WEEKS (15 to 26th February 2021)	Phase 1-AICTE sponsored FDP on Bio innovation Patenting and Entrepreneurship opportunities in Biotechnology for sustainable environment	BT
3	Faculty Development Programme	AICTE	Faculties	2 WEEKS(8th to 20th March 2021)	Phase 2-AICTE sponsored FDP on Bio innovation Patenting and Entrepreneurship opportunities in Biotechnology for sustainable environment	BT
4	Short Term Training Programme	AICTE	Faculties	1 WEEK(23rd August to 28th August 2021)	Phase-1AICTE Sponsored One Week short Term training Programme (STTP) on "Start-up driven Bio innovation and	BT



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E-mail: engprincipal@theoxford.edu Web: www.theoxfordengg.org

					IOT for Sustainable Agritech"	
5	Internship	Govt. Tool room and training centre, Rajajinagar Industrial Estate, 72nd Cross Rd, Bengaluru, Karnataka-560010	Final year students Dept. of MT	1 Year	Internship for Live Project Developments	MT
6	Internship	Karnataka German technical training institute (KGTI) Bengaluru, Near Nagasandra Metro Station, Behind Kennametal, Manjunatha Nagara, Bagalagunte, Bengaluru-560073	Final year students Dept. of MT	1 Year	Internship for Live Project Developments	MT
7	Internship	VI Solutions-22, 2nd Floor AKAI Plaza, D Rajagopal Rd, Sanjay Nagar, Bengaluru-560094	Final year students Dept. of MT	1 Year	Internship for Live Project Developments	MT

PRINCIPAL

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Bommanahalli, Hosur Road
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A Report On

Training 2020-2021(Aptitude and Recruitment Essentials) By FACE

Table of Content

About Training

- Who Trained
- Names of Trainers.
- Topics of training (Aptitude 2. Recruitment Essentials).
- Participant (Batch wise).

Schedule of Training.

- No. of hours Scheduled
- Time Table Picture.
- Date & time of training
- Topics covered day wise.
- Attendance.

During Training

Screen shots

Feedback Training

Report on Training 2020-21

Department of Corporate Relations gives high priority to the importance of training and mentoring. Best and in-demand training is offered to the students at TOCE. Along with trainings, students are encouraged to enrol for Certification Programmes. Various placement preparation activities are carried out throughout the year. Every student of TOCE is given equal and ample opportunities for Internship and Final Placement. Campus placement is organized at college level throughout the year so that maximum number of students get placed. Training and Placement Cell also guides the students for higher studies. It is as a result of our unique training methodology, we are always been preferred from premier corporates to acquire fresh talent.

FACE is one of India's largest skill development companies, catering to students pursuing higher education in colleges/universities as well as entry-level recruits in organisations across industry sectors.

Names of the Trainer

1. Sarumathi
2. Rupesh
3. Sudhanshu
4. Jeswin Jose
5. Ragul
6. Visakhan
7. Sahu
8. Aashish
9. Roshin

Topics of Training

- Number system
- Time and work
- Percentages, Simple interest and Compound interest
- Profit and loss, Partnerships and averages
- Permutation, Combination and Probability
- Time, Speed and Distance
- Ratio and Proportion
- Logarithms, Progressions, Geometry and Quadratic equations.
- Algebraic Expressions
- Surds, Indices and Simplification
- Set Theory
- Functions

- Cryptarithmic
- Trigonometry
- Reading comprehension
- Sentence correction
- Sentence completion and Para-jumbles
- Vocabulary
- Articles, Prepositions and Interrogatives
- Attention to detail
- Voices and Speech
- Critical reasoning
- Group Discussion - Orientation
- Personal Interview - Orientation
- Resume Building - Orientation
- Body Language and Professionalism
- Interpersonal Skill

Participants (All the pre final year Students 2021 passing out students)

The training was conducted by Face in four batches and the batches were combining 3 departments in a batch

Batch 1

Master of Computer Application
Information Science and Engineering
Electronic and Electrical Engineering

Batch 2

Master of Business Administration
Mechanical Engineering
B.Architecture

Batch 3

Mechatronics Engineering
Civil Engineering
Automobile Engineering

Batch 4

Computer Science and engineering
Biotechnology Engineering
Electronics and communication Engineering

Schedule of Training

The Training was planned from mid of sept-2020 and the classes started from 20th October 2020 to 23rd November 2020. 2 hours per day per batch.

No of hours scheduled

Topic code	Topic	Duration
T1	Number system	2
T2	Time and work	2
T3	Percentages, Simple interest and Compound interest	2
T4	Profit and loss, Partnerships and averages	2
T5	Permutation, Combination and Probability	2
T6	Time, Speed and Distance	2
T7	Ratio and Proportion	2
T8	Logarithms, Progressions, Geometry and Quadratic equations.	2
T9	Algebraic Expressions	1
T10	Surds, Indices and Simplification	2
T11	Set Theory	2
T12	Functions	1
T13	Cryptarithmic	1
T14	Trigonometry	1
T15	Reading comprehension	2
T16	Sentence correction	2
T17	Sentence completion and Para-jumbles	2
T18	Vocabulary	2
T19	Articles, Prepositions and Interrogatives	2
T20	Attention to detail	2
T21	Voices and Speech	2
T22	Critical reasoning	2
T23	Group Discussion - Orientation	2
T24	Personal Interview - Orientation	2
T25	Resume Building - Orientation	2
T26	Body Language and Professionalism	2
T27	Interpersonal Skill	2

Time Table picture

Days/Time	9 am - 11 am	11.15 am - 1.15 pm
Monday	B1 B2	B3 B4

Tuesday	B1 B2	B3 B4
Wednesday	B1 B2	B3 B4
Thursday	B1 B2	B3 B4
Friday	B1 B2	B3 B4
Saturday	B1 B2	B3 B4

Date and Time of Training

<i>Date</i>	<i>Batch</i>	<i>Topic Scheduled</i>	<i>Duration(hrs)</i>
20-Oct-20	B1	Time & Work	2
	B2	Numbers	2
	B3	Time & Work	2
	B4	Numbers	2
21-Oct-20	B1	Numbers	2
	B2	Time & Work	2
	B3	Numbers	2
	B4	Time & Work	2
22-Oct-20	B1	Percentages&Interests	2
	B2	Algebraic Expressions & functions	2
	B3	Percentages&Interests	2
	B4	Algebraic Expressions & functions	2
23-Oct-20	B1	Algebraic Expressions & functions	2

	B2	Percentages&Interests	2
	B3	Algebraic Expressions & functions	2
	B4	Percentages&Interests	2
27-Oct-20	B1	Profit&Loss	2
	B2	Permutation,Combination & Probability	2
	B3	Profit&Loss	2
	B4	Permutation,Combination & Probability	2
28-Oct-20	B1	Permutation,Combination & Probability	2
	B2	Profit&Loss	2
	B3	Permutation,Combination & Probability	2
	B4	Profit&Loss	2
29-Oct-20	B1	Time,Speed & Distance	2
	B2	Ratio & Proportion	2
	B3	Time,Speed & Distance	2
	B4	Ratio & Proportion	2
30-Oct-20	B1	Ratio & Proportion	2
	B2	Time,Speed & Distance	2
	B3	Ratio & Proportion	2
	B4	Time,Speed & Distance	2
31-Oct-20	B1	Logarithms	2
	B2	Surds & Indices	2

	B3	Logarithms	2
	B4	Surds & Indices	2
02-Nov-20	B1	Surds & Indices	2
	B2	Logarithms	2
	B3	Surds & Indices	2
	B4	Logarithms	2
03-Nov-20	B1	Set Theory	2
	B2	Cryparithmetic & Trigonometry	2
	B3	Set Theory	2
	B4	Cryparithmetic & Trigonometry	2
04-Nov-20	B1	Cryparithmetic & Trigonometry	2
	B2	Set Theory	2
	B3	Cryparithmetic & Trigonometry	2
	B4	Set Theory	2
05-Nov-20	B1	Reading Comprehension	2
	B2	Sentence correction	2
	B3	Reading Comprehension	2
	B4	Sentence correction	2
06-Nov-20	B1	Sentence correction	2
	B2	Reading Comprehension	2
	B3	Sentence correction	2

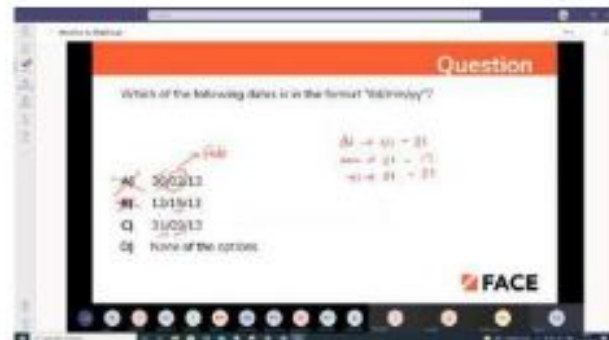
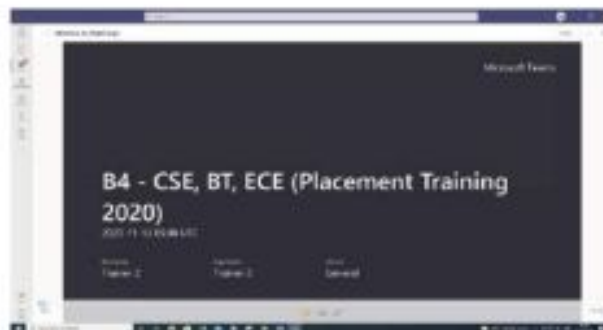
	B4	Reading Comprehension	2
07-Nov-20	B1	Sentence completion & Para Jumbles	2
	B2	Vocabulary	2
	B3	Sentence completion & Para Jumbles	2
	B4	Vocabulary	2
12-Nov-20	B1	Vocabulary	2
	B2	Sentence completion & Para Jumbles	2
	B3	Vocabulary	2
	B4	Sentence completion & Para Jumbles	2
13-Nov-20	B1	Articles, Prepositions	2
	B2	Attention to Detail	2
	B3	Articles, Prepositions	2
	B4	Attention to Detail	2
14-Nov-20	B1	Attention to Detail	2
	B2	Articles, Prepositions	2
	B3	Attention to Detail	2
	B4	Articles, Prepositions	2
16-Nov-20	B1	Voices & Speech	2
	B2	Critical Reasoning	2
	B3	Voices & Speech	2

	B4	Critical Reasoning	2
17-Nov-20	B1	Critical Reasoning	2
	B2	Voices & Speech	2
	B3	Critical Reasoning	2
	B4	Voices & Speech	2
18-Nov-20	B1	Group Discussion	2
	B2	Personal Interview	2
	B3	Group Discussion	2
	B4	Personal Interview	2
19-Nov-20	B1	Personal Interview	2
	B2	Group Discussion	2
	B3	Personal Interview	2
	B4	Group Discussion	2
20-Nov-20	B1	Resume Writing	2
	B2	Body Language	2
	B3	Resume Writing	2
	B4	Body Language	2
21-Nov-20	B1	Body Language	2
	B2	Resume Writing	2
	B3	Body Language	2

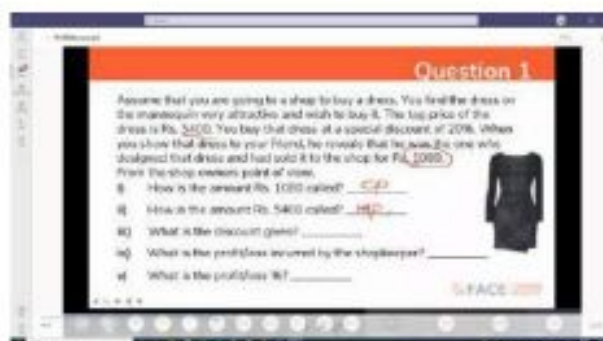
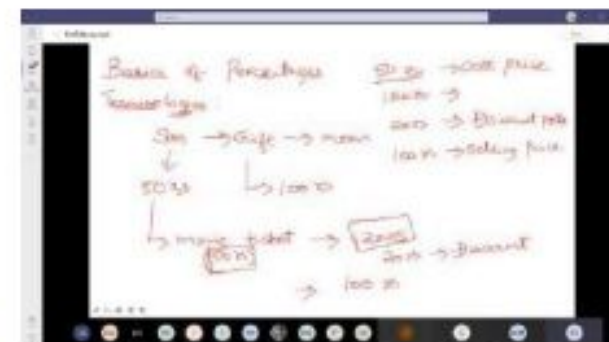
	B4	Resume Writing	2
23-Nov-20	B1	Interpersonal Skills	2
	B2	Interpersonal Skills	2
	B3	Interpersonal Skills	2
	B4	Interpersonal Skills	2

**Total Number of hours
Completed 200**

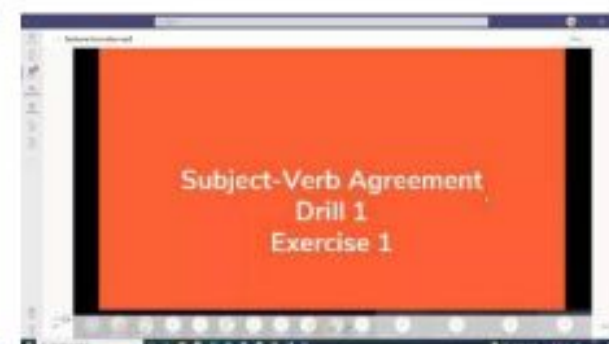
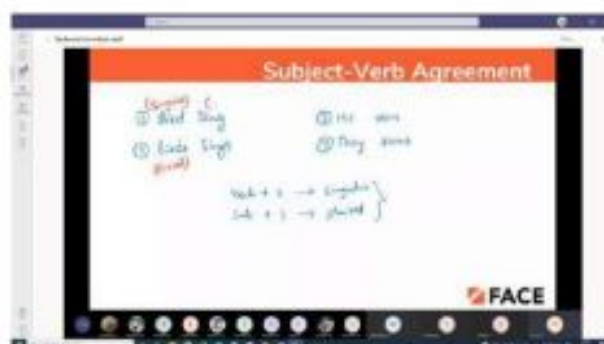
Attention to detail



Profit and loss



Sentence Correction



Surds and Indices

$$\frac{(3+\sqrt{6})/\sqrt{2} - 2/\sqrt{2} - \sqrt{2} + \sqrt{2}}{2+\sqrt{2}} = \frac{3+\sqrt{2}}{2+\sqrt{2}}$$

$$\frac{3+\sqrt{2}}{2+\sqrt{2}} \cdot \frac{2-\sqrt{2}}{2-\sqrt{2}} = \frac{(3+\sqrt{2})(2-\sqrt{2})}{(2+\sqrt{2})(2-\sqrt{2})}$$

$$\frac{3 \cdot 2 - 3\sqrt{2} + 2\sqrt{2} - 2}{2^2 - (\sqrt{2})^2} = \frac{6 - \sqrt{2} - 2}{4 - 2} = \frac{4 - \sqrt{2}}{2}$$

$$\frac{4 - \sqrt{2}}{2} = 2 - \frac{\sqrt{2}}{2}$$

$$\frac{1}{\sqrt{9-18}} = \frac{1}{\sqrt{9}-\sqrt{18}} = \frac{1}{3-\sqrt{18}} = \frac{1}{3-3\sqrt{2}} = \frac{1}{3(1-\sqrt{2})}$$

$$\frac{1}{3(1-\sqrt{2})} \cdot \frac{1+\sqrt{2}}{1+\sqrt{2}} = \frac{1+\sqrt{2}}{3(1^2 - (\sqrt{2})^2)} = \frac{1+\sqrt{2}}{3(1-2)} = \frac{1+\sqrt{2}}{3(-1)} = -\frac{1+\sqrt{2}}{3}$$

Vocabulary

VOCABULARY

- Pneumono-ultra-microscopic-silico-volcano-coniosis
- Pneumono-ultra-microscopic-silico-volcano-coniosis

Root words

- Vis - *vision*
- Arch - *bridge*
- Bio - *life*
- Graph - *write*
- Leotop - *lion*

Cryptarithmic and Trigonometry

TRIGONOMETRY

1. Trigonometry Ratio and Values
2. Heights and Distance

TRIGONOMETRY

Sin θ (opp/h)	Perpendicular/Hypotenuse
Cosine θ (adj/h)	Base/Hypotenuse
Tangent θ (opp/adj)	Perpendicular/Base
Cosecant θ (h/opp)	Hypotenuse/Perpendicular
Secant θ (h/adj)	Hypotenuse/Base
Cotangent θ (adj/opp)	Base/Perpendicular

TRIGONOMETRY

	0°	30°	45°	60°	90°
$\sin \theta$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\cos \theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
$\tan \theta$	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	∞
$\csc \theta$	∞	2	$\sqrt{2}$	$\frac{2}{\sqrt{3}}$	1
$\sec \theta$	1	$\frac{2}{\sqrt{3}}$	$\sqrt{2}$	2	∞
$\cot \theta$	∞	$\sqrt{3}$	1	$\frac{1}{\sqrt{3}}$	0

Question

The angle of elevation of the top of the light house from a boat moving away from the port is 60° . After travelling a distance of 60 m in the same direction, the angle of elevation is found to be 45° . What is the height of the light house?

A) $30 + 30\sqrt{3}$ m
 B) $60 + 30\sqrt{3}$ m
 C) $30 + 30\sqrt{3}$ m
 D) 120 m

Handwritten solution for the trigonometry problem:

Let the height of the lighthouse be h m and the initial distance from the port be x m.

From the first observation point:

$$\tan 60^\circ = \frac{h}{x} \Rightarrow h = x\sqrt{3}$$

From the second observation point (60 m further away):

$$\tan 45^\circ = \frac{h}{x+60} \Rightarrow h = x+60$$

Equating the two expressions for h :

$$x\sqrt{3} = x+60$$

$$x(\sqrt{3}-1) = 60$$

$$x = \frac{60}{\sqrt{3}-1} = \frac{60(\sqrt{3}+1)}{(\sqrt{3}-1)(\sqrt{3}+1)} = \frac{60(\sqrt{3}+1)}{2} = 30(\sqrt{3}+1)$$

Substituting x back into $h = x\sqrt{3}$:

$$h = 30(\sqrt{3}+1)\sqrt{3} = 30(3+\sqrt{3}) = 90 + 30\sqrt{3}$$

Therefore, the height of the lighthouse is $90 + 30\sqrt{3}$ m.

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Substituting x back into $h = x\sqrt{3}$:

$$h = 30(\sqrt{3}+1)\sqrt{3} = 30(3+\sqrt{3}) = 90 + 30\sqrt{3}$$

Therefore, the height of the lighthouse is $90 + 30\sqrt{3}$ m.

Permutation, Combination & Probability

Handwritten notes for Permutation, Combination & Probability:

Permutation: $nPr = \frac{n!}{(n-r)!}$

Combination: $nCr = \frac{n!}{r!(n-r)!}$

Probability: $P(A) = \frac{n(A)}{n(S)}$

Handwritten notes for Permutation, Combination & Probability:

Permutation: $nPr = \frac{n!}{(n-r)!}$

Combination: $nCr = \frac{n!}{r!(n-r)!}$

Probability: $P(A) = \frac{n(A)}{n(S)}$

Handwritten solution for a probability problem:

How many ways can you form a committee of 3 members from a group of 6 boys and 4 girls?

Case 1: 3 boys

$${}^6C_3 = \frac{6!}{3!3!} = \frac{6 \times 5 \times 4}{3 \times 2 \times 1} = 20$$

Case 2: 2 boys and 1 girl

$${}^6C_2 \times {}^4C_1 = \frac{6!}{2!4!} \times \frac{4!}{1!3!} = \frac{6 \times 5}{2 \times 1} \times \frac{4}{1} = 15 \times 4 = 60$$

Case 3: 1 boy and 2 girls

$${}^6C_1 \times {}^4C_2 = \frac{6!}{1!5!} \times \frac{4!}{2!2!} = \frac{6}{1} \times \frac{4 \times 3}{2 \times 1} = 6 \times 6 = 36$$

Case 4: 3 girls

$${}^4C_3 = \frac{4!}{3!1!} = \frac{4 \times 3 \times 2}{3 \times 2 \times 1} = 4$$

Total number of ways = $20 + 60 + 36 + 4 = 120$

Handwritten solution for a probability problem:

How many ways can you form a committee of 3 members from a group of 6 boys and 4 girls?

Case 1: 3 boys

$${}^6C_3 = \frac{6!}{3!3!} = \frac{6 \times 5 \times 4}{3 \times 2 \times 1} = 20$$

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Case 3: 1 boy and 2 girls

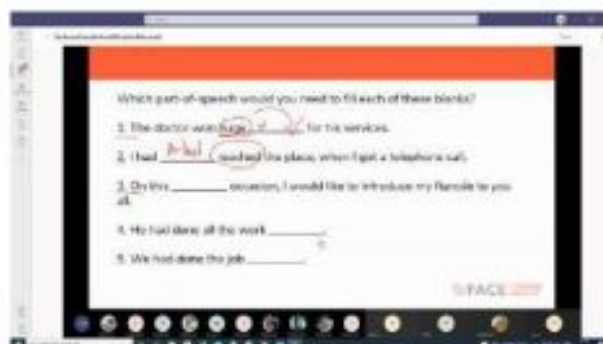
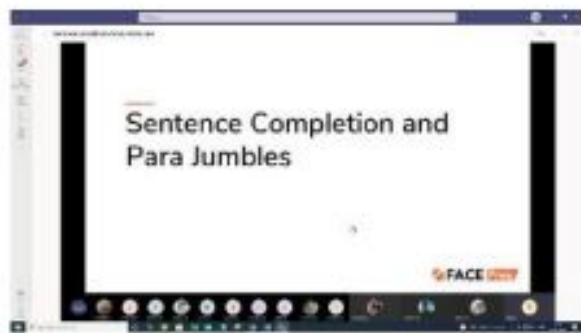
$${}^6C_1 \times {}^4C_2 = \frac{6!}{1!5!} \times \frac{4!}{2!2!} = \frac{6}{1} \times \frac{4 \times 3}{2 \times 1} = 6 \times 6 = 36$$

Case 4: 3 girls

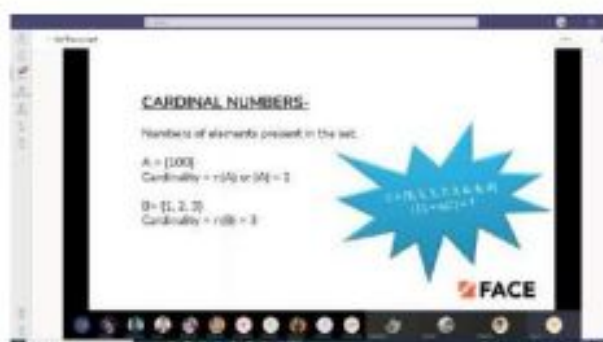
$${}^4C_3 = \frac{4!}{3!1!} = \frac{4 \times 3 \times 2}{3 \times 2 \times 1} = 4$$

Total number of ways = $20 + 60 + 36 + 4 = 120$

Sentence completion & Para Jumbles



Set Theory



Question

If $H_2 = \{a^n ab^n \mid n \geq 0\}$, then $H_2^* \cap H_2 = ?$

A) H_2
B) Σ^*
C) H_{2k}
D) $H_2 \cup H_{2k}$

FACE

The screenshot shows a Windows 10 desktop environment. A Windows Explorer window is open, displaying a folder named 'ARTICLES'. The file list shows a single file named 'A, so, the', which is a text document. The file's content is visible in the preview pane, showing the text 'A, so, the', 'surface articles (s, so', and 'surface article - the'. The desktop background is a blue and white patterned wallpaper. The taskbar at the bottom shows several application icons, including the Start button, File Explorer, and several other programs.

Omission of Articles
Drill 2
Exercise 1

FACE 2009

Question

Inspect each pair of sentences. For the first in the pair, specify the category under which the absence of articles before the highlighted word is justified. For the second, if the article used is "definite", then specify the category under which the need for the article is justified:

Q. We are so much used to relying on computers that we cannot imagine life without them.
 (How plural nouns when making generalizations)

A. The computers that I use in my head office have been transferred from the other divisions.
 (See category under topic: 3 "Definite articles")

FACE 2007

Ratio & Proportions

Question

The ratio of ages of Shreya and Gauri is 2:3. Shreya's present age is 24. If the ages of Shreya, Gauri and Chag are in continued proportion, find Chag's age?

Handwritten solution:

$$\frac{S}{G} = \frac{2}{3} \Rightarrow \frac{24}{G} = \frac{2}{3} \Rightarrow G = 36$$

$$\frac{S}{G} = \frac{G}{C} \Rightarrow \frac{24}{36} = \frac{36}{C} \Rightarrow C = 54$$

Chag's age is 54.

Question

What is the least number that must be subtracted from 38, 30 & 54 such that the resultant numbers are in continued proportion?

Handwritten solution:

$$38 - x, 30 - x, 54 - x$$

$$\frac{38-x}{30-x} = \frac{30-x}{54-x}$$

Question

What is the least number that must be subtracted from 38, 30 & 54 such that the resultant numbers are in continued proportion?

Handwritten solution:

$$38 - x, 30 - x, 54 - x$$

$$\frac{38-x}{30-x} = \frac{30-x}{54-x}$$

$$x = 14$$

Variation

Direct Variation

Handwritten notes:

- $y \propto x$
- $y = kx$
- Time & Distance
- Speed & Time
- Weight & Price
- Area & Side
- Volume & Side

Inverse Variation

Handwritten notes:

- $y \propto \frac{1}{x}$
- $xy = k$
- Time & Speed
- Area & Side
- Volume & Side

Equation

- Linear equation for degree one.
- Quadratic equation for degree two.
- Cubic equation for degree three.
- Quartic equation for degree four.

Time, Speed & Distance

Question

A train is travelling at a speed of 40 kmph. It is crossing a bridge of length 270 m. What is the time taken by the train to cross the bridge?

Handwritten solution:

Speed = 40 kmph

Distance = 270 m

Time = $\frac{\text{Distance}}{\text{Speed}}$

Time = $\frac{270}{40} = 6.75$ hours

Question

A train is travelling at a speed of 40 kmph. It is crossing a bridge of length 270 m. What is the time taken by the train to cross the bridge?

Handwritten solution:

Speed = 40 kmph

Distance = 270 m

Time = $\frac{\text{Distance}}{\text{Speed}}$

Time = $\frac{270}{40} = 6.75$ hours

Long Div

$$x = \frac{2}{3}$$

$$3 \times \frac{2}{3} = 2$$

put value of x in eq

$$x = \frac{2}{3} = 0.666...$$

Short Div

$$x = \frac{2}{3}$$

$$0.5 \times \frac{2}{3} = \frac{1}{3}$$

put value of x in eq

$$x = \frac{2}{3} = 0.666...$$

FACE

Logarithms

Logarithm, Progressions, Geometry and Quadratic Equation

FACE

Laws of Logarithms

YOU MUST LEARN THESE!

- $\log_a a = \log_a x = \log_a xy$
- $\log_a x - \log_a y = \log_a \frac{x}{y}$
- $k \log_a x = \log_a x^k$
- $\log_a a = 1$
- $\log_a 1 = 0$

CAREFUL

$$\log_a \frac{x}{y} = \log_a x - \log_a y$$

FACE

Question

Simplify $\log(2) + \log(3) - \log(12)$

Rule to be used:

Solve the equation applying the rule:

$$\log(x+5) + \log(x-5) = \log(1)$$

FACE

Question

Evaluate $\log_{10} 200 = \log_{10} 40 + 2 \log_{10} 25$

Rule to be used:

Sum of the given values =

$$\log_{10} 200 = \log_{10} 40 + 2 \log_{10} 25$$

$$\log_{10} 200 = \log_{10} 40 + \log_{10} 25^2$$

$$\log_{10} 200 = \log_{10} 40 + \log_{10} 625$$

$$\log_{10} 200 = \log_{10} 25000$$

$$\log_{10} 200 = \log_{10} 25 + \log_{10} 800$$

$$\log_{10} 200 = \log_{10} 25 + \log_{10} 10^3$$

$$\log_{10} 200 = \log_{10} 25 + 3$$

$$\log_{10} 25 = 170$$

FACE

Question

The value of $\log_2 8 + \log_2 4 + \log_2 2$

$$\log_2 8 + \log_2 4 + \log_2 2$$

$$\log_2 8 = 3$$

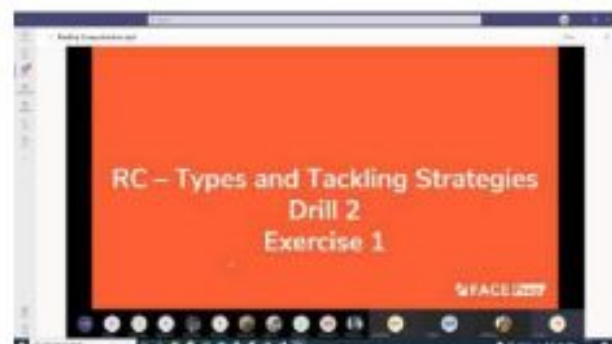
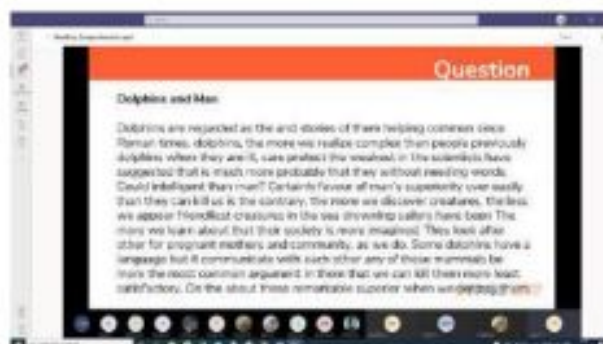
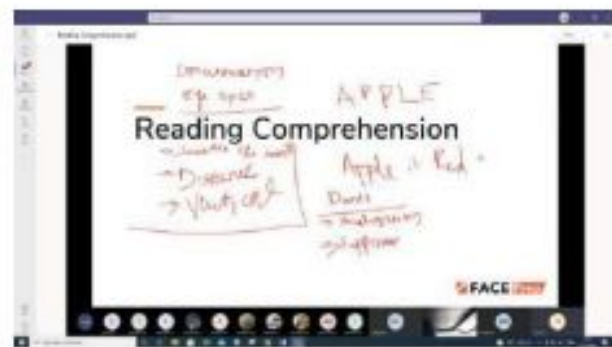
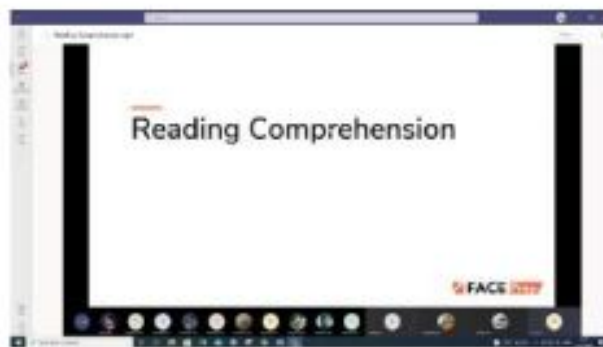
$$\log_2 4 = 2$$

$$\log_2 2 = 1$$

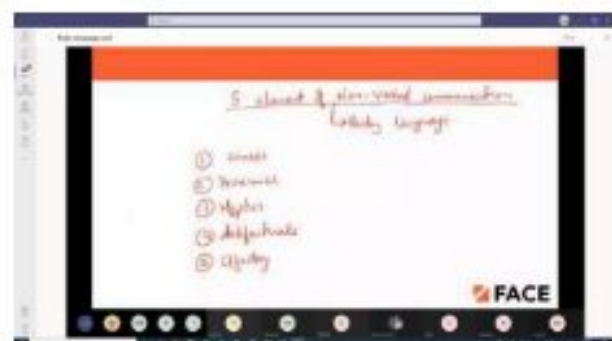
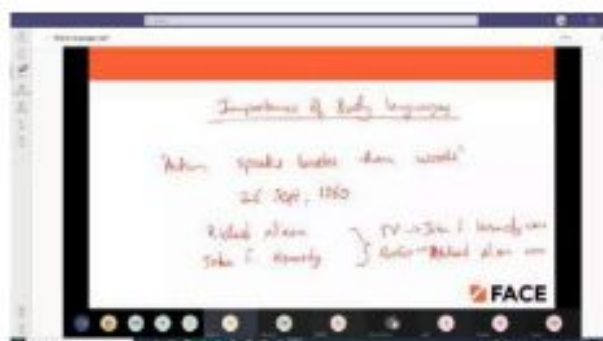
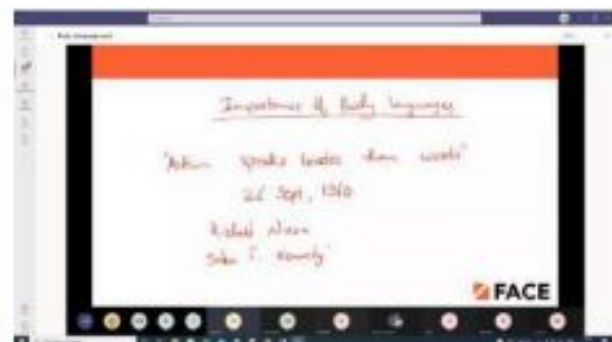
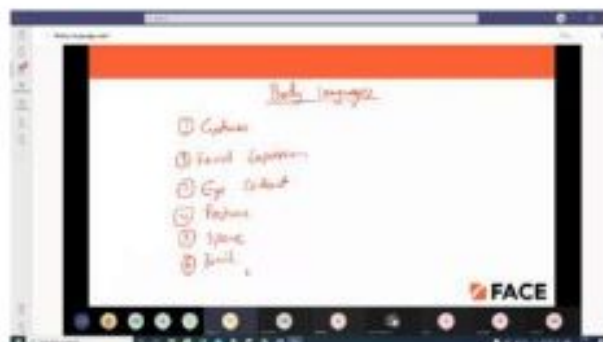
$$3 + 2 + 1 = 6$$

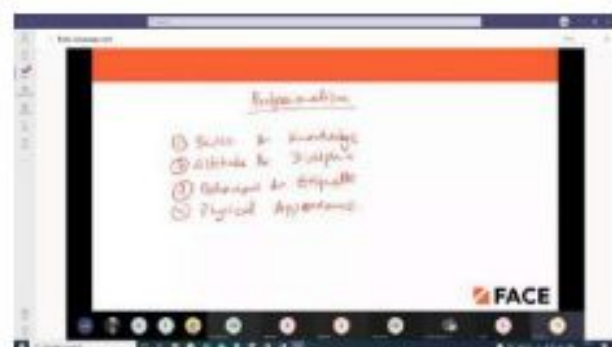
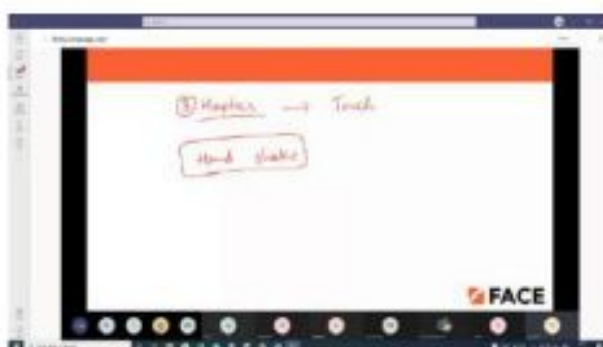
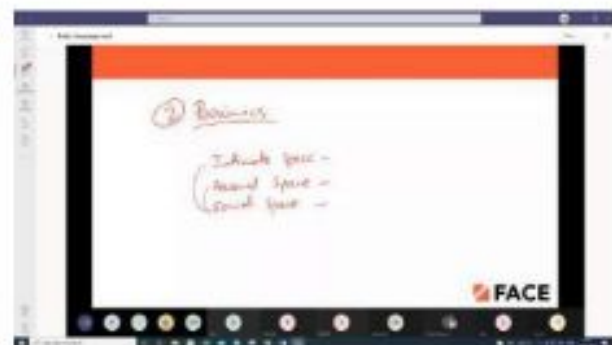
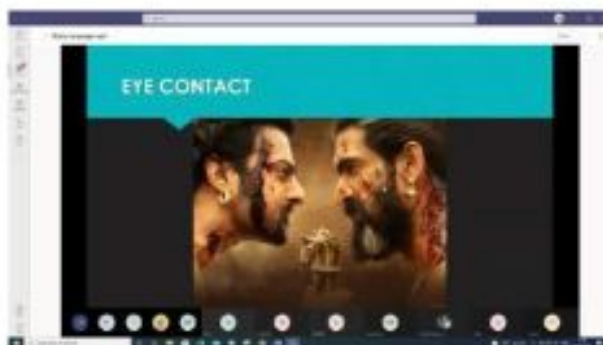
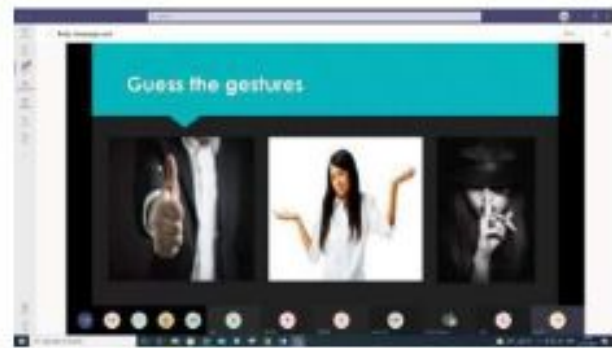
FACE

Reading Comprehension

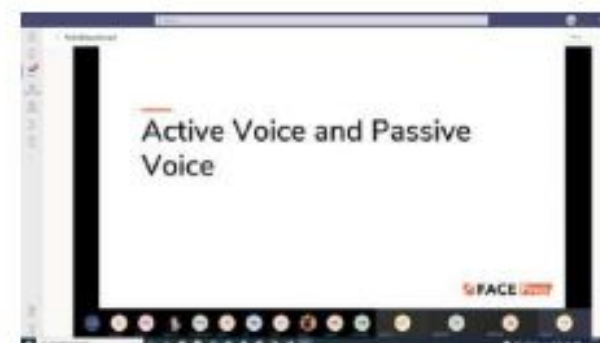
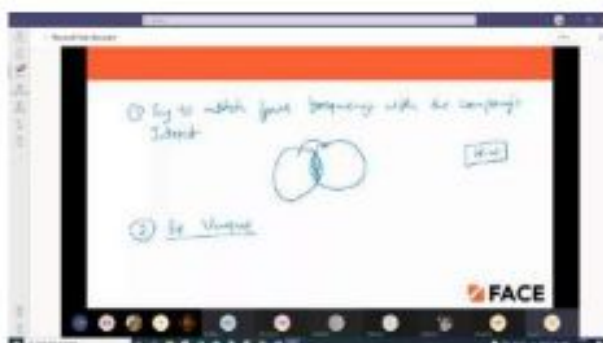
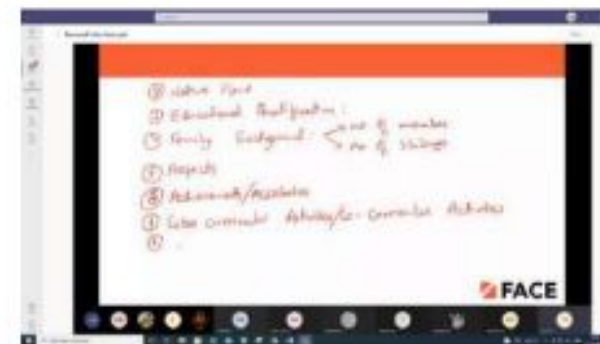
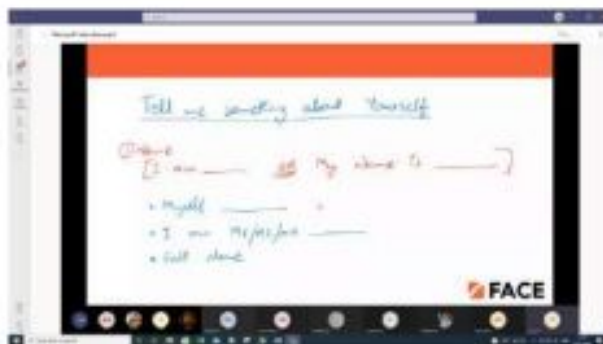
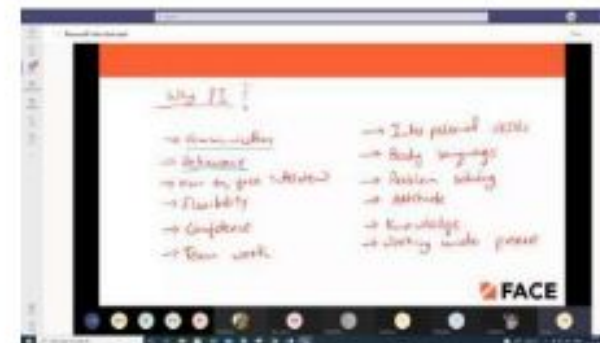
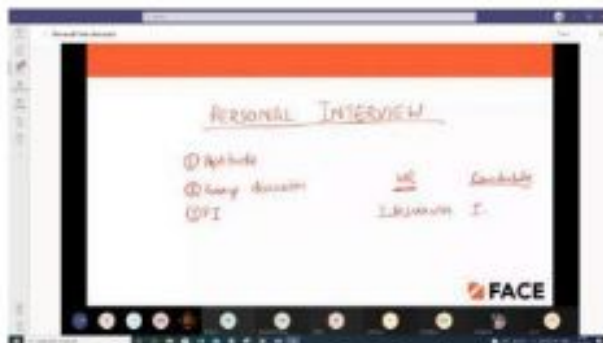
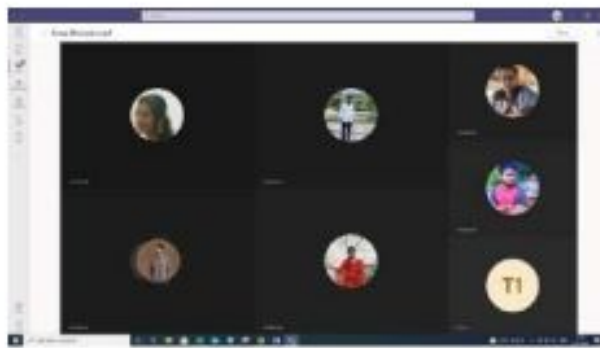


Recruitment essentials





Group Discussion



Don't let me be too long and a message delayed.
 I have experience to give to the subject.
 Bentley was killed by Ruby.
 Catherine is unknown.
 My party was stolen.
 I'll never leave.

Conversion
 How apt to be changed in the form.
 Active → passive conversion.
 The student wrote the ad.

Question

Rewrite the sentences in Passive Voice:

1. The girl closes the door.
2. The technicians test the generator.
3. Snow covered the mountains.
4. He would carry the bag.
5. Will the interviewers test our GCD?

FACE

Question

Rewrite the sentences in Passive Voice:

1. The girl closes the door. *the door is closed by the girl*
2. The technicians test the generator. *the generator is tested by the technicians*
3. Snow covered the mountains. *the mountains were covered by snow*
4. He would carry the bag. *the bag would be carried by him*
5. Will the interviewers test our GCD? *our GCD will be tested by the interviewers*

FACE

Direct Speech and Indirect Speech

FACE

Speeches	Indirect Speech
Direct speech	Indirect speech
Present simple	Present simple
Present continuous	Present continuous
Present perfect	Present perfect
Present perfect continuous	Present perfect continuous
Future simple	Future simple
Future continuous	Future continuous
Future perfect	Future perfect

Modals

Can → could
 May → might
 Will → would
 Shall → should
 Must → must

Question 11

Directions for questions 11 to 20: Rewrite the following sentences after changing the form of speech.
 She said she worked for CTS.

A) She said, "I worked for CTS."
 B) She said, "I had worked for CTS."
 C) She said, "I work for CTS."
 D) She said, "I used to work for CTS."

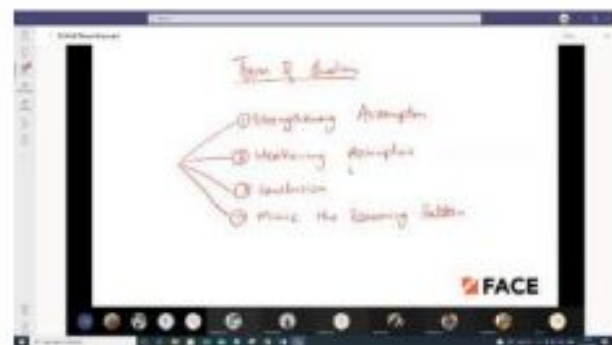
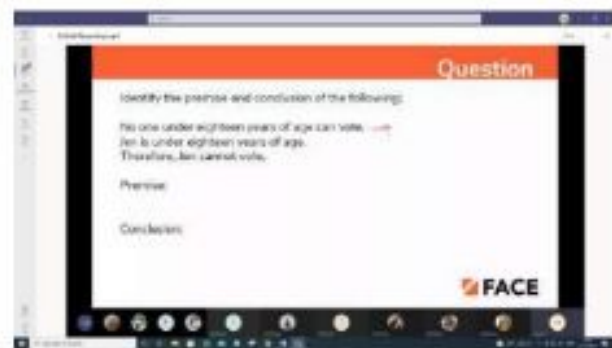
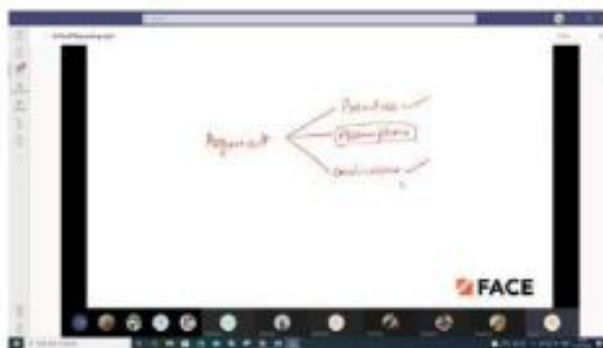
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Question 14

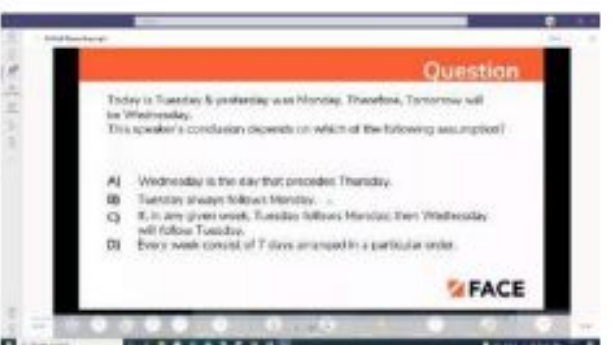
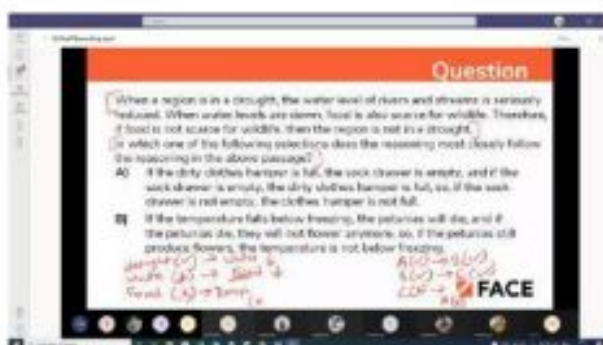
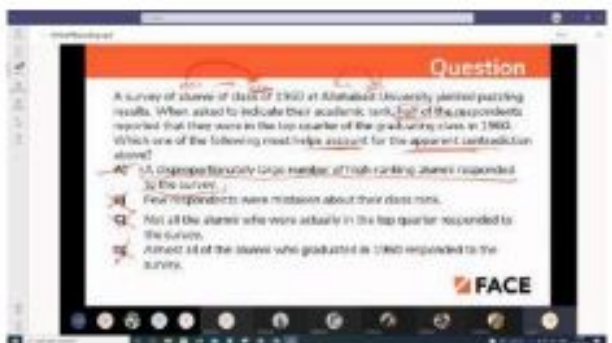
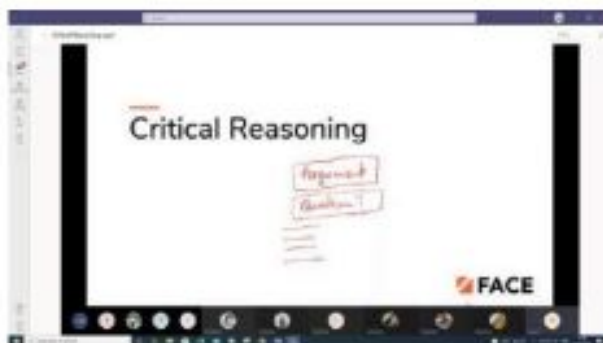
She wondered if I had received her message.

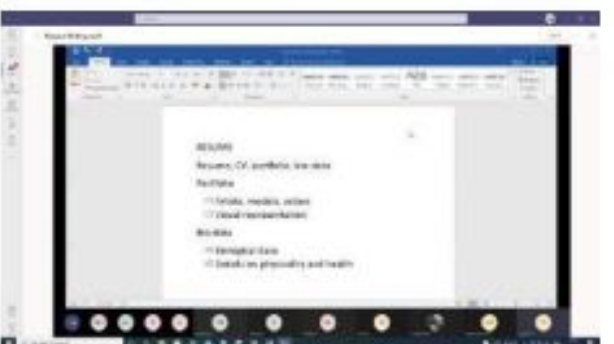
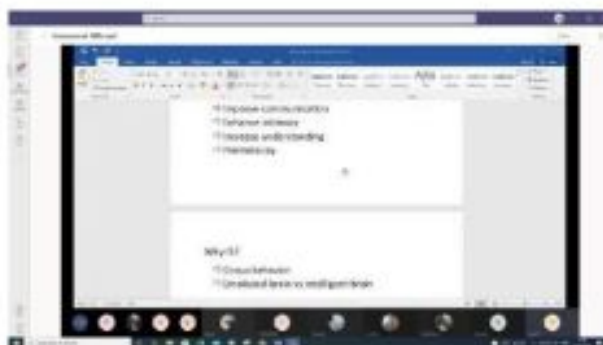
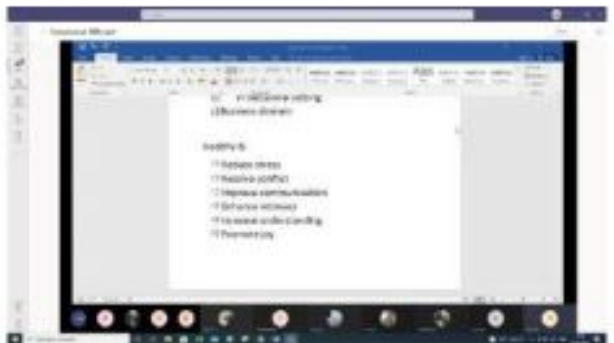
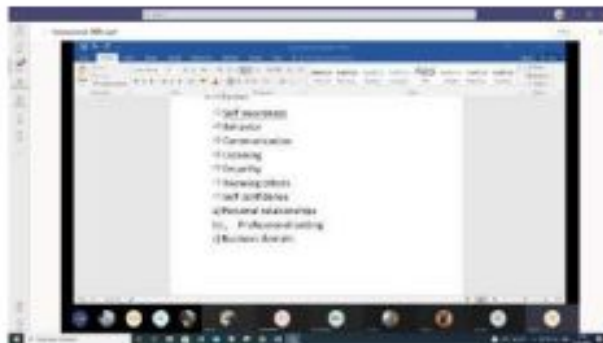
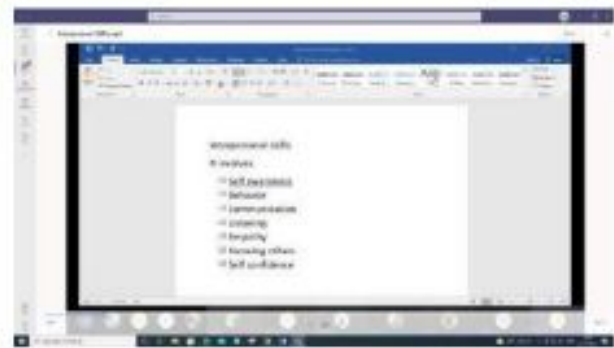
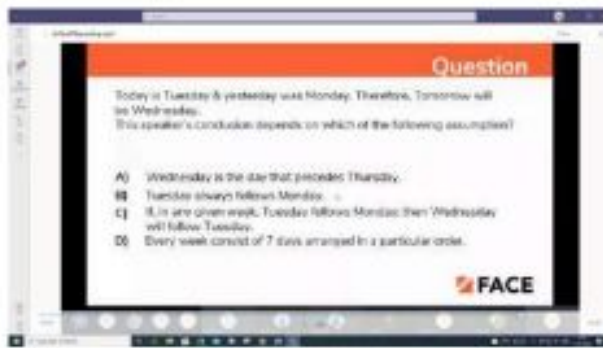
A) She said she wondered about my having received her message.
 B) She asked in a wondering tone, "Did you receive my message?"
 C) She said, "I wonder if you have received my message."
 D) She asked wonderingly, "Have you received my message?"

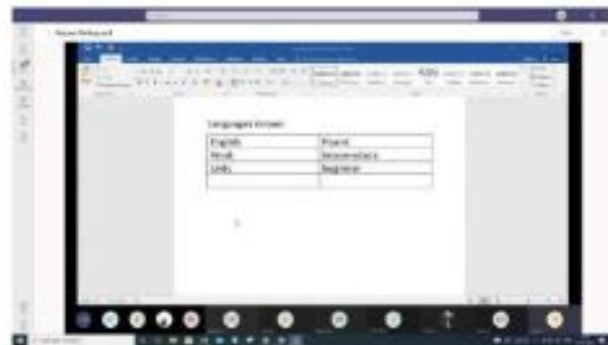
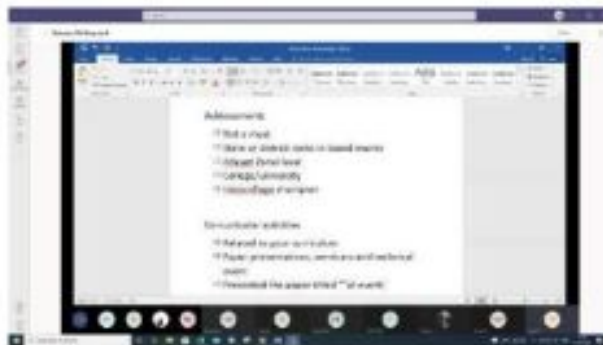
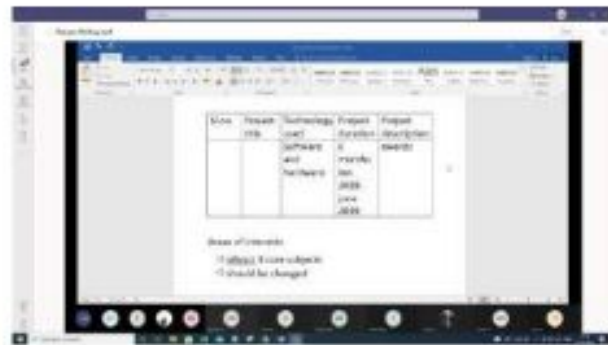
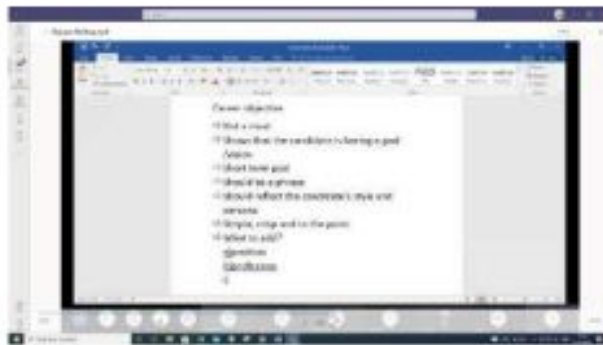
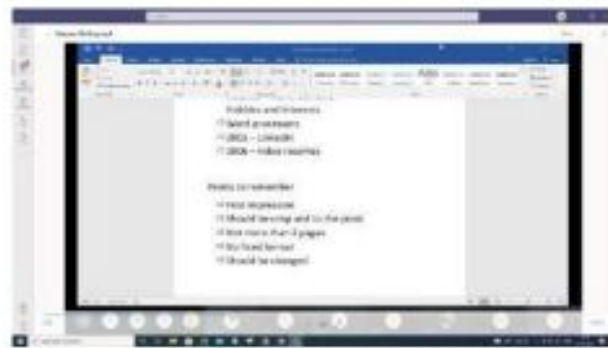
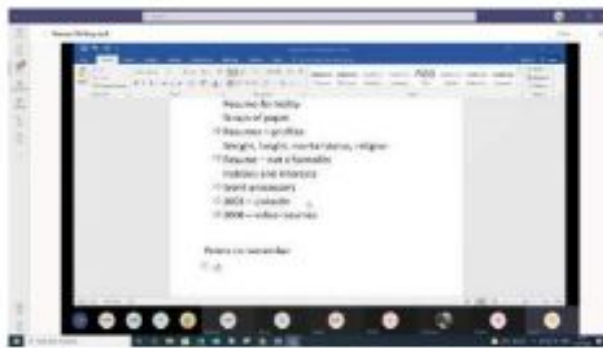
FACE



Critical Reasoning









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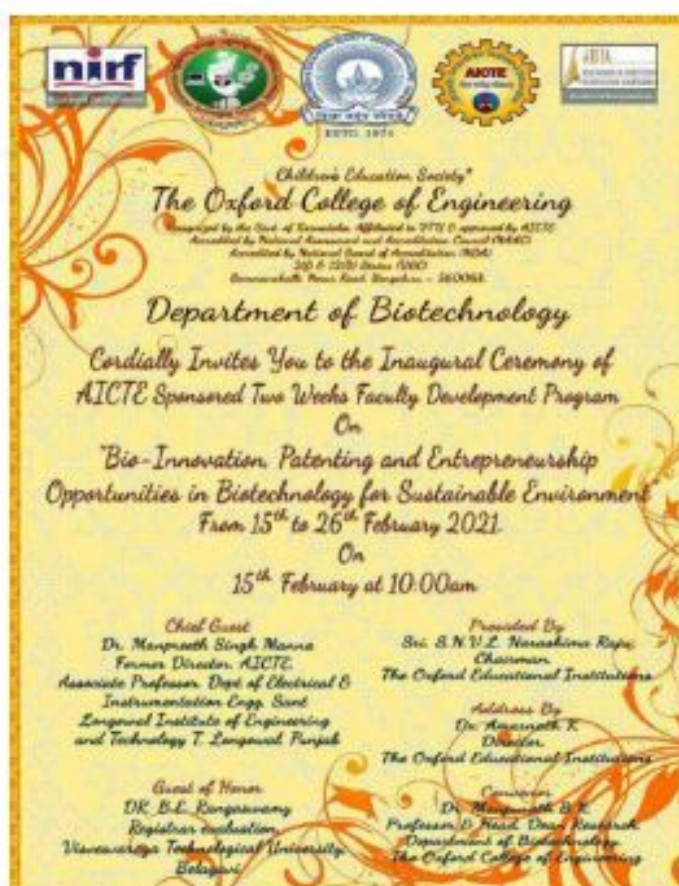
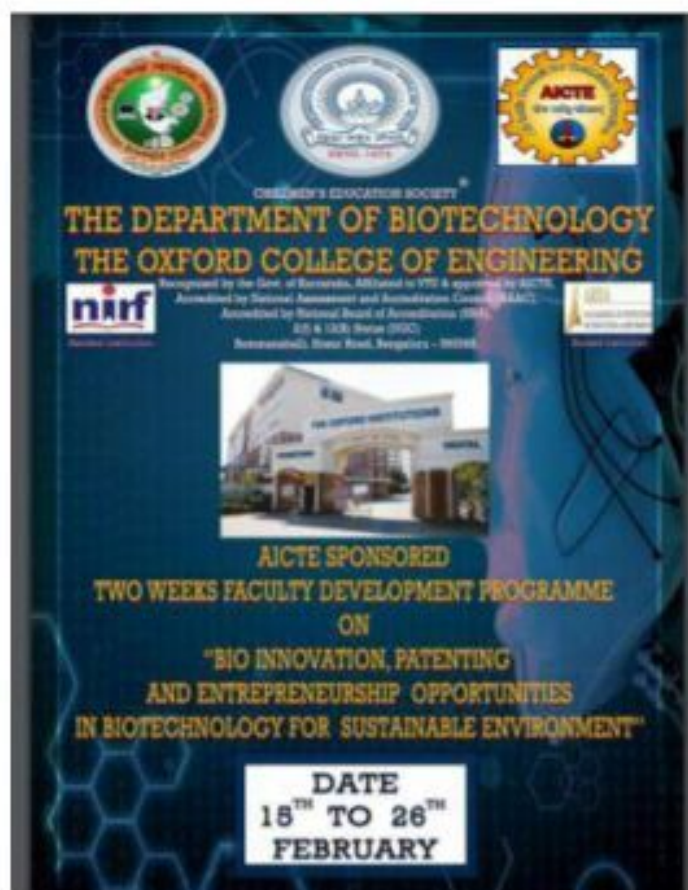
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Academic year 2020 -21 (Odd Sem)

Report on AICTE sponsored Phase 1 FDP on "Bioinnovation, Patenting and entrepreneurship opportunities in Biotechnology for sustainable environment " from 15th to 26th February 2021



The Department of Biotechnology of The Oxford College of Engineering organised AICTE sponsored two weeks Faculty Development Program titled "Bioinnovation, Patenting and Entrepreneurship Opportunities in Biotechnology for Sustainable Environment" from 15th to 26th of February 2021, in association with Karnataka state Council for Science and Technology, Government of Karnataka and Visvesvaraya Trade Promotion Centre (VTPC), Department of Industries & Commerce, Government of Karnataka, as knowledge partners for the benefit of all the faculty members .

Day1: 15th February 2021

The FDP included a formal inaugural session compered by Mrs.Valarmathy K of Dept of Biotechnology, with invocation and a lamp lighting ceremony. The distinguished people in the meeting were Dr. G.T. Raju, Principal TOCE, and Dr. Amarnath K, Director, The Oxford Educational Institutions, also the Chief Guest on the occasion Dr. Manpreeth Singh Manna, Former Director, Sant Longowal Institute of Engineering and Technology, Punjab, Dr. B K Manjunath, HOD, Dept of Biotechnology, The Oxford College of

Engineering. Guest of Honour was Smt. Dr. Rangaswamy, Registrar evaluation, Visvesvaraya Technological University. The session was presided by the Chairman of The Oxford Educational Institutions, Sri. S N V L Narasimha Raju garu.

The welcoming speech was delivered by Dr. R.V. Praveena Gowda, Principal TOCE, who briefed about the objectives and the purpose of conducting this program. Dr.Manjunath, BT HOD of Biotechnology and the convenor of FDP spoke about the need of pedagogy in Engineering role of a teacher in igniting the young mind towards innovation through advanced teaching methods and highlighted the benefits of collaborative research, innovation and appreciated the kind support extended by VTPC in organising the FDP.

The programme progressed with the inaugural lecture by the Chief Guest, Dr. Manpreeth Singh Manna. In his talk he highlighted the R&D innovations in the perspective of Accreditation. The guest of honour, Dr. B.E. Rangaswamy, Registrar, VTU, gave the theme facilitation, where he addressed the importance of the program for the academicians. He also gave a glimpse of the activities going on in the Oxford College of Engineering. The post-lunch session was presented by Dr. Jaganath, Pasteur, Conoor, where he emphasized about vaccine development process and production.

Day 2: 16th February 2021

The second day started off with the lecture of Dr.B.K.Manjunath, BT HOD, TOCE. His talk was based on strategies for product development in the current perspective. The next lecture was given by Smt.Prabavathi Rao who talked about Vtpc initiative to promote GIs,as an important tool. The programme progressed with the lecture by Dr.S. Ayyappan, Chancellor, Central Agricultural University,Imphal, in which he talked about IOT in agriculture.

Day 3: 17th February 2021

The third day started with the lecture of Dr.R. Rajesh Kumar who talked on the integrated sustainable agriculture &rural Bio-entrepreneurship. The next lecture was given by Dr.Paramasivan, Scientist, ICMR, on the topic of vector borne disease in India and the need for options for innovation. The next talk was about intellectual property as a powerful tool to protect Biotech innovation by Mr.Vivek Anand Sagar. KSCST.

Day 4: 18th February 2021

The fourth day started with the lecture about entrepreneurship & Bio - innovation challenges & opportunities by Dr.Shridhar Hari Krishna Murthy, Scientific Advisor,VNS Enviro Biotech Pvt Ltd,Chennai. The second talk was delivered by Dr. T. Srinivas, IISC, on optical biosensors. As the last session of the day, Dr. Devaneyan, Director - Innovation & Entrepreneurship Professor - Sustainable Energy, MAHER - Meenakshi Academy of Higher Education & Research, highlighted about Bio-Innovation products and Entrepreneurial opportunities.

Day 5: 19th February 2021

The fifth day started with talk on the concepts & design intricacies of brain computer interfacing by Dr.Rama subba Reddy, IISC. The day progressed with the next lecture by Dr. Bijay Kumar Sahu, NRDC, who emphasised on IP Protection and Tools of IP. The last session was engaged by Dr.Bharath, Atrimed

Pharmaceuticals Ltd, who talked on the need of bioinformatics and highlights of how to cut the cost and break the IP.

Day 6: 20th February 2021

On the sixth day, Dr. N.G.Lakshmi Narayan, NRDC, talked about NRDC – Transforming Innovative Research into Profitable Technology. In the second session, Dr. Yogamaya, Deputy Manager, Biotech Consortium India Ltd (BCIL), New Delhi, talked about aligning applied research in Biotech for enhancing commercialization success. The last session was taken over by Dr. Brinda, IP attorney Consultant, IISC, who talked on Patenting biotechnological inventions.

Day 7: 22nd February 2021

The seventh day of the program started with the lecture by Dr. Nandhini, G.I. Expert Consultant, Foundation for revitalization of Local Health Traditions, who emphasized on the procedure of patenting. The program progressed with the next lecture by Dr. Sarasija, Tutor, Wipro & Advisory member KSCST, who talked about the prior art search related to biotechnology inventions.

Day 8: 23rd February 2021

The eighth day of the program commenced with the technical talk by Dr. Sundaresan, CMAP who gave details on medicinal and aromatic plants and about the prospects in cultivation and enterprises. The session was then taken over by Dr. Farah Deba, Former Scientist, Monsanto who emphasized on the identification of patents at the early stage of biotech inventions.

Day 9: 24th February 2021

The ninth day of the program began with the lecture by Dr. Sumitha Mishra, Amity University on the topic innovative research in thermal imaging for biomedical and agriculture applications. The second session was engaged by Dr. Padmapriya V Khurana, KSCST who discussed about Patent Drafting of Bio-Tec Inventions Techniques for biotechnology inventions.

Day 10: 25th February 2021

The tenth day of the program started with technical talk by Dr. N. Sriram, MSRIT, who explained about Bio-Innovation: MAKERSPACE-Idea to Prototype. The next talk was on the reply to examination report of patent application related to Bio-Tec Inventions by K S Dhurgesh, KSCST.

Day 11: 26th February 2021

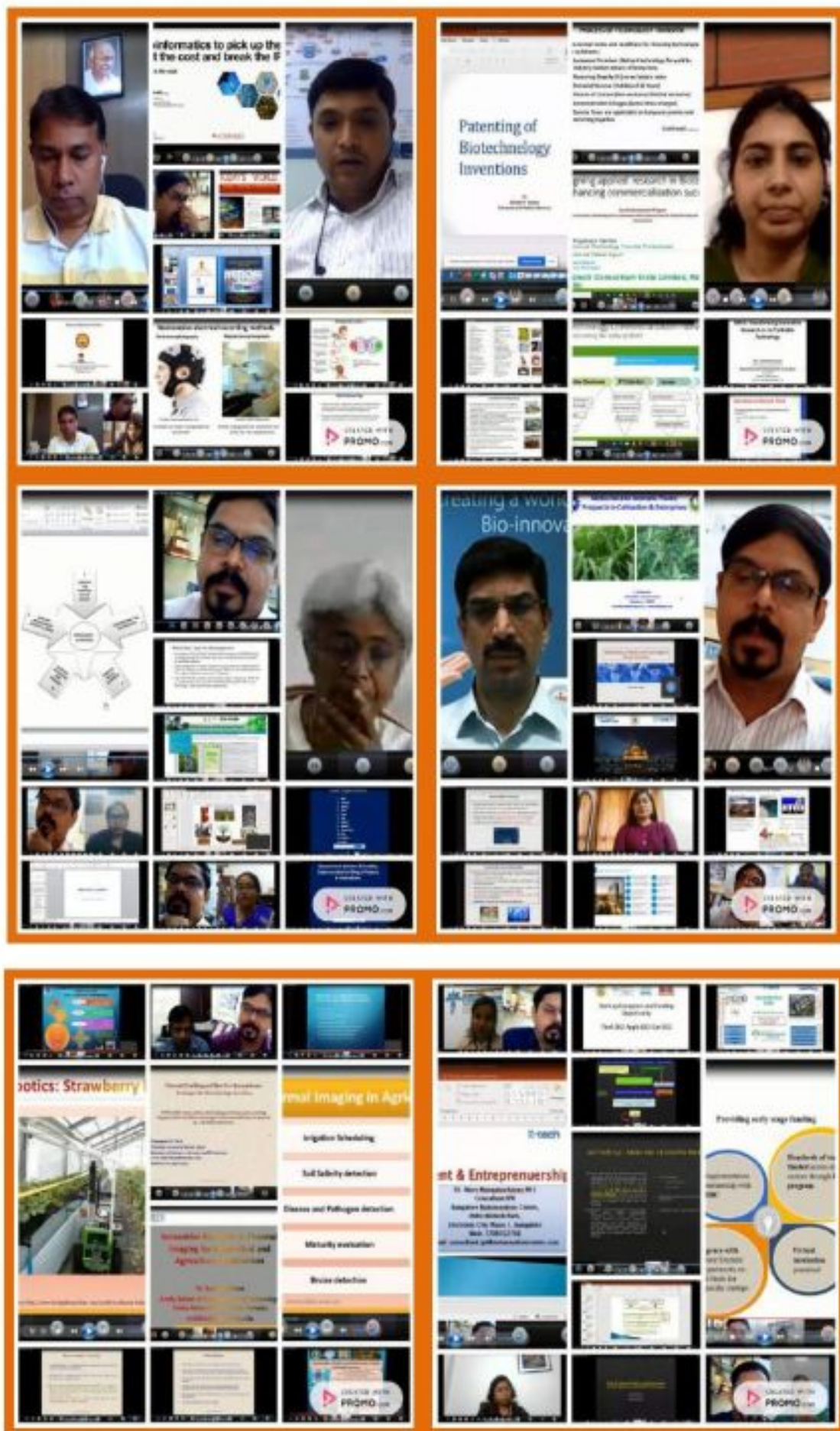
The final day of the program started with informative lecture given by Mr. Gaurav Mishra Banana, KSCST, who emphasized on Infringement & Exceptions Under Patent Law Bio-Tec Research– Bolar exception and Bioequivalence.

This led to the end of the series of lectures in the two weeks programme. The program on the whole was very informative.

The Valedictory session was presided by Shri.S.N.V.L Narasimha Raju ,Chairman ,TheOxford Educational Institutions, Dr.B.K.Mnjaunath gave a detailed summary through presentation about the details of technical talks happened during the 14 days FDP and the participants were overwhelmed with the FDP and they expressed their happiness during the feed back session and the 14 days event was ended with the vote of thanks by Dr.K.Valarmathy,Associate Professor, Department of Biotechnology, The Oxford College of Engineering. This led to the end of the series of lectures in the two weeks programme. The program on the whole was very informative.

Album of FDP event





Details of Registration

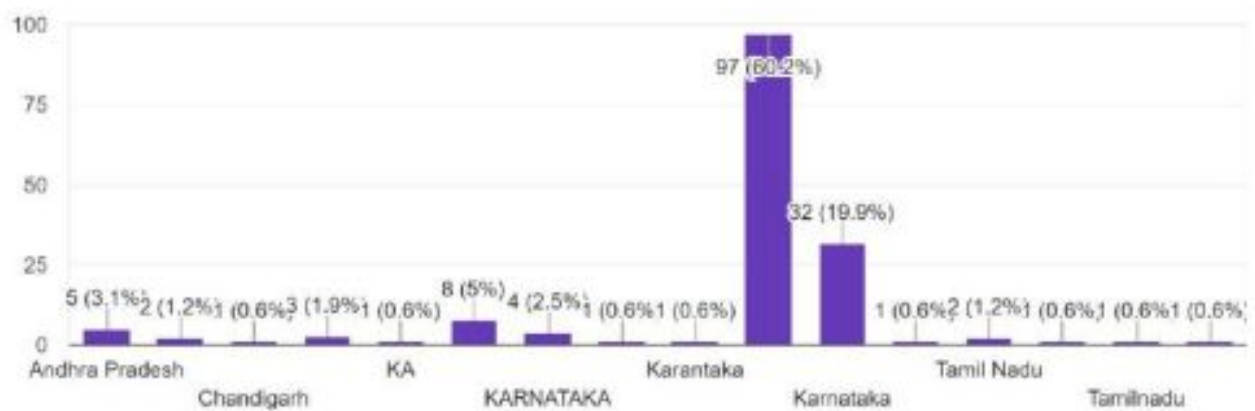
Designation

161 responses



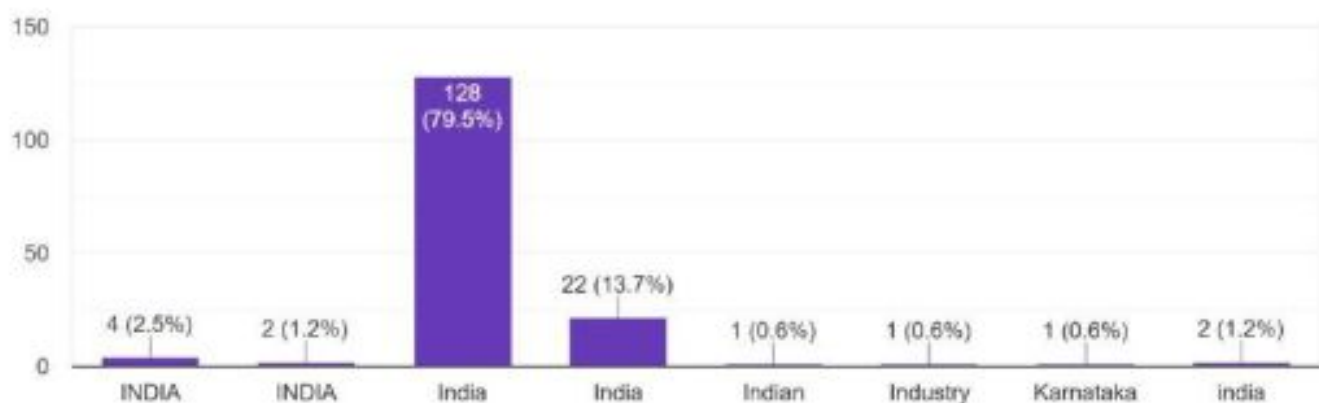
State

161 responses



Country

161 responses



Full Name	Join Time	Leave Time	Duration	Email
Surendra Agrawal (Dr.)	3/30/2021, 10:59:08 AM	3/30/2021, 10:59:36 AM	27s	Surendra.Agrawal@nmims.edu
Surendra Agrawal (Dr.)	3/30/2021, 3:47:21 PM	3/30/2021, 3:48:11 PM	49s	Surendra.Agrawal@nmims.edu
Dr Mayakkannan Gopal	3/30/2021, 10:59:10 AM	3/30/2021, 11:11:11 AM	12 m	
Dr. Mandakini Kabi	3/30/2021, 10:59:12 AM	3/30/2021, 11:30:17 AM	31 m 4s	
Lakshminarayan (Guest)	3/30/2021, 10:59:12 AM	3/30/2021, 1:14:09 PM	2h 14 m	
DEEPAK R	3/30/2021, 11:07:39 AM	3/30/2021, 4:10:55 PM	5h 3m	46.18.19@mgs2020.onmicrosoft.com
Sindhu	3/30/2021, 11:09:39 AM	3/30/2021, 11:14:05 AM	4m 26s	
Dr Mayakkannan Gopal	3/30/2021, 11:11:41 AM	3/30/2021, 11:20:14 AM	8m 33s	
Dr.Ramneet Kaur	3/30/2021, 11:14:36 AM	3/30/2021, 11:18:10 AM	3m 34s	ramneetkaur@rimt.ac.in

		AM		
Dr.Ramneet Kaur	3/30/2021, 11:20:56 AM	3/30/2021, 11:16:46 PM	1h 55m	ramneetkaur@rimt.ac.in
Guest	3/30/2021, 11:18:09 AM	3/30/2021, 11:19:21 PM	2h 1m	
Vikas Joshi	3/30/2021, 11:18:10 AM	3/30/2021, 11:39:42 AM	21m 32s	admin@NBMehtasciencecollegebor966.onmicrosoft.com
Vikas Joshi	3/30/2021, 12:08:06 PM	3/30/2021, 11:04:16 PM	56m 10s	admin@NBMehtasciencecollegebor966.onmicrosoft.com
Salma	3/30/2021, 11:20:17 AM	3/30/2021, 11:14:49 PM	1h 54m	salma.kausar@theoxford.edu
FDP BT	3/30/2021, 11:20:27 AM	3/30/2021, 11:40:55 PM	4h 50m	fdpbtoxford@theoxford.edu
Dr Mayakkannan Gopal	3/30/2021, 11:20:33 AM	3/30/2021, 11:15:04 PM	1h 54m	
Archana Vimal	3/30/2021, 11:25:47 AM	3/30/2021, 11:28:13 PM	3h 12m	
ramathilaga (Guest)	3/30/2021, 11:27:55 AM	3/30/2021, 11:14:55 PM	1h 47m	
BTHOD	3/30/2021,	3/30	1h	BTHOD@theoxford.edu

	11:28:34 AM	/2021, 1:26:15 PM	57 m	
Mugdha Khandkar	3/30/2021, 11:28:45 AM	3/30/2021, 1:14:53 PM	1h 46 m	
\DR.P.CHIDAMBARARAJAN (Guest)\	3/30/2021, 11:30:28 AM	3/30/2021, 1:16:32 PM	1h 46 m	
Preetasharan	3/30/2021, 11:30:46 AM	3/30/2021, 1:14:51 PM	1h 44 m	Preetasharan@theoxford.edu
Jyoti Marigoudar	3/30/2021, 11:30:52 AM	3/30/2021, 12:28:49 PM	57 m 57s	
Mrs N.VASUGI	3/30/2021, 11:31:32 AM	3/30/2021, 12:15:32 PM	43 m 59s	
ASHA INBANATHAN	3/30/2021, 11:31:54 AM	3/30/2021, 1:21:31 PM	1h 49 m	ASHA.INBANATHAN@dx.manipal.edu
Shreenidhi	3/30/2021, 11:32:13 AM	3/30/2021, 12:31:58 PM	59 m 44s	
\PARTHIBAN (Guest)\	3/30/2021, 11:32:44 AM	3/30/2021, 1:06:10 PM	1h 33 m	
Reena Vishvakarma (Guest) 3/30/2021, 11:32:57 AM 3/30/2021, 11:33:54 AM 56s Attendee \"Dr. Geetha (gues(Guest)\	3/30/2021, 11:33:24 AM	3/30/2021, 1:	1h 41 m	

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Reena Vishvakarma (Guest)"	3/30/2021, 11:34:42 AM	3/30/2021, 1:14:45 PM	1h 40m	
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Chithra S	3/30/2021, 11:35:08 AM	3/30/2021, 11:57:09 AM	22m	
APARNA	3/30/2021, 11:35:21 AM	3/30/2021, 1:13:53 PM	1h 38m	10X18BT005@theoxford.edu
Dr.G.Carlin Geor Malar	3/30/2021, 11:35:36 AM	3/30/2021, 12:27:26 PM	51m 49s	
SAI SHRUTHI KANNAN	3/30/2021, 11:37:04 AM	3/30/2021, 1:15:55 PM	1h 38m	10X18BT032@theoxford.edu
Pavan Vignesh	3/30/2021, 11:37:43 AM	3/30/2021, 11:39:10 AM	1m 26s	10X17BT030@theoxford.edu
DR. SUDEVI BASU	3/30/2021, 11:37:45 AM	3/30/2021, 1:15:08 PM	1h 37m	sudevi_biotech@smvit.onmicrosoft.com
DR. SUDEVI BASU	3/30/2021, 2:30:51 PM	3/30/2021, 2:31:52 PM	1m 1s	sudevi_biotech@smvit.onmicrosoft.com


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DR. SUDEVI BASU	3/30/2021, 2:33:45 PM	3/30/2021, 2:47:17 PM	13 m 31s	sudevi_biotech@smvit.on microsoft.com
TEJAS	3/30/2021, 11:38:49 AM	3/30/2021, 12:42:54 PM	1h 4m	1OX18BT043@theoxford.e du
Bhuvaneswari S	3/30/2021, 11:40:58 AM	3/30/2021, 4:10:55 PM	4h 29 m	
\Swati sharma (Guest)\	3/30/2021, 11:44:06 AM	3/30/2021, 1:14:49 PM	1h 30 m	
AFSHEEN AKTHAR	3/30/2021, 11:44:25 AM	3/30/2021, 2:42:14 PM	2h 57 m	Afsheen2861.ups@unityp ublicschool.com
AVINASH KUMAR VIVEKANAND MISHRA	3/30/2021, 11:44:40 AM	3/30/2021, 1:25:09 PM	1h 40 m	G_AVINASHKUMAR.MISH RA@ihubx.org
saranya	3/30/2021, 11:44:49 AM	3/30/2021, 11:53:33 AM	8m 44s	
\Dr. C. Divya (Guest)\	3/30/2021, 11:45:46 AM	3/30/2021, 1:16:04 PM	1h 30 m	
\\\\thyagaraju g s (Guest)\\\\	3/30/2021, 11:45:56 AM	3/30/2021, 1:02:53 PM	1h 16 m	
NAZEEMA BANU B	3/30/2021,	3/30	1h	bn@jmctry.onmicrosoft.co

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Harish Venkatram Saripella (Guest)	3/30/2021, 11:51:14 AM	3/30/2021, 1:23:08 PM	1h 31 m	
M NITHYASHRI	3/30/2021, 11:51:41 AM	3/30/2021, 1:14:58 PM	1h 23 m	1OX18BT018@theoxford.edu
mohankumars	3/30/2021, 11:53:27 AM	3/30/2021, 1:15:06:25 AM	2m 58s	mohankumars@sjcacblr.onmicrosoft.com
Dr. Mahipal Singh Kesawat (Guest)	3/30/2021, 11:55:24 AM	3/30/2021, 1:52:08 PM	1h 56 m	
Chithra S	3/30/2021, 11:56:27 AM	3/30/2021, 1:15:14 PM	1h 18 m	
KARTHIH M G	3/30/2021, 11:57:18 AM	3/30/2021, 4:10:55 PM	4h 13 m	admin@PSREngineeringCollege827.onmicrosoft.com
Dr Rajashekhara S (Guest)	3/30/2021, 12:02:26 PM	3/30/2021, 2:38:12 PM	2h 35 m	
Sindhu	3/30/2021, 12:02:47 PM	3/30/2021, 12:20:36 PM	17 m 48s	
Dr Tanushree Sahoo	3/30/2021, 12:06:33 PM	3/30/2021, 1:	2h 9m	

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Swaraj Mohanty	3/30/2021, 12:06:52 PM	3/30/2021, 1:15:53 PM	1h 9m	
MADHURYA	3/30/2021, 12:07:34 PM	3/30/2021, 12:08:07 PM	32s	10X18BT019@theoxford.edu
Dr. R. Jayalakshmi	3/30/2021, 12:11:12 PM	3/30/2021, 1:07:16 PM	56 m 3s	
Dr.Nayomi John	3/30/2021, 12:12:12 PM	3/30/2021, 1:23:00 PM	1h 10 m	
Dr.Manjunath N.S (Guest)	3/30/2021, 12:15:11 PM	3/30/2021, 2:15:47 PM	2h	
Aswathi	3/30/2021, 12:22:02 PM	3/30/2021, 1:15:43 PM	53 m 40s	aswathi@theoxford.edu
Dr.G.Carlin Geor Malar	3/30/2021, 12:24:57 PM	3/30/2021, 1:15:00 PM	50 m 2s	
Mr. Rakesh	3/30/2021, 12:32:55 PM	3/30/2021, 12:53:58 PM	21 m 3s	593@gmitdvn.onmicrosoft.com
Hemavathy R V	3/30/2021, 12:33:29 PM	3/30/2021, 1:23:57	50 m 28s	

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Jatin R Rawal (Guest)	3/30/2021, 12:35:31 PM	3/30/2021, 12:35:31 PM	16s	
Jyoti marigoudar	3/30/2021, 12:35:47 PM	3/30/2021, 12:35:47 PM	24s	
Shreenidhi	3/30/2021, 12:36:49 PM	3/30/2021, 12:36:49 PM	32m 28s	
Jyoti marigoudar	3/30/2021, 12:37:03 PM	3/30/2021, 12:37:03 PM	46m 21s	
Rushikesh Sankpal	3/30/2021, 12:39:19 PM	3/30/2021, 12:39:19 PM	36m 1s	
Mrs N.VASUGI	3/30/2021, 12:51:21 PM	3/30/2021, 12:51:21 PM	25m 31s	
Dr.Naorem Sarita Devi	3/30/2021, 12:52:29 PM	3/30/2021, 12:52:29 PM	50m 33s	
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Chidhananda R S	3/30/2021, 1:09:50 PM	3/30/2021, 1:09:50 PM	1h 7m	rs_chidhananda@blr.amrita.edu
Dr.R.Mohan	3/30/2021,	3/30	25	drmohan.eccs@excelcolle

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Sreevani	3/30/2021, 1:14:15 PM	3/30 /202 1, 1:20: 51 PM	6m 36s	Sreevani@theoxford.edu
Ms. Ashvika	3/30/2021, 1:16:00 PM	3/30 /202 1, 1:16: 11 PM	10s	ashvika@srisaiuniversity.o rg
Dr. Gurumurthy	3/30/2021, 3:35:23 PM	3/30 /202 1, 3:50: 58 PM	15 m 35s	685@gmitdvn.onmicrosoft .com
SHEIK ABDULLA (Guest)	3/30/2021, 4:05:13 PM	3/30 /202 1, 4:05: 37 PM	23s	


 Head of the department
DR. B.K. MANJUNATHA
 Professor & Head
 Department of Biotechnology
 The Oxford College of Engineering
 Bengaluru-560 075



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DEPARTMENT OF BIOTECHNOLOGY

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 080-30219601/02, Fax: 080-25730551, 30219629,

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Website: www.theoxford.edu

Academic year 2020 -21 (Odd sem)

Report on AICTE sponsored Phase 2 FDP on "Bioinnovation, Patenting and entrepreneurship opportunities in Biotechnology for sustainable environment from 8th to 20th March 2021

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Department of Biotechnology

Cordially Invites You to the Inaugural Ceremony of AICTE Sponsored Two Weeks Faculty Development Program (8th to 20th March 2021)
 On
"Bio-Innovation, Patenting & Entrepreneurship opportunities in Biotechnology for Sustainable Environment"
 On
8th March at 10:00 AM
 Click on the link to join
<https://bit.ly/2PBDwF>

Presided by
 Shri. S. R. M. Narasimha Rao, Chairman, The Oxford Educational Institutions

Chief Guest
 Dr. Jitendra Kumar, Managing Director, Bangalore Bioinnovation Centre (BBIC), Bengaluru

Guest of Honor
 Dr. Hrishikesh Damle, MD & CEO, Arundel Pharmaceuticals, Bengaluru

Key note Speaker
 Dr. Samudra Rajesh Kumar, Professor, College of Agriculture and Biotechnology, Chikmagalur, Chikmagalur, Chikmagalur

Address by
 Dr. Anand K. R., Director, The Oxford Educational Institutions, Bengaluru

Convener
 Dr. S. S. Srinivasulu, Head Research, Professor & Head, Department of Biotechnology, The Oxford College of Engineering, Bengaluru

Knowledge Partners
 YTPC, Govt of Karnataka, BBIC, Govt of Karnataka, BBIC, Govt of Karnataka

THE DEPARTMENT OF BIOTECHNOLOGY
THE OXFORD COLLEGE OF ENGINEERING
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 Bommanahalli, Hosur Road, Bengaluru-560068.

AICTE SPONSORED
TWO WEEKS FACULTY DEVELOPMENT PROGRAMME
 ON
"BIO INNOVATION, PATENTING AND ENTREPRENEURSHIP OPPORTUNITIES IN BIOTECHNOLOGY FOR SUSTAINABLE ENVIRONMENT"
DATE 8TH TO 20TH MARCH

The Department of Biotechnology of The Oxford College of Engineering organised AICTE sponsored two weeks Faculty Development Program titled "Bioinnovation, Patenting and Entrepreneurship Opportunities in Biotechnology for Sustainable Environment" from 8th to 20th of March 2021, in association with Karnataka state Council for Science and Technology, Government of Karnataka, Bangalore Bioinnovation centre and Visvesvaraya Trade Promotion Centre (VTPC), Department of Industries & Commerce, Government of Karnataka, as knowledge partners for the benefit of all the faculty members.

Day1: 8th March 2021

The FDP included a formal inaugural session compered by Mrs.Valarmathy K of Dept of Biotechnology, with invocation and a lamp lighting ceremony. The distinguished people in the meeting were Dr. R.V. Praveena Gowda, Principal TOCE, and Dr. Amarnath K, Director, The Oxford Educational Institutions, also the Chief Guest on the occasion Dr. Jitendra Kumar, Managing Director, Bangalore Bioinnovation Centre

(BBC), Dr. B K Manjunath, HOD, Dept of Biotechnology, The Oxford College of Engineering. Guest of Honour was Dr. Hrishikesh Damle, MD & CEO, Atrimed Pharmaceuticals and Dr. Ramaswamy Rajesh Kumar, Professor, College of Agriculture and Biotechnology, Zhejiang University, China as Keynote speaker. The session was presided by the Chairman of The Oxford Educational Institutions, Sri. S N V L Narasimha Raju garu.

The first talk was delivered by Dr. Jitendar Kumar on “Creating an Innovative Ecosystem in Life Science”. Dr. Kumar emphasised on various factors that enhance the growth of biotechnology clusters and added a note on the services offered by Bangalore Bioinnovation Centre (BBC) in creating an innovation ecosystem.

The next session was by Dr. Hrishikesh Damle on “Starting your own company”. Dr. Damle discussed in detail the qualities needed to be an entrepreneur along with the difficulties faced during the initial times of his company, Atrimed Pharmaceuticals.

Keynote speech was delivered by Dr. Ramaswamy Rajesh Kumar on “Integrated sustainable agriculture and rural bio-entrepreneurship”. Dr. Kumar elaborated on the global challenges arising from various anthropological activities and the inventions related to sustainable agriculture.

Day 2: 9th March 2021

The second day started off with an interesting speech on “Plant specialized metabolism and its engineering for commercial production of high value metabolites” by Girinath G. Pillai, PhD. Sir spoke of evolution of plant genome. The next session was delivered by Dr. K.S. Jagadeesh on “Towards development of a biostimulant using forest genetic resources for use in agriculture”. Dr. Jagadeesh discussed about biostimulants, production, advantages of biostimulants over chemical fertilizers and their market potential. The last session of day 2 was handled by Dr. Srinivasa Mutalik on “Nanocarriers as drug delivery vehicles: overview and case studies”. Dr. Mutalik gave a detailed lecture on the use of nanotechnology in drug delivery system.

Day 3: 10th March 2021

The third day started with technical talk by Dr. N. Sriram who delivered a speech on “Bio-innovation: MAKERSPACE- Idea to prototype”. Dr. Sriram spoke of different inventions in the field of health sciences and wearable electronics. Session 2 was engaged by Dr. Ramakanth from Nishant Aromas Pvt. Ltd. Sir elaborated on various MSME opportunities on aromatic plants. Session 3 was handled by Dr. Srinivas B V from Aspartika Biotech Pvt Ltd. Sr. Srinivas spoke on various innovative ideas for start ups.

Day 4: 12th March 2021

The fourth day began with a talk on “Role of MSME in Indian economy” by Dr. Gopinath Rao from MSME Development Institute, Govt. of India. Dr. Gopinath talked us through various schemes offered by the Govt. of India along with a number of challenges faced by MSMEs. Session 2 for the day was engaged by Dr.

Kailash Chandra Khulbe from CSIR- Indian Institute of Toxicology Research, on “Entrepreneurship: commercialization of scientific knowledge base”. Dr. Khulbe elaborated on various probabilities to commercialize a scientific idea. Session 3 was engaged by Dr. Pradeep Kumar Verma from NMRL on “Innovations in marine biotechnology”. Dr. Verma introduced the audiences to various aspects of marine biotechnology, creation of novel products from marine ecosystems and plenty of opportunities marine biotechnology has to offer to the young minds.

Day 5: 13th March 2021

The fifth day started with talk on the concept “Plant viral diseases and their management through biotechnological interventions” by Dr. Basava Prabhu L Patil. He elaborated on various plant viral diseases, their causative agents, development of disease resistant varieties. Session 2 was engaged by Dr. Nivedan on “Areca tea value added products from arecanut”. Dr. Valarmathy K handled session 3 for the day on “Biotech entrepreneurship ideas and opportunities”. Dr. Valarmathy talked us through various products developed and those which have successfully been commercialized

Day 6: 15th March 2021

The sixth day started with a talk on “Hidden healthcare informatics data exploration as an entrepreneurial niche” by Dr. Vidya Niranjana. Dr. Vidya pointed out the importance of data analytics in healthcare, elements and attributes pertaining to data analytics as well as different steps of data analytical processes. Session 2 was on “ Art of writing research proposal for successful funding” by Dr. Preetha Sharan. Dr. Preetha elaborated on various terminologies like H index, i-10 index and ORCID ID along with their importance and relevance in publishing research articles. Session 3 was handled by Dr. B K Manjunath on “Technologies and funding opportunities”. Dr. Manjunath spoke on various technology transfer opportunities in the field of biotechnology, production and commercialization of biopesticides and start up schemes of Govt. of India.

Day 7: 16th March 2021

The seventh day of the program started with a talk on “Isolation and characterization of anti-cancer compounds from natural sources” by Dr. Shama Prasada K. Sir discussed different cancer treatment options and different types of assays for diagnosing cancer cells. Session 2 was engaged by Dr. A Srinivas Rao on “Pesticides and their metabolites analysis: Environmental and biomarkers of human exposures and health issues”. The next session was on the topic “Biotech patent case laws defining patentability criterion in different jurisdictions” by Smt. Ekta Prasad, Patent Agent, KSCST.

Day 8: 17th March 2021

The eighth day of the program commenced with the technical talk by Dr. Sarasija, Tutor, WIPO & Advisory member, KSCST, who gave details on the topic “Hands on training –Prior art search related to Biotechnology Inventions”. The session was then taken over by Dr.C.R. Patil, Professor, University of

Agricultural Sciences, Karnataka, who emphasized on the types of microbial inoculants, current status, future prospects and quality standards.

Day 9: 18th March 2021

The ninth day of the program began with the lecture by Ms. Ankita Puranik, Innovation and Ecosystem Development Officer, BBC, on the topic “Start up ecosystem and funding opportunities”. The second session was engaged by Dr. Meher Prakash, Cofounder, VNIR Biotechnologies Pvt Ltd, who discussed about “My journey, back and forth between academics and startup”. The last session of the day was about the overview of government and non government funding agencies for research and development by Dr.B. K. Manjunatha.

Day 10: 19th March 2021

The tenth day of the program started with technical talk about the opportunities for starting a science-driven business by Dr. Raghuveer Ramachandra, Founder and Director, GaloreTx Pharmaceuticals Pvt Ltd. The last session was about 3D Bioprinting in India and about how it is shaping up healthcare and medicine by Mr. Piyush Padmanaban, Cofounder, Next Big Innovation labs, Bangalore.

Day 11: 20th March 2021

The eleventh day of the program started with informative lecture given by Dr.Arvind Vishwanath, CEO, Pitch Scientific, Bangalore, who emphasized on patent searching and analysis with reasons, data sources and methods. The second session was about newer avenues and skill sets for biotech entrepreneurship given by Dr. Pratima Kanderwal, Lead Facilitator. The last session of the technical talk was by Dr.Raju, Professor and Head of Department of Automobile Engineering, TOCE, on the topic “Biodiesel- a potent option for Entrepreneurship”.

Day 12: 22nd March 2021

The last day of the FDP started with technical talk delivered by Dr. Nagendra, Professor & Head of the Department of Biotechnology, Sir M Visvesvaraya Institute of Technology, Bangalore, on the topic “Role of Educational Institutions in Promoting Innovations and Entrepreneurship development”. The second session was on the topic “IOT in Agroproduction, Processing and retailing” by Dr.Manpreet Singh Manna.



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THE DEPARTMENT OF BIOTECHNOLOGY

*Cordially Invites You to the Valedictory Ceremony of Phase 2 AICTE
Sponsored Two Weeks Faculty Development Program (8th to 20th march 2021)*

On

*"Bio-Innovation, Patenting and Entrepreneurship
Opportunities in Biotechnology for Sustainable Environment"*

On

22nd march at 11:30 am

Click on the link to join- <https://bit.ly/3qS3OUp>

Presided by



Shri.S.N.V.L.Narasimha Raju,
Chairman,
The Oxford Educational Institutions.

Chief Guest



Dr.Manpreeth Singh Manna,
Former Director,AICTE,Associate Professor,
Dept. of Electrical & Instrumentation Engg.
SMET,Longowal,Punjab.

Guest of Honor



Dr.H.G.Nagendra,
Professor & Head,
Department of Biotechnology,
Sir M Visvesvaraya Institute of Technology,
Bangalore.

Address by



Dr.Amarnath K,
Director,
The Oxford Educational Institutions,
Bangalore.

Convenor



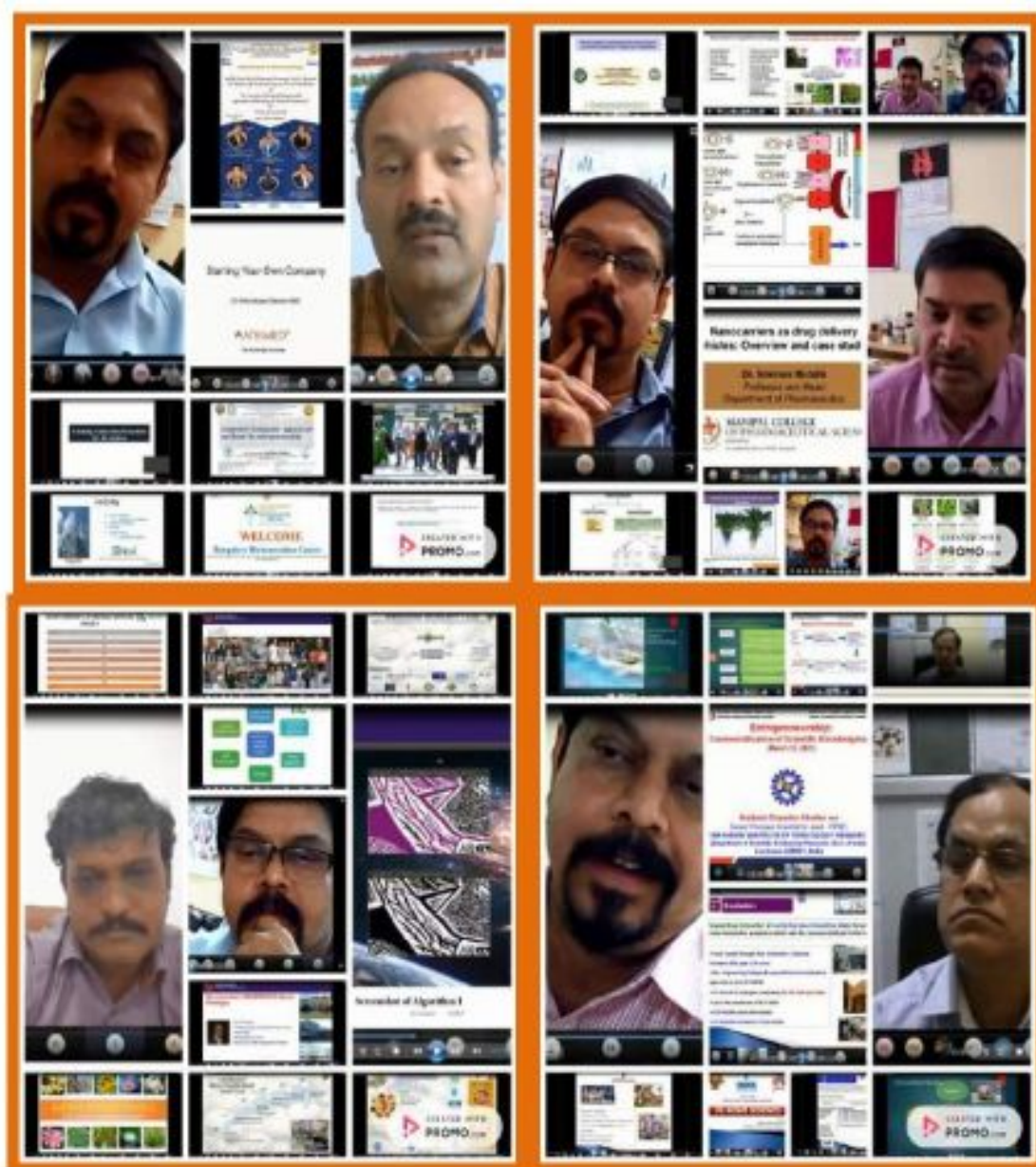
Dr.B.K.Manjunath,
Dean Research,
Professor & Head,
Department of Biotechnology,
The Oxford College of Engineering,
Bangalore.

**Knowledge
Partners**

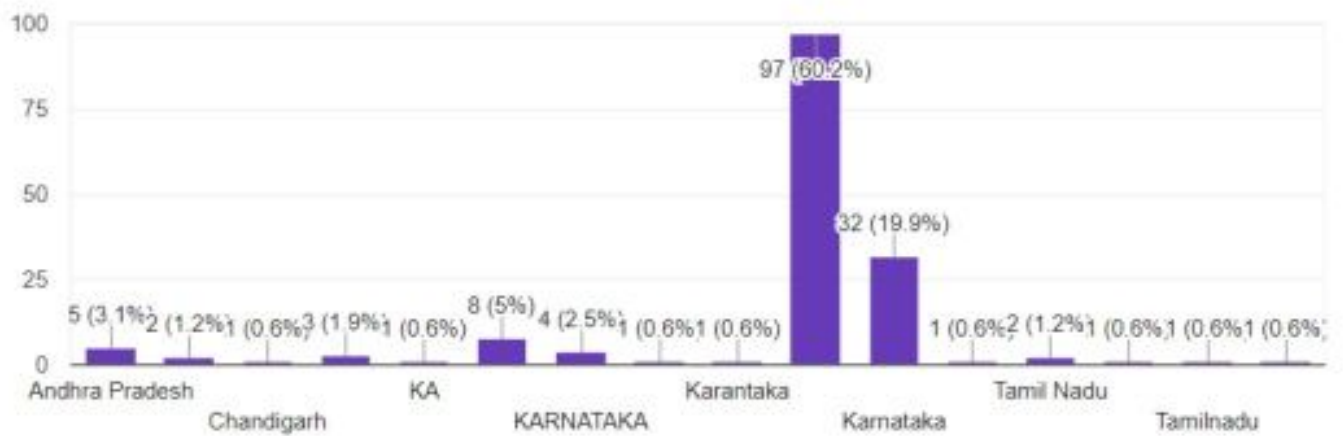


The Valedictory session was presided by Shri.S.N.V.L Narasimha Raju ,Chairman ,TheOxford Educational Institutions, and the Chief guest was Dr.Manpreet Singh Manna,Former Director,AICTE,Associate Professor,Department of Electrical and Instrumentation Engg,SLIET, Longowal, Punjab and Guest of Honor was Dr.H.G.Nagendra,Professor & Head,Department of Biotechnology ,Sir M.Visveswaraya Institute of Technology.Dr.B.K.Mnjaunath gave a brief presentation about the details of technical talks happened during the 14 days FDP and the participants were overwhelmed with the FDP and they expressed their happiness during the feed back session and the 14 days event was ended with the vote of thanks by Dr.K.Valarmathy,Associate Professor, Department of Biotechnology, The Oxford College of Engineering. This led to the end of the series of lectures in the two weeks programme. The program on the whole was very informative.

Album of FDP event

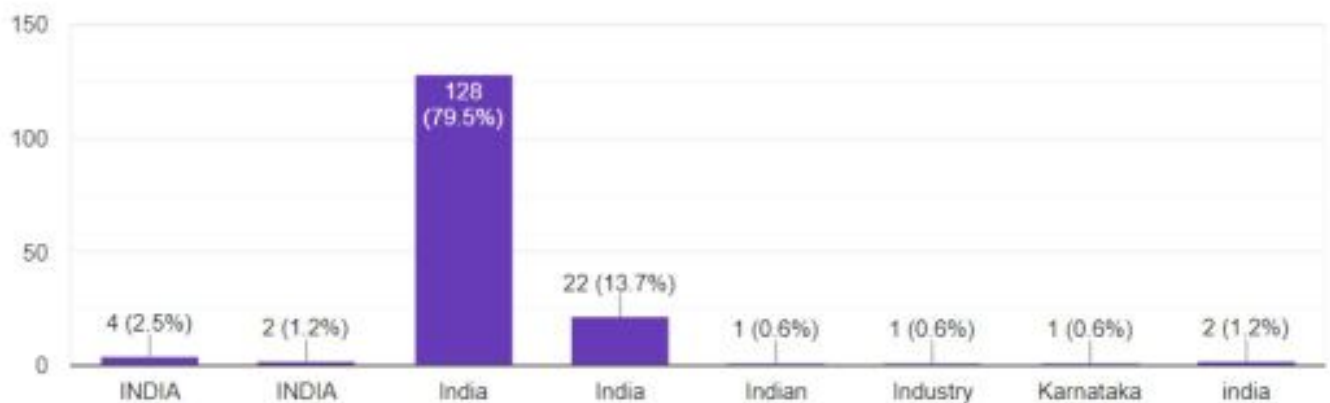


161 responses



Country

161 responses



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05/02/2021 14:14:13	nidhi.nath76@gmail.com	Ms Nidhi Nath	+918709021723	nidhi.nath76@gmail.com	Life Science	Industry personnel	Central University of Jharkhand
05/02/2021 14:14:45	gomathi83ms@gmail.com	Dr. M. GOMATHI	9159891623	gomathi83ms@gmail.com	Biotechnology	Assistant professor	Marudhar Kesari Jain College for Women
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06/02/2021 19:25:19	swethauk_78@yahoo.co.in	Dr. Swetha Sunkar	9940483184	swethauk_78@yahoo.co.in	Bioinformatics	Associate professor	Sathyabama institute of science and technology
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07/02/2021 00:24:37	attahalfa@gmail.com	Mr. Abdullahi Attah Alfa	08060222458	attahalfa@gmail.com	Anatomy	Indus try perso nnel	Kogi State University, Anyigba
07/02/2021 03:26:49	masilamani.biotech@sathyabama.ac.in	Dr. M.Masilamani Selvam	8939142678	masilamani.biotech@sathyabama.ac.in	Biotechnol ogy	Asso ciate profe ssor	Sathyabama University
07/02/2021 03:56:37	b.btnathan@gmail.com	Dr. Bharathi Ravikrishnan	9380284500	b.btnathan@gmail.com	Biotechnol ogy	Assis tant profe ssor	Guru Nanak College
07/02/2021 07:05:57	biologiask@gmail.com	Dr. S. Karthick Raja Namasivayam	9842441198	biologiask@gmail.com	Biotechnol ogy	Profe ssor	Sathyabama Institute of Science and Technology
07/02/2021 07:50:38	sridevi@vmkvec.edu.in	Dr.M.Sridevi	9942364284	sridevi@vmkvec.edu.in	Biotechnol ogy	Profe ssor	Vinayaka Mission's Kirupananda Variyar Engineering College, Salem
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07/02/2021 08:28:17	drsudhakar35@gmail.com	Sathyabama institute of science and technology	9840401909	drsudhakar35@gmail.com	Biomedical	Assis tant profe ssor	Sathyabama institute of science and technology
07/02/2021 08:53:24	jahangeerevs@gmail.com	Mr. JAHANGEER MOHD RESHI	8825031514	jahangeerevs@gmail.com	Environme ntal science	Assis tant profe ssor	Govt Degree College, Pampore, Kashmir, India
07/02/2021 11:08:42	suresh.unigoa@gmail.com	Dr	7676701812	suresh.unigoa@gmail.com	Bacteriolog y	Assis tant profe ssor	ICAR-NIVEDI
07/02/2021 11:28:11	parthabiology2018@rediffmail.com	Dr Partha Ghosh	9609912716	parthabiology2018@rediffmail.com	Anthropolo gy and Human	Indus try perso	Compudemy

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07/02/2021 23:30:39	ashainb2017@gmail.com	Ms. ASHA INBANATHAN	+971565801143	ashainb2017@gmail.com	School of Life Sciences	Industry personnel	Manipal Academy of Higher Education, Dubai Campus
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08/02/2021 10:48:43	meenambiga.se@velsuniv.ac.in	Dr SS Meenambiga	9003461468	meenambiga.se@velsuniv.ac.in	Vels Institute of Science Technology and Advanced Studies	Assistant professor	Vels Institute of Science Technology and Advanced Studies
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08/02/2021 17:29:33	akshduttparashar@gmail.com	Aksh Dutt Parashar	8171244709	akshduttparashar@gmail.com	Chemistry	Industry personnel	D N college Meerut
08/02/2021 17:31:01	kavyasathyanathan@gmail.com	KAVIA V	7510449776	kavyasathyanathan@gmail.com	Biochemistry	Industry personnel	kvasu
08/02/2021 19:13:21	lbnalanbar664@gmail.com	M.Sc Taha Yaseen Salih Alqaisy	0	lbnalanbar664@gmail.com	Department of physics	Assistant professor	University of Anbar/college of Education
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08/02/2021 20:24:04	gowthamrkumar750@gmail.com	Mr. Gowtham.R	9487901870	gowthamrkumar750@gmail.com	Biotechnology	Assistant professor	Dr. NGP College of arts and sciences autonomous
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08/02/2021 20:46:59	artheerajendran@gmail.com	Dr. Arthee R	9626662444	artheerajendran@gmail.com	Department of Crop Production and PHT	Industry personnel	ICAR National Research Centre for Banana
08/02/2021 21:24:26	pummyy995@gmail.com	Usama Ansari	7060744759	pummyy995@gmail.com	Chemistry	Industry personnel	D N Degree College, Meerut
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Academic year 2020 -21 (Even sem)

Report on AICTE sponsored Phase 1- Short term training program (STTP) on
"Startup Driven Bioinnovation & IoT for Sustainable Agri-tech" from 23rd to 28th
August 2021

THE OXFORD COLLEGE OF ENGINEERING
DEPARTMENT OF BIOTECHNOLOGY
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AICTE SPONSORED
SHORT TERM TRAINING PROGRAM
(STTP)-PHASE-1

STARTUP DRIVEN BIOINNOVATION
&
IOT FOR SUSTAINABLE AGRI-TECH

Date : August 23rd to August 28th 2021

The Oxford College of Engineering
Bommanahalli, Hosur Road, Bengaluru - 560068
Department of Biotechnology
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OF
Phase 1 - "AICTE SPONSORED ONE WEEK SHORT TERM TRAINING PROGRAM"
ON
"Startup Driven Bioinnovation and IOT for Sustainable Agritech"
(23rd August to 28th August 2021)

PRESIDENT BY
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CONVENOR
Dr. S. Srinivas
The Oxford Educational Institutions,
Bengaluru

DATE : 23rd August 2021 Time : 10:00 am
Please click on the link to join: <https://bit.ly/3yQdied>

Knowledge Partners
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The Department of Biotechnology of The Oxford College of Engineering organised AICTE sponsored one week **Short term training program (STTP) - Phase 1 on “Startup Driven Bioinnovation & IoT for Sustainable Agri-tech” from 23rd to 28th August 2021**, in association with Karnataka state Council for Science and Technology, Government of Karnataka, National Research Development Corporation (NRDC), Government of India, New Delhi, Bangalore Bioinnovation centre and Visvesvaraya Trade Promotion Centre (VTPC), Department of Industries & Commerce, Government of Karnataka, as knowledge partners for the benefit of all the faculty members.

Day 1: 23rd August 2021

The STTP included a formal inaugural session compered by Dr. Valarmathy K of Dept of Biotechnology, TOCE. The distinguished people in the meeting were Directors of The Oxford Educational Institutions Dr. Amarnath K, Dr. N. Malmurugan, Dr. Ravikumar K.M., Principal TOCE Dr. N. Kannan, Dr. B K Manjunath, HOD, Dept of Biotechnology, TOCE, and also Chief Guest Col. B. Venkat, Director, Faculty Development Cell, All India Council for Technical Education (AICTE), New Delhi. Guest of Honour of the occasion were Dr. Amar Prakash Garg, Vice Chancellor, Shobhit Institute of Engineering & Technology, Meerut, India, and Dr. S. R. Rao, Vice President, Sri Balaji Vidya Peeth University, Puducherry, Former Advisor, DBT, Government of India.

Session 2 began with the talk by Dr. S. R. Rao, on the topic “Emerging Technologies – Role of Bio-incubators, Start-ups and Academia- industry interface”. He gave a brief outline of emerging technologies from stone age to 21st century of nanotechnology age with the biological revolution as a focus. He gave focus on technological revolution of 21st century such as advanced materials, artificial intelligence and machine learning, advanced robotics, 3D printing, internet of things. He focused on the emerging sciences for discovery and high-level innovation in the last 3 decades such as Genomics and genome editing, RNA biology, proteomics, metabolomics, Computational biology, Bio-refineries, Artificial intelligence. He talked about types of innovation such as Breakthrough innovation, Frugal innovation, Sustainable innovation.

Session 3 of the day was engaged by Professor Amar P. Garg on the topic “Biotechnology in 2050”. He began his talk with general information on biotechnology, techniques and application. He also explained about green, red, blue, and white biotechnology. He then focused on microbial applications, products and emphasised on the necessity of innovation and startups.

Day 2: 24th August 2021

The session 1 of day 2 was engaged by Ms. Sanskriti Pawan, Project Officer- Start-up Incubation, FIIT, IIT, Delhi on the topic “Funding Programs for Startups and innovators”. She explained about the support that FIIT offers the innovators. She walked through the funding programs at FIIT IITD such as BIRAC BIG, PFIZER-IITD Innovation and IP program. She gave an idea about how preliminary idea can be transformed to proof of concept development through Biotechnology Ignition Grant (BIG). Ms. Sanskriti also gave information about Technology incubation and Development of Entrepreneurs (TIDE) which provides grants of two types namely- Idea to proof concept grant and Prototype development grant. She explained in detail about many other fellowships namely iDEX- Defence India Startup Challenge, DST NIDHI SEED Support system, BIRAC Seed support, BIRAC Leap Fund, PHD Incubator Program, BIRAC SPARSH (Social entrepreneurship- Immersion and ideation), DST CAWACH (Covid call), National Entrepreneurship progsms (NEAS), Sona Comstar – Safe, clean and smart mobility.

In session 2, Dr. Sundeep Sarin, Scientist G/Advisor, Department of Biotechnology, Government of India gave a talk on “Human resource development programme”. He gave an overview of the department which aims at holistic development and support for students, young researchers and scientists. He gave detailed information on different fellowships namely DBT-JRF, DBT-RA, Ramalingaswami Re-entry Fellowship, BioCARE, DBT-TWAS Fellowship programme, PhD Fellowship Programme under Indo-Australian Collaboration, DBT-WT India Alliance fellowship, BRITE Awards, training such as Skill Vigyan, DBT-Biotech Industrial Training Apprenticeship Programme, Khorana Programme for scholars, teaching programme such as DBT Star College scheme, outreach program such as India Bioscience – Young Investigator Meetings and Students Workshops, CTEP program.

In session 3, Dr.C.R.Patil, Professor and Head, Institute of Organic Farming, University of Agricultural Sciences, Dharwad gave a talk on “Microbial inoculants – Requirement for the mass production of Biofertilizer”. He began the session with an overview of information regarding Indian agriculture with focus on production and consumption ratio of agrochemicals. He emphasized the need of sustainability in agriculture, and also challenges such as energy crisis, labour availability, food safety. He pointed out the immense opportunities for exploiting microorganisms to be used in agriculture and industry. He then focused on all the requirements required for mass production of biofertilizers such as microbial inoculants, infrastructural requirements, skilled and trained man power, production plan.

Day 3: 25th August 2021

The session 1 was engaged by B.E Rangaswamy, Registrar, Evaluation, Visvesvaraya Technological University, Belgaum talked on the topic “Dismantling Inequalities Through Assured Innovations”. He focused on the importance of innovation which can help to dismantle inequalities in the society and the requirement of new national innovation policy. He explained about ASSURED Innovation Policy which stands for Affordable, Scalable, Sustainable, Universal, Rapid, Excellent, Distinctive. He rightly pointed out

that the present innovations have missed scalability and sustainability. He explained the audience that ASSURED innovations represents affordable excellence.

The session 2 was about “AgriTech and IOT” by Mr.Siddaramesh V Nara, Vice President, Infosys and Agri Entrepreneur. He explained in detail about Precision Agriculture and Precision farming. He also focused on the challenges in agriculture such as low productivity, climate changes, risk of ground water depletion, key AgriTech trends in India, untapped agriTech opportunity – scalable interventions.

Day 4: 26th August 2021

The session 1 of day 4 started with Dr.Vivek Mishra, Co-Founder Director FIBROHEAL, Bengaluru who talked about “FIBROHEAL”. He gave an overview of Fibroheal company which is a biotech startup working on leveraging the biomaterial property of silk proteins to develop various innovative wound management solutions catering to different stages of wound healing. He gave an overview of their product and its effectiveness and advantages. Overall, he focused on wound healing process also.

In session 2, Dr.Adarsh Natarajan, Co-founder Aindra Systems, Bengaluru gave a talk on “Artificial Intelligence” in the session 2 of day 4. He first explained the importance of artificial intelligence, and its branches and applications (healthcare, autonomous vehicles, purchase predictions, virtual assistants). Then he explained about how AI can be achieved by rule-based learning and machine learning.

The session 3 on day 4 was engaged by Dr. Lakshminarayan, Chief Business Development, National Research Development Corporation, New Delhi, “NRDC: Transforming Innovative Research into Profitable Technology”. He briefed about NRDC and its services such as project consultancy, R & D institutions, industry, IP protection, promotional programs such as Program for Development of Technologies for Commercialization (PDTC), Program for Inspiring Inventors and Innovators (PIII). He explained about the NRDC operational model which involves technology evaluation, technology development, market survey, business development, IP filing assistance, know-how document, market intelligence. He explained in detail about the process of technology transfer and the terms and conditions for licensing technologies. He briefed about the popular technologies commercialized by NRDC such as infant food, FMD vaccine, disposable blood bag system etc.

In session 4, CoL. B. Venkat, Director, FDC, AICTE, New Delhi on the topic “NEP from higher education perspective”. He talked about the dynamics of NEP 2020, and about the development of the policy from amendment. New initiatives in promotion of regional languages by NEP is Technical book writing and translation. He gave an idea of gross enrolment ratio and about how NEP helps in increasing this ratio. He emphasized on the role of NEP in creating large interaction of general and vocational education. He also focused on the establishment of National committee for integration of vocational education with the motive of integrating the vocational and general education. This committee has been mandated to form National

higher education qualification framework and National skill qualification framework. He also emphasized that the committee at each level looks after the employability parameters also according to International occupational standards.

Day 5: 27th August 2021

The session 1 was on “Start-up to Scale-up through Innovations” by Dr. Basavaraj Giryannavar, Managing Director, Criyagen, Bengaluru. He talked about agriculture ecosystem for start-up to scale-ups. He talked about Criyagen start-up at Texas. He also gave the audience a view of the important steps that is required to develop a product from idea which are product blueprint, product market fit, minimum viable product, validated learning or earning, scaling and innovation to achieve the market share. He also shared the innovation during scaling such as product, market, business model, strategy, management innovation.

The session 2 was taken over by Amitha Ganapathy, Senior Scientist, Criyagen who talked in detail about “Criyagen”. She focused on Criyagen’s belief of agriculture scientific information. She gave an idea of the different products from Criyagen such as biostimulants, bio-fertilizers, crop specific bio-fertilizers, sea weed extract, potash mobilizing bacteria, organic manure powder etc.

The session 3 of day 5 was on the topic “eSAP: an ICT system for Crop Health Management (Electronic solutions against Agricultural Pests)” by Dr. Prabhuraj A, Professor and Head, Department of Entomology, University of Agricultural Sciences, Raichur. He talked about crop health problems and also explained in detailed about eSAP workflow, main components for user management. He explained about the simple sequence of steps which can help identify problems in the field by the extension worker independently. He emphasised on the advisory given based on the intensity of the problems and also on the follow up procedures and feedback. He threw light over the expert connect options to undiagnosed situations through the expert app. He focused on other unique features of eSAP such as prescription-based farming, estimation of pest intensity, early warning, location specific management plans.

Day 6: 28th August 2021

Dr. Bijay Kumar Sahu, Regional Manager & Head, NRDC – Intellectual Property Facilitation Centre, WIPO – Technology & Innovation Support Centre, Innovation Valley, Visakhapatnam, gave a talk on the topic “Role of IPR in Bioinnovation for Entrepreneurship” during session 1 of day 6. He talked about entrepreneurship and the elements such as recover, redesign, and response. He focused on IPR which forms the bridge between academia and industry. He also highlighted about the innovation promotion & management through academia and industries collaboration. He focused on the opportunities offered by NRDC through funding. He also talked about the GI tagged important products from Mysuru. He also

talked about the challenges faced in IPR such as access, regulatory compliance, agreements etc. He finally talked about the importance of integrating IP into institutions.

The session 2 of day 6 was engaged by Dr. M. S. Shashi Kumar, Scientist D, Department of Scientific and Industrial Research, Ministry of Science and Technology, New Delhi who talked on “Startups and Bio Innovations”. He started his talk with a brief overview of startups and benefits of companies recognized as STARTUP by Department for Promotion of Industry and Internal Trade (DPIIT) such as self-certification, tax exemption, easy winding up, IPR protection, relaxation in public procurement norms and funds. Then he focused on types of funding such as crowd funding, self-funding, venture capitalists, angel investment. He talked about PRISM scheme of DSIR, SIDBI Fund of Funds scheme, Startup India seed fund scheme, ATAL innovation mission NITI AAYOG, BIRAC – support from ideation to early stage, Students innovations for Translation & Advancement of Research Explorations, Empowering Youth for Undertaking value added innovative translational research (E-YUVA). He also briefed about technology business incubators all over the country.

The Chief guest of the Valedictory session was Dr. Bijay Kumar Sahu, Regional Manager & Head, NRDC – Intellectual Property Facilitation Centre, WIPO – Technology & Innovation Support Centre, Innovation Valley, Visakhapatnam and Guest of Honour was Dr. M. S. Shashi Kumar, Scientist D, Department of Scientific and Industrial Research, Ministry of Science and Technology, New Delhi. Dr. B. K. Manjaunath gave a brief presentation about the details of technical talks happened during the one week STTP and the participants were overwhelmed with the STTP and they expressed their happiness during the feedback session and the event was ended with the vote of thanks by Dr. K. Valarmathy, Associate Professor, Department of Biotechnology, The Oxford College of Engineering. This led to the end of the series of lectures in the two weeks programme. The program on the whole was very informative.

Album of STTP event



Inaugural function of STTP



ADVANCEMENT BY IMPACTING VALUE CHAIN

Should start and end with consumer

Participatory in nature




EMERGING TECHNOLOGIES- 10000BC-2020



EMERGING TECHNOLOGIES- ROLE OF BIO-INCUBATORS, START UPS AND ACADEMIA-INDUSTRY INTERFACE

Dr. K. K. Rao,
Vice President
for Biotech University
(Puducherry)
Former Member, Sub-Committee
Department of Biotechnology, GOI
Co-Chairman - APAR
The Global Alliance for Biotech Entrepreneurs & Experts
Web: www.aparbiotech.org



Technological revolution of 21st century




The timeline of the Human Genome Project : US\$ 3 billion



Genome editing - In nature


Microbes knew genome/DNA editing





Solution for Increasing World Population lies in Biotechnology


Year (July 1)	Population	Yearly % Change
2000	7,794,798,750	1.10%
2025	8,584,437,460	0.98%
2030	8,548,487,400	0.87%
2035	8,587,534,213	0.78%
2040	8,588,647,240	0.69%
2045	8,581,893,274	0.61%
2050		-0.53%



Applications


- Green Biotechnology** - Agriculture revolution using artificial selection of crops, livestock and other domesticated animals.
- Red Biotechnology** (Medical) - Discovery of antibiotics, bio-molecules as new drugs, vaccine, gene therapy, gene editing (CRISPR), disease diagnosis, fertility assistance, foetal screening, improved life expectancy.
- Blue Biotechnology** (Aquatic) - Fresh and marine water, ground water technology.
- White Biotechnology** (Industrial) - Production of organic and inorganic molecules using microbial processes, genetic improvements of industrial strains.

BIOTECHNOLOGY IN 2050




Chemolithotrophs in 2050 (Minerals and heavy metals, S, Fe)

Microbes, Acidobacteria, Bacteroides, and others
Microbes: Acidobacteria (pH 0 and below), Bacteroides (pH 10 and above)
• Acidobacteria: the most abundant in acidic environments
• Bacteroides: the most abundant in alkaline environments
• Chemolithotrophic: derive their energy from oxidation of inorganic compounds or iron
• Used in bioremediation of toxic
• Probable with acid mine drainage



Cyanobacteria as Food, Fertilizers



Cyanobacteria produce a variety of products including proteins, vitamins, and minerals. They are also used as bio-fertilizers and bio-pesticides. Cyanobacteria are also used in the production of bio-fuels and bio-plastics. Cyanobacteria are also used in the production of bio-sensors and bio-catalysts.

MICROBES ARE GOD

BRAHMA - Originator of Life
Life has originated from microbes

VISHNU - Sustainability of Life
Microbes provide food, shelter, clothes, air and all materials required for life, happiness of life also governed by microbes

Maheesh - Destroyer of Life
Microbes can destroy life (COVID-19)


Durga - Goddess of Power
Mitochondria are power house of Cells

Saraswati - Goddess of Intelligence
Genes for intelligence from cytoplasm of mother

The First Systematic Application of Microbiology

Louis Pasteur (1822-1895)
1857 Microbiology of lactic acid fermentation
1860 Role of yeast in alcoholic fermentation
• Advances in Applied Microbiology led to the development of Microbiology

His discoveries reduced mortality from putrefaction, and he created the first vaccines for rabies. He also made it important to make sure vaccines were more viable. In 1888 he founded the Pasteur Institute and was named director. He is regarded as one of the main founders of modern microbiology, together with Ferdinand Cohn and Robert Koch.



Batch of 1969 Innovation Fellow Award

Funding Programs at FITT IITD

- BRAC SIG**
 - For New technology or service developed by students for Social Impact, Environmental Sustainability, and Innovation (e.g., e-waste, agriculture, etc.)
 - Max. Rs. 10 lakh funding up to 12 months, research fellowship
 - Applicant: Individual Students & teams (max. 5 members) should not be more than 1 year from the date of the 1st proposal.
- PRITEE-ISTD Innovation & IP program**
 - Supports Intellectual Property and Innovation
 - Supports full-time IITD students to develop a patent
 - Supports for 12 months duration

Funding Programs for Startups & Innovators

Supports for Startups & Innovators by FITT

IDEX - Defence India Startup Challenge (DISC)

DST NIDHI SEED SUPPORT SYSTEM

PHD Incubator Program

Platform for University-based Technology

Eligibility

- Completed postgraduate degree in Science & Technology
- Researcher/Inventor/Entrepreneur
- Entrepreneurship up to 10% - 20%

Few other programs

- BRAC, SMITH, EDC, entrepreneurship, innovation & innovation
- IST - IITD (Innovation)
- National Entrepreneurship program (NEP)
- Low Carbon - Safe, clean & smart mobility

Biotech Ignition Grant

Promoting Academic Research Conversion to Enterprise (PARCE)

Supports and encourages academic research products/technologies of national/international importance for the first time and its subsequent utilization by an industrial partner.

Academic Research Projects	No. of Calls Announced	Academic Research Projects
Research Development of Industrial Property (RDIP) or a product or technology with an industrial partner	21	Academic Research Projects
Academic Research Projects	1300	Academic Research Projects
Academic Research Projects	Rs. 51 Cr	Academic Research Projects
Academic Research Projects	63	Academic Research Projects

HUMAN RESOURCE DEVELOPMENT PROGRAMME

At Institute level

Biotech Schemes

SCHEME	OBJECTIVE	SCOPE	ELIGIBILITY
Academic Research Projects	Supports and encourages academic research products/technologies of national/international importance for the first time and its subsequent utilization by an industrial partner.	Research Development of Industrial Property (RDIP) or a product or technology with an industrial partner	Academic Research Projects
Academic Research Projects	Supports and encourages academic research products/technologies of national/international importance for the first time and its subsequent utilization by an industrial partner.	Research Development of Industrial Property (RDIP) or a product or technology with an industrial partner	Academic Research Projects
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Biotech Ignition Grant

Components of BIG Support

HRD PROGRAMME AT A GLANCE

500	1217	63	63
75	100	100	100
50	100	100	100
10	10	10	10

FELLOWSHIPS

- IST Junior Research Fellowship
- IST Research Fellowship
- IST Research Fellowship (IST-RI) Program
- Research Assistant Fellowship
- Academic Research Assistant and Research Assistant (ARC)
- IST 1000 Fellowship Program
- PhD Fellowship Program (Joint India-Australia Collaboration)
- IST 1000 Fellowship Program

Ecoem's solar-powered portable cold rooms improve self-life and minimize the biggest challenge of 40% post-harvest produce loss

Pre-harvest stages

Post-harvest stages

Key features

- 1. Solar-powered
- 2. Portable
- 3. Cold storage
- 4. Self-life
- 5. Minimize post-harvest loss

Key benefits

- 1. Minimize post-harvest loss
- 2. Self-life
- 3. Minimize post-harvest loss
- 4. Self-life
- 5. Minimize post-harvest loss

Regional disparities in land size, input costs and farmer incomes make a "one-size-fits-all" solution implementation ineffective

Key features

- 1. Regional disparities
- 2. Land size
- 3. Input costs
- 4. Farmer incomes
- 5. "one-size-fits-all" solution

Key benefits

- 1. Regional disparities
- 2. Land size
- 3. Input costs
- 4. Farmer incomes
- 5. "one-size-fits-all" solution

1X growth of IoT adoption in agriculture, globally, is indicative of the potential of this technology to transform the Agri value chain

Key features

- 1. 1X growth of IoT adoption
- 2. Agriculture
- 3. Globally
- 4. Potential of this technology
- 5. Transform the Agri value chain

Key benefits

- 1. 1X growth of IoT adoption
- 2. Agriculture
- 3. Globally
- 4. Potential of this technology
- 5. Transform the Agri value chain

Karnataka has adopted one of the most effective technology interventions in agriculture marketing of farming equipment

Key features

- 1. Karnataka
- 2. Most effective technology interventions
- 3. Agriculture marketing
- 4. Farming equipment

Key benefits

- 1. Karnataka
- 2. Most effective technology interventions
- 3. Agriculture marketing
- 4. Farming equipment

Pre-harvest benefits – less human errors in data access and analysis, post-harvest – less time-to-market, waste control, and lower prices

Key features

- 1. Pre-harvest benefits
- 2. Less human errors
- 3. Data access and analysis
- 4. Post-harvest
- 5. Less time-to-market
- 6. Waste control
- 7. Lower prices

Key benefits

- 1. Pre-harvest benefits
- 2. Less human errors
- 3. Data access and analysis
- 4. Post-harvest
- 5. Less time-to-market
- 6. Waste control
- 7. Lower prices

Key Agritech Trends in India

Key features

- 1. Key Agritech Trends
- 2. India

Key benefits

- 1. Key Agritech Trends
- 2. India

FIBROHEAL OVERVIEW

Key features

- 1. Fibroheal Overview

Key benefits

- 1. Fibroheal Overview

SOCIETAL IMPACT

Key features

- 1. Societal Impact

Key benefits

- 1. Societal Impact

Introduction

Key features

- 1. Introduction

Key benefits

- 1. Introduction

Key features

- 1. Key features

Key benefits

- 1. Key benefits



My Journey: Start-up to NOW scale-up

*Cryogen as college campus start-up at Texas A&M University in the year 2007 to 2020 and Scale-up by 2025...

*Risk as fall back for failure in the journey at the early stage.

*AgriApp as Agri.Tech ecosystem enabler to bring the economic and ecological viability to farmers and ecosystem partners.

* Art-of-Agriculture Foundation: Dedicated to mother nature, Soil to Soul is connection for health and happiness.

Agriculture Ecosystem for Start-up to Scape-ups..

1000 (1 Start-up seed fund)... from IIM.

10,000 (100k) ... Government.

Building farmer's income ... PM's favorite plan to enable farmers as entrepreneurs.

Agri-Tech and Data ecosystem... Double size with Data.

We THE start-ups are the Opportunity Owners..
We shall contribute to the Growth of Agriculture for Agriculture

Start-up to Scale-up Through Innovation

Resonant Ginnamur...

Founder and Chairman

www.cryogen.com | www.agriapp.com | www.resonant.com | Art of Agriculture Foundation



5 Steps to Multi-Million \$ Product from Idea

1. Idea to document/blueprint with background research.
2. Research bit more on Product Market Fit.
3. Evolve MVP 1.0 (Minimum Viable Product).
4. Validated Learning or Earnings.
5. Perfect the product in multiple iterations and launch it to wider markets to achieve the scale.

Start-up is All About Idea

Start-up is all about idea to address 3 questions and graduate to enterprise.

What **Problems** are addressed?

What are the **Solutions**?

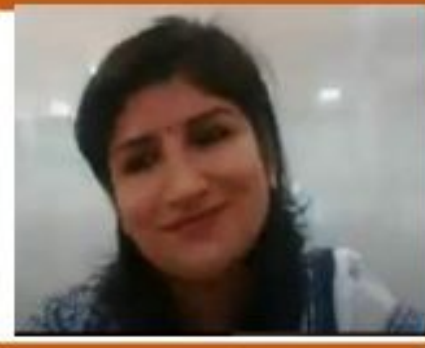
Where are **Profits**?

My Story at Cryogen/AgriApp/Rico

1. Vision and Mission with a Purposeful Plan
2. START= Define+ Learn+ Experiment+ Validate
3. Pivot
4. >Test > Batch > Measure > Adapt>Scale
5. Metric for Measurements on regular time intervals

Innovation During Scaling

- Product Innovation
- Market Innovation
- Business Model Innovation
- Strategy Innovation
- Management Innovation



Bio-pesticide



New Generation of Water Soluble Fertilizer Powered with Bio-Pesticide and Bio-Fertilizers



Dr. Resonant Ginnamur B
No. 100, 100th Street
Cryogen Agri-Tech, 100th Street
Cryogen Technologies Pvt. Ltd.
www.cryogen.com | www.agriapp.com | www.resonant.com | 84433 20000

Year 2007
Born on August 10th 2007 at Texas A&M University Campus, College Station, TX.



Awards



Dr. Resonant Ginnamur, received
National award for the achievement
in the field of Agriculture

Cryogen has won the Excellence award as
"Company of the year 2020"

Who we are??

Cryogen Agri-Tech Private is a pioneer in developing innovative products for comprehensive crop protection. We are one of the largest producers of Bio-pesticides, Bio-fertilizers, PMU and Bio-pesticide agents. Our products are designed to protect crops from pests and diseases while improving the soil system and bringing sustainability to agriculture. Currently, we are covering the domestic markets and the export market too.

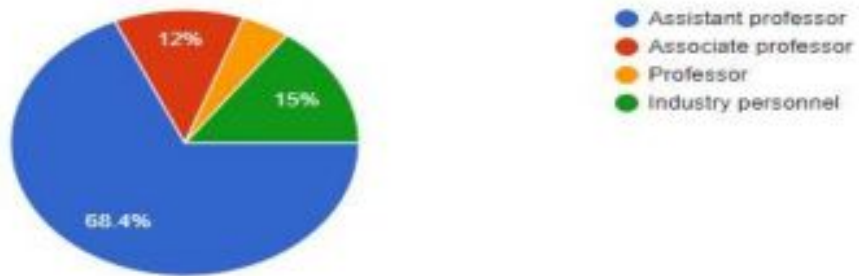
We at Cryogen follow agriculture research, innovation, testing in farms, in the laboratory we have focused on innovation, results from Agri-Tech to sustainable agriculture extension and information sharing related to crop protection & production.

Agri-Tech and on precision agriculture, we have built a strong Agri-Tech ecosystem for the benefit of farmers, industry and ecology. Agri-Tech works with the Agri-Tech ecosystem and the Agri-Tech ecosystem is making the farmers ready for high efficiency, sustainable agriculture production and marketing.

Registration details

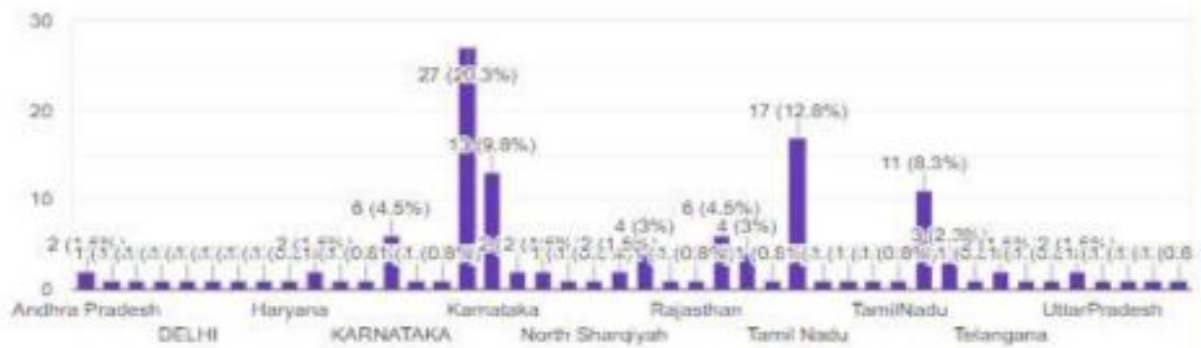
Designation

133 responses



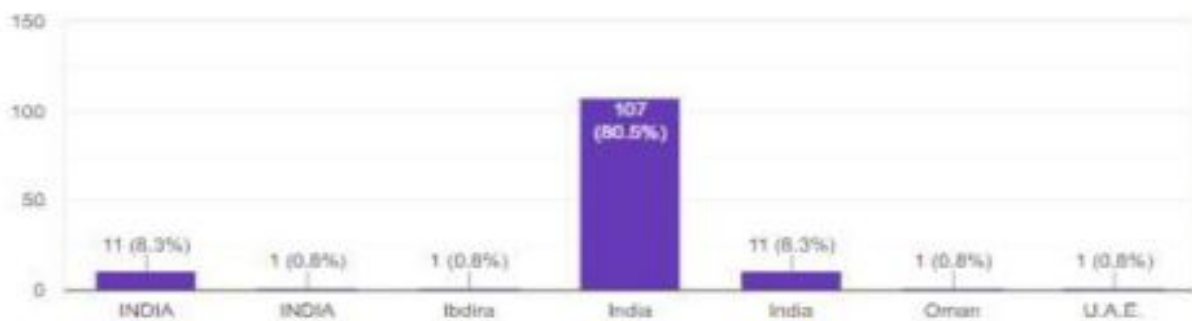
State

133 responses



Country

133 responses



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77	Dr. D. Leena Lavanya	leena.draviam.christy@gmail.com	Botany	Assistant professor	Avinashilingam Institute for Home Science and Higher Education for Women
78	Mr. Rakesh N R	rakeshnr@gmit.ac.in	Department of Biotechnology	Assistant professor	GM Institute of Technology, Davanagere
79	Dr.A.Parameswari	parameswari_micro@krcollege.net	Microbiology	Assistant professor	K.R.COLLEGE OF ARTS AND SCIENCE

80	DR.DINESH KUMAR	dinesh.kumar@shobhituniversity.ac.in	biotechnology	Assistant professor	shobhit deemed university
81	Dr Guru Prasad Muppala	guru.biotech@gmail.com	Biosciences	Associate professor	Sree vidyanikethan college
82	DR.	drtamizhselvang@nitte.edu.in	CENTRAL RESEARCH LABORATORY	Assistant professor	K.S. HEGDE MEDICAL ACADEMY, NITTE (DEEMED TO BE UNIVERSITY)
83	Dr. Rashmi Hosamani	chrashmiucs@gmail.com	Microbiology	Assistant professor	Tumkur University, Tumkur
84	Dr.P.Brindha Devi	hodb.techbiotech@velsuniv.ac.in	Bioengineering	Associate professor	Vels Institute of Science, Technology and Advanced Studies
85	Dr. Mahesh N	magi.mbbt@gmail.com	chemistry & Biosciences	Assistant professor	SASTRA Deemed University, Kumbakonam
86	Chethan A J	ajchethan1987@gmail.com	Quality Assurance	Industry personnel	LV Prasad Eye Institute
87	Mrs Santhi prajin	anshe2014@gmail.com	Biotechnology	Assistant professor	Udaya Engineering College
88	Dr. Santhosh Poojary	santhoshnellikatte@nitte.edu.in	Biotechnology Engineering	Assistant professor	NMAM Institute of Technology-Nitte
89	Dr Avitha K M	dravikm@gmail.com	P G. Department of Botany	Assistant professor	BVVS Akkamahadevi Women's Arts Science and Commerce college
90	Dr Shobha G	shobhag@sapthagiri.edu.in	Biotechnology	Assistant professor	Sapthagiri College of Engineering
91	Dr Soumya C	sowmyac@sapthagiri.edu.in	Biotechnology	Assistant professor	Sapthagiri College of Engineering
92	Dr. Jayashree D.R.	jayashreedr2012@gmail.com	Biotechnology/ Genetics	Associate professor	M.S.Ramaiah College of Arts, Science and Commerce
93	Mr. Rushikesh Rajendra Sankpal	prof.sankpal@gmail.com	Microbiology	Assistant professor	Sinhgad College of Science, Pune

94	Mrs. MAMATHA J	mamatha.raj.oxfordbt@gmail.com	Biotechnology	Associate professor	The Oxford College of Science
95	Dr. M.Masilamani Selvam	masilamani.biotech@sathyabama.ac.in	Biotechnology	Associate professor	Sathyabama Institute of Science and Technology
96	Mrs R. Ushasri	rushasri@gmail.com	Microbiology	Assistant professor	Justice Basheer Ahmed Sayeed college for Women
97	Dr.K.Lingaraju	lingaraju.k1990@gmail.com	DOSR in Microbiology and Biotechnology	Assistant professor	TUMKUR UNIVERSITY
98	Dr. Gayathri. P	gpinmb@gmail.com	Microbiology	Assistant professor	Hindustan College of Arts & Science
99	Dr. S. ILLANJAM	illanjiam@gmail.com	Microbiology	Associate professor	Hindustan College of Arts & Science
100	Dr. V. GURU	microguru82@gmail.com	Microbiology	Assistant professor	Tagore college of arts and science
101	Dr. Ravi kumar Gupta	rkgupta08@gmail.com	Qc	Industry personnel	Indovax pvt ltd
102	Dr N.MANOCHARAN	biomano21@gmail.com	MARINE SCIENCES	Associate professor	Bharathidasan university'
103	Ashvika Pathania	ashvika987@gmail.com	Department of zoology	Assistant professor	Sri Sai University Palampur
104	Gowtham.R	gowthamrkumar750@gmail.com	Biotechnology	Industry personnel	Dr. NGP College of arts and sciences autonomous
105	Mr Aneesh kumar	aneeshsharma86@gmail.com	Zoology	Assistant professor	Sri Sai University Palampur Himachal Pradesh
106	Shabeena Anjum KS	shabeenaks@gmail.com	Microbiology	Assistant professor	Tumkur university
107	Ms.Jyoti B. Marigoudar	jyotimarigoudar@gmail.com	Botany	Assistant professor	St Joseph's College
108	DR. NAOREM SARITA DEVI	naoremsarita2013@gmail.com	Environmental Science	Assistant professor	DHANAMANJURI UNIVERSITY
109	Dr.S.SHEIKABDULLA	sheiklaahif@gmail.com	CHEMISTRY AND BIOSCIENCE	Assistant professor	SRC,SASTRA DEEMED UNIVERSITY,

			S		KUMBAKON AM
110	Dr. S. Bhuvaneswari	bhunz2010@gmail.com	Chemistry and Biosciences	Assistant professor	SASTRA DEEMED UNIVERSITY SRC, KUMBAKON AM
111	Dr ARUN P	arunbiotech2000@gmail.com	Biotechnology	Associate professor	Dr. N.G.P. Arts and Science College (Autonomous)
112	Prof. Ganesh G. Tilve	ganeshgtilve@gmail.com	Biotechnology	Assistant professor	G M Institute of Technology, Davangere
113	Dr.Nayomi John	nayomijohn10@gmail.com	Microbiology	Assistant professor	Mar Athanasius College (Autonomous), Kothamangalam, Kerala
114	Dr.R.Vidhyalakshmi	mail.vidhyalakshmi@gmail.com	Microbiology	Assistant professor	Dr.MGR Janaki College
115	Dr. P. Sumithira	sumithirarajkumar@mgrjanaki.ac.in	Microbiology	Assistant professor	Dr. MGRJanaki College of Arts and Science for women Chennai 28
116	Ms. Mahamedha Deorari	medha.deorari143@gmail.com	Uttaranchal Institute of Pharmaceutical Sciences	Assistant professor	Uttaranchal University
117	Mr. Prateek Paul	meprateekpaul@gmail.com	Computational Biology and Bioinformatics	Associate professor	Sam Higginbottom University of Agriculture, Technology and Sciences
118	Naveen Pakalapati	pakalapatinaveen2@gmail.com	Stem Cell	Industry personnel	L V Prasad Eye Institute
119	Mrs N.Vasugi	vasugi.jayavel1979@gmail.com	Biochemistry	Assistant professor	Chennai National Arts And Science College
120	Dr. Mahipal Singh Kesawat	mahipal.s@srisriuniversity.edu.in	Faculty of Agriculture	Assistant professor	Faculty of Agriculture, Sri Sri University
121	Dr. Veena Sunil More	veenasmore@gmail.com	Biotechnology	Professor	Sapthagiri College of Engineering

122	Dr.Juby T.R	jubyashik@gmail.com	Microbiology	Assistant professor	Sree Narayana Guru College
123	Dr.R.Renuka	renukasaravanan11@gmail.com	Biochemistry	Assistant professor	SASTRA Deemed to be University
124	Mr. VASUDEVA NAYAKA K B L	vasudevayaka@yahoo.co.in	Biotechnology	Assistant professor	Bapuji Institute of Engineering & Technology, Davangere
125	C S Sumathi	sumathisamiappan@gmail.com	Chemistry and Biosciences	Assistant professor	SRC, SASTRA deemed to be University
126	Ms. ASHA INBANATHAN	ashainb2019@gmail.com	School of Life Sciences	Industry personnel	Manipal Academy of Higher Education, Dubai Campus
127	Kavya M V	kavyamv@sapthagiri.edu.in	Biotechnology	Assistant professor	Sapthagiri College Of Engineering
128	Dr.S.Balakumar	balakumarmicro@gmail.com	Chemistry and Biosciences	Assistant professor	SRC, SASTRA University
129	Dr Anup Ghosal	aghosal5678@gmail.com	Food and nutrition	Professor	Prabhu Jagatbandhu College


 Head of the department
 Dr. B. K. MANJUNATHA
 Professor & Head
 Department of Botany
 The Oxford College of Education,
 Bengaluru-560 006



Children's Education Society ®
THE OXFORD COLLEGE OF ENGINEERING
Hosur Road, Bommanahalli, Bengaluru-560 068
Department of Mechatronics Engineering

FROM
Head Of The Department
Department of Mechatronics Engineering
The Oxford College of Engineering
Bangalore – 560068

To,
The Principal,
GTTC,
Bangalore.
Respected Sir/Madam,

Sub: Permission for pursuing Internship Program.

AHMED A G	1OX17MT011
UDAY KUMAR K	1OX17MT027

With the reference to above the following 8th semester students of this institute would like to do internship in your esteemed organization. As a part of VTU curriculum, they have to undergo mandatory internship for a duration of 4 weeks.

We request you to permit them to do the internship in your organization.


Prof. A. HOD
Department of Mechatronics
The Oxford College Of Engineering
Bommanahalli, Bengaluru - 560 068

HOD MT

Brief Report: ABOUT THE COMPANY

INTRODUCTION: gtct was established in 1972 at Bangalore with the participation of the Karnataka state government, in collaboration with the government of Denmark under the bilateral development cooperation agreement. The excellent performance of GTTC Bangalore, proactive government of Karnataka which saw the need for expansion, got second unit of gtct started in 1992 with DANID assistance.

Proliferation of technology for development of the industries with supply of skilled manpower is the key to meet the needs of the global requirement. With this government of Karnataka encouraged GTTC to start 10 more sub-centres to train in the area of tool and die making in various parts of Karnataka. GTTC is an autonomous society, and a recognized scientific and research organization by the government of India. Govt. Tool room and training centre (gtct), is serving industry by way of precision tooling and providing in well trained craftsmen the area of tool and die making.

Today, the GTTC have acquired mastery in mould and die making technology and have blossomed into an epitome of precision and quality in the development and manufacture of sophisticated moulds, dies and tools. Fully aware of the rapid advancement in technology the world over, the gtct is periodically adding new technologies to the existing set of advanced equipment like CAD / CAM, CNC machines for tooling, precision components, laser for industries, rapid prototyping, vacuum casting etc. GTTC is concentrating on the integrated development of the related segments of industries by way of providing international quality tools, trained personnel and consultancy in tooling and related areas. In future, the focus would be more on turnkey projects in tooling, aero space components & their assemblies, and also to support the development of small and medium scale enterprises.

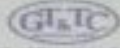
OUTCOMES OF INTERNSHIP

As a part of the internship at GTTC, Students have obtained an overall skill set which are listed below.

SKILLS LEARNT: During the tenure of 4 weeks of internship at GTTC, The students have been exposed to industry level functioning on different industrial automation design systems.

Skills learnt are as follows:

- ♣ Understanding of an industrial problem statement.
- ♣ Executing the design procedures.
- ♣ Hands-on working with industrial components.
- ♣ Understanding of design limitations.
- ♣ Hardware execution challenges.
- ♣ Team work and coordination.
- ♣ Effective communication.



Govt. of Karnataka Building 1

ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ಮತ್ತು ತರಬೇತಿ ಕೇಂದ್ರ

Govt. Tool Room & Training Centre

Govt. Inds. - Danish Project 2
Rajajinagar Industrial Estate, Bangalore - 560 010, INDIA

LETTER OF INTERNSHIP

Date: 28/06/2021

To,
The Head of the Department,
The Oxford College Of Engineering
10th Milestone, Hosur Road,
Dombivoli,
Bangalore-560068.


Respected Sir/Madam,

Subject: Students Internship confirmation report.

Governments Tool Room and Training Centre is pleased to inform you that
MR. UDAY SUMAN K (UPSN NO. SDX17N7058), student of First year,
Mechanics Engineering branch of your institution was admitted for internship
with us and he was offered internship in the domain of "BASICS OF PLC AND
SCADA" and the training program was scheduled from 23rd March 2021 to
07th April 2021.

The student was facilitated to work as an intern trainee of our company for the
duration of 2 weeks under the guidance and supervision of Mr. Anil Gowda.
Internship completion certificate has been issued to him based on his regular
attendance and performance.

Best Regards,


Authorized Signatory
Govt. Tool Room & Training Centre
Rajajinagar Industrial Estate
Bangalore-560 010

TRAINING IN TOOLING, CAD/CAM, ELECTRONICS ETC. SPECIALISED IN PLASTIC MOLDING TOOLS, PRESS TOOLS,
DIECASTING TOOLS & Precision COMPONENTS, R&D IN TOOLING, MACHINING PROCESSES & RAPID PROTOTYPING
Tel: 4442418, 4444418, 2245149, 2252246 Fax: 01-4442200001
Website: www.govttoolroom.org Email: GLTC@rediffmail.com

A Scientific & Industrial Research Organisation, recognized by Govt. of India.



(A Govt. of Karnataka Society)

ಸರ್ಕಾರಿ ಉಪಕರಣಗಾರ ಮತ್ತು ತರಬೇತಿ ಕೇಂದ್ರ
Govt. Tool Room & Training Centre
(An Indo - Danish Project)
Rajajinagar Industrial Estate, Bangalore - 560 010, INDIA

LETTER OF INTERNSHIP

Date: 20/04/2021

To,
The Head of the Department,
The Oxford College of Engineering
10th milestone, Hosur Rd,
Bommanahalli,
Bengaluru - 560068

Respected Sir/Madam,

Subject: Students Internship confirmation regd.

Government Tool Room and Training Centre is pleased to inform you that **Mr. Ahmed Adeel Gazali [USN NO. 10X17MT002]**, student of final year, Mechatronics Engineering branch of your institution was admitted for internship with us and he was offered internship in the domain of **"BASICS OF PLC AND MECHATRONICS"** and the training program was scheduled from **15th March 2021 to 14th April 2021**.

The student was facilitated to work as an Intern Trainee of our company for the duration of 4 weeks under the guidance and supervision of **Mr. Anil Gowda**. Internship completion certificate has been issued to him based on his regular attendance and performance.

Best Regards,


Authorized Signatory

Govt. Tool Room & Training Centre
Rajajinagar Industrial Estate
Bangalore-560 010

TRAINING IN TOOLING, CAD/CAM, ELECTRONICS ETC. SPECIALISED IN PLASTIC MOULDING TOOLS, PRESS TOOLS, DIECASTING TOOLS & PRECISION COMPONENTS, R&D IN TOOLING, MACHINING PROCESSES & RAPID PROTOTYPING

Tel: 23152118, 23152119, 23157189, 23152348. Fax: 91-080-23001883

Website: www.karnataka.gov.in/gttrc Grams: G.T.T.C

A Scientific & Industrial Research Organisation recognised by Govt. of India.



Children's Education Society ®
THE OXFORD COLLEGE OF ENGINEERING
Hosur Road, Bommanahalli, Bengaluru-560 068
Department of Mechatronics Engineering

FROM
Head Of The Department
Department of Mechatronics Engineering
The Oxford College of Engineering
Bangalore – 560068

To,
The Director,
KGTII,
Bangalore.
Respected Sir/Madam,

Sub: Permission for pursuing Internship Program.

THIRILOK V	1OX17MT411
DEEKSHITH G S	1OX17MT013
MURULIKRISHNA N	1OX17MT025
CHETHAN M	1OX17MT011
NIKIL S K R	1OX17MT027
BHARATH KU L	1OX17MT009
DARSHAN K N	1OX17MT012
VIJAYALAKSHMI S	1OX17MT039
P SAM C	1OX17MT028
JEEVITHA S	1OX17MT016
SHREYA B G	1OX17MT035
JEEVA A	1OX18MT404
MONISH P A	1OX17MT023
AMAN RAJ	1OX17MT007
NIRANJAN S	1OX18MT407

With the reference to above the following 8th semester students of this institute would like to do internship in your esteemed organization. As a part of VTU curriculum, they have to undergo mandatory internship for a duration of 4 weeks.

We request you to permit them to do the internship in your organization.


Prof. & HOD
Department of Mechatronics
The Oxford College of Engineering
Bommanahalli, Bangalore - 560 068
HOD MT

Brief Report: ABOUT THE COMPANY

INTRODUCTION: In Karnataka German Technical Training Institute (KGTII) is established by Karnataka German Multi Skill Development Centre (KGMSDC) society. The primary mission of the Training Centre is to conduct a broad based multidisciplinary vocational training in various Industrial Technical Fields, directed towards the development of skills and trades and to become a world class training centre that represents specialized trade training programs in alignment with the Industry requirements across the globe. Sister institutes are set up at Bangalore, Belgaum, Gulbarga and Hubli. KGMSDC This KGMSDC society is recognized by Government of India and Government of Karnataka with technical support of German International Services (GIZ-IS). KGMSDC is a registered society formed under Society Registration Act 1960. The registered society has members from Government of India and Government of Karnataka, complemented by local stakeholders and representatives of industries, chambers and academia.

MISSION: KGMSDCs will generate high quality skilled manpower in close association with the industry, while operating with operational flexibility and striving financial self-sustainability.

VISION: To develop KGMSDCs as world class training centres that offer specialized skills training programs in alignment with the Industry requirements in Karnataka and beyond.

STRENGTH

Focus on Technology based services. State-of-the art training labs and equipment's. Qualified, Experienced Professionals / Experts. Networking with expert organizations of national and international repute. Handling of prestigious Job works for Aeronautical Development Agency. Dynamic work culture, professional staff, emphasis on result orientation and thrust on client satisfaction. Partners in representation CISCO(as authorized academy)constant.

OUTCOMES OF INTERNSHIP

As a part of the internship at KGTTI I have obtained an overall skill set which are listed below

SKILLS LEARNT: During the tenure of 4 weeks of internship at KGTTI, The students have been exposed to industry level functioning on different industrial automation design systems.

Skills learnt are as follows:

- ♣Understanding of an industrial problem statement.
- ♣Executing the design procedures.
- ♣Hands-on working with industrial components.
- ♣Understanding of design limitations.
- ♣Hardware execution challenges
- ♣Team work and coordination.
- ♣Effective communication.

Date: 08-04-2021

To Whom So Ever It May Concern

This is to Certify that AMAN RAJ USN (10X17MT007) the student of 7th Semester B.E. Mechatronics Engineering from The Oxford College of Engineering, Bengaluru underwent the Internship Training Program on Industrial Automation - Pneumatic and Hydraulic at KGTTI (Karnataka German Technical Training Institute), Bengaluru from 8th Mar 2021 to 8th Apr 2021.

His association with us was very fruitful & we wish him all the best for his future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

KGTTI.COM

KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Bommal Konda Murthy, Nagasandra, Marganahalli Nagar, Bengaluru - 560073
Phone: 080-26643336 | Email: director.bengaluru@kgtti.com



Date: 08-04-2021

To Whom So Ever It May Concern

This is to Certify that BHARATH KUMAR L USN (10X17MT009) the student of 7th Semester B.E. Mechatronics Engineering from The Oxford College of Engineering, Bengaluru underwent the Internship Training Program on Industrial Automation - Pneumatic and Hydraulic at KGTTI (Karnataka German Technical Training Institute), Bengaluru from 8th Mar 2021 to 8th Apr 2021.

His association with us was very fruitful & we wish him all the best for his future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

KGTTI.COM

KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Bommal Konda Murthy, Nagasandra, Marganahalli Nagar, Bengaluru - 560073
Phone: 080-26643336 | Email: director.bengaluru@kgtti.com



Issued with Confidence

Date: 06-04-2021

To Whom So Ever It May Concern

This is to Certify that **CHETHAN M USN (10X17MT011)** the student of 7th Semester **B.E. Mechatronics Engineering** from **The Oxford College of Engineering, Bengaluru** underwent the **Internship Training Program** on **Industrial Automation - Pneumatic and Hydraulic** at **KGTTI (Karnataka German Technical Training Institute), Bengaluru** from **8th Mar 2021 to 8th Apr 2021**.

His association with us was very fruitful & we wish him all the best for his future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

KGTTI.COM

KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Behind Ramo Matha, Nagasandra, Marolatha Taluk, Bengaluru - 560073
Phone: 080-26642926 | Email: director.bengaluru@kgtti.com



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Date: 08-04-2021

To Whom So Ever It May Concern

This is to Certify that DEEKSHITH G S USN (10X17MT013) the student of 7th Semester B.E. Mechatronics Engineering from The Oxford College of Engineering, Bengaluru underwent the Internship Training Program on Industrial Automation - Pneumatic and Hydraulic at KGTTI (Karnataka German Technical Training Institute), Bengaluru from 9th Mar 2021 to 8th Apr 2021.

His association with us was very fruitful & we wish him all the best for his future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

KGTTI.COM

KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Behind Kanna Malas, Hospeanahalli, Maragutta Nagar, Bengaluru - 560071.
Phone: 080-26442526 | Email: director.bengaluru@kgtti.com



Date: 08-04-2021

To Whom So Ever It May Concern

This is to Certify that JEEVA A USN (10X18MT404) the student of 7th Semester B.E. Mechatronics Engineering from The Oxford College of Engineering, Bengaluru underwent the Internship Training Program on Industrial Automation - Pneumatic and Hydraulic at KGTTI (Karnataka German Technical Training Institute), Bengaluru from 8th Mar 2021 to 8th Apr 2021.

His association with us was very fruitful & we wish him all the best for his future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

KGTTI.COM

KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Behind Kanna Malas, Hospeanahalli, Maragutta Nagar, Bengaluru - 560071.
Phone: 080-26442526 | Email: director.bengaluru@kgtti.com



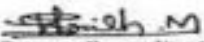
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Date: 08-04-2021

To Whom So Ever It May Concern

This is to Certify that JEEVITH S USN (10X17MT016) the student of 7th Semester B.E. Mechatronics Engineering from The Oxford College of Engineering, Bengaluru underwent the Internship Training Program on Industrial Automation - Pneumatic and Hydraulic at KGTTI (Karnataka German Technical Training Institute), Bengaluru from 8th Mar 2021 to 8th Apr 2021.

His association with us was very fruitful & we wish him all the best for his future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

KGTTI.COM

KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Behind Kanna Mahal, Nagappa Chetty, Maruthi Nagar, Bengaluru - 560021
Phone: 080-26642136 E-mail: director.bengaluru@kgtti.in



Date: 08-04-2021

To Whom So Ever It May Concern

This is to Certify that DARSHAN K N USN (10X17MT012) the student of 7th Semester B.E. Mechatronics Engineering from The Oxford College of Engineering, Bengaluru underwent the Internship Training Program on Industrial Automation - Pneumatic and Hydraulic at KGTTI (Karnataka German Technical Training Institute), Bengaluru from 8th Mar 2021 to 8th Apr 2021.

His association with us was very fruitful & we wish him all the best for his future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

KGTTI.COM

KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Behind Kanna Mahal, Nagappa Chetty, Maruthi Nagar, Bengaluru - 560021
Phone: 080-26642136 E-mail: director.bengaluru@kgtti.in



Date: 08-04-2021

To Whom So Ever It May Concern

This is to Certify that **MONISH PRAKASH A USN (10X17MT023)** the student of 7th Semester B.E. Mechatronics Engineering from The Oxford College of Engineering, Bengaluru underwent the Internship Training Program on Industrial Automation - Pneumatic and Hydraulic at KGTTI (Karnataka German Technical Training Institute), Bengaluru from 8th Mar 2021 to 8th Apr 2021.

His association with us was very fruitful & we wish him all the best for his future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

KGTTI.COM

KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Behind Kanna Murali, Nagasandra, Mangalore Highway, Bengaluru - 560075.
Phone: 080-26642326 / Email: director@kgtti.org.in



Date: 08-04-2021

To Whom So Ever It May Concern

This is to Certify that **MURULIKRISHNA N USN (10X17MT025)** the student of 7th Semester B.E. Mechatronics Engineering from The Oxford College of Engineering, Bengaluru underwent the Internship Training Program on Industrial Automation - Pneumatic and Hydraulic at KGTTI (Karnataka German Technical Training Institute), Bengaluru from 8th Mar 2021 to 8th Apr 2021.

His association with us was very fruitful & we wish him all the best for his future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

KGTTI.COM

KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Behind Kanna Murali, Nagasandra, Mangalore Highway, Bengaluru - 560075.
Phone: 080-26642326 / Email: director@kgtti.org.in



Date: 08-04-2021

To Whom So Ever It May Concern

This is to Certify that NIKHIL SRINIVAS K R USN (10X17MT027) the student of 7th Semester B.E. Mechatronics Engineering from The Oxford College of Engineering, Bengaluru underwent the Internship Training Program on Industrial Automation - Pneumatic and Hydraulic at KGTTI (Karnataka German Technical Training Institute), Bengaluru from 8th Mar 2021 to 8th Apr 2021.

His association with us was very fruitful & we wish him all the best for his future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

KGTTI.COM

KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Battul Road, Mysuru, Karnataka, Bengaluru, India
Phone: 9845 2483228 | Email: kgtti@kgtti.com



Date: 08-04-2021

To Whom So Ever It May Concern

This is to Certify that **NIRANJAN S USN (10X18MT407)** the student of 7th Semester **B.E. Mechatronics Engineering** from **The Oxford College of Engineering, Bengaluru** underwent the **Internship Training Program on Industrial Automation - Pneumatic and Hydraulic** at **KGTTI (Karnataka German Technical Training Institute), Bengaluru** from **8th Mar 2021 to 8th Apr 2021**.

His association with us was very fruitful & we wish him all the best for his future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

KGTTI.COM

KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Behind Kanta Mahila, Nagasandra, Marolabai Nagar, Bengaluru - 560075.
Phone: 080-26547028 | Email: director.bengaluru@kgtti.com



Date: 08-04-2021

To Whom So Ever It May Concern

This is to Certify that **P SAM CHRISTOPHER USN (10X17MT020)** the student of 7th Semester **B.E. Mechatronics Engineering** from **The Oxford College of Engineering, Bengaluru** underwent the **Internship Training Program on Industrial Automation - Pneumatic and Hydraulic** at **KGTTI (Karnataka German Technical Training Institute), Bengaluru** from **8th Mar 2021 to 8th Apr 2021**.

His association with us was very fruitful & we wish him all the best for his future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

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KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Behind Kanta Mahila, Nagasandra, Marolabai Nagar, Bengaluru - 560075.
Phone: 080-26547028 | Email: director.bengaluru@kgtti.com




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Date: 08-04-2021

To Whom So Ever It May Concern

This is to Certify that **SHREYA BIRADAR G USN (10X17MT035)** the student of 7th Semester B.E. Mechatronics Engineering from **The Oxford College of Engineering, Bengaluru** underwent the **Internship Training Program on Industrial Automation - Pneumatic and Hydraulic** at **KGTTI (Karnataka German Technical Training Institute), Bengaluru** from **8th Mar 2021 to 8th Apr 2021**.

Her association with us was very fruitful & we wish her all the best for her future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

KGTTI.COM

KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Behind Kansa Mahala, Hospeanagar, Maruthahalli, Bengaluru - 560 075
Phone: 080-26572330 | E-mail: director@kgtti.org | info@kgtti.org

Approved by
  

Date: 08-04-2021

To Whom So Ever It May Concern

This is to Certify that **THIRILOK V** USN (10X18MT411) the student of 7th Semester B.E. Mechatronics Engineering from The Oxford College of Engineering, Bengaluru underwent the Internship Training Program on Industrial Automation - Pneumatic and Hydraulic at KGTTI (Karnataka German Technical Training Institute), Bengaluru from 8th Mar 2021 to 8th Apr 2021.

His association with us was very fruitful & we wish him all the best for his future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

KGTTI.COM

KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Bentley Road, Mysuru, Nagasandra, Manipal College Road, Bengaluru - 560075.
Phone: 080-26542726 | Email: director.bengaluru@kgtti.com



Date: 08-04-2021

To Whom So Ever It May Concern

This is to Certify that **VIJAYALAKSHMI S** USN (10X17MT042) the student of 7th Semester B.E. Mechatronics Engineering from The Oxford College of Engineering, Bengaluru underwent the Internship Training Program on Industrial Automation - Pneumatic and Hydraulic at KGTTI (Karnataka German Technical Training Institute), Bengaluru from 8th Mar 2021 to 8th Apr 2021.

Her association with us was very fruitful & we wish her all the best for her future endeavours.


Course Co-ordinator




Director

EXCELLENCE THROUGH SKILLS

KGTTI.COM

KARNATAKA GERMAN TECHNICAL TRAINING INSTITUTE
Bentley Road, Mysuru, Nagasandra, Manipal College Road, Bengaluru - 560075.
Phone: 080-26542726 | Email: director.bengaluru@kgtti.com





Children's Education Society ®
THE OXFORD COLLEGE OF ENGINEERING
Hosur Road, Bommanahalli, Bengaluru-560 068
Department of Mechatronics Engineering

FROM
Head Of The Department
Department of Mechatronics Engineering
The Oxford College of Engineering
Bangalore – 560068

To,
The Managing Director,
VI Solutions,
Bengaluru.
Respected Sir/Madam,

Sub: Permission for pursuing Internship Program.

K VISHNU	1OX17MT017
KIRAN S	1OX17MT018
KISHORE S	1OX17MT019
MUNNAKUMAR P	1OX17MT024
SANJAY J	1OX17MT032
SANJAY R	1OX17MT033
VIJAY D	1OX17MT041
VISHNU M T S	1OX17MT045
VISHNU S KUMAR	1OX17MT046
AKANKSHA V R	1OX16MT003
OMKAR Z	1OX18MT408
PRAVEEN S S	1OX18MT409
BHAT N R	1OX16MT008
JAYANTH C	1OX16MT016
BHANUSHRE	1OX15MT008

With the reference to above the following 8th semester students of this institute would like to do internship in your esteemed organization. As a part of VTU curriculum, they have to undergo mandatory internship for a duration of 4 weeks.

We request you to permit them to do the internship in your organization.


Prof. & HOD
Department of Mechatronics
The Oxford College of Engineering
Bommanahalli, Bengaluru - 560 068
HOD MT

Brief Report: ABOUT THE COMPANY

VI Solutions is a company specialized in pioneer engineering and providing Systems, Solutions and Products for a wide range of industries and applications. Headquartered in Bangalore, India, VI Solutions was founded by a pool of live wire professionals having several years of combined technical and corporate expertise in providing high quality, cost-effective and complete end-to-end solutions to its valued customers. All our team members are highly qualified in their respective fields and have years of industrial experience behind them.

VI Solutions is specialized in the design and realization of turnkey machines and tools. As an engineering company, we are known for our expertise in automated assembly lines, process automation, data acquisition and visual inspection. VI Solutions is one of the leading companies in building Advanced Communication Systems, Real Time Embedded Systems and other Industrial Automation services for applications in the Department of Defense, Aerospace and Educational Institutions.

VI Solutions was started with the aim of always staying at the cutting-edge of automation technology and thereby providing the most appropriate technology for every automation application. VI Solutions is focused on becoming a leader in the development of test and measurement and industrial automation software and systems.

OUTCOMES OF INTERNSHIP

As a part of the internship at VI Solutions have obtained an overall skill set which are listed below.

SKILLS LEARNT: During the tenure of 4 weeks of internship at VI Solutions, The students have been exposed to industry level functioning on different industrial automation design systems.

Skills learnt are as follows:

- To use LabVIEW for day to day activities and data flow execution.
- Build a simple data acquisition application.
- Create a subroutine in LabVIEW.
- Understand the component of virtual instrumentation.
- Introduce the functions used in LabVIEW.

- Communicating with hardware like data acquisition, vision, and motion controlled devices.





CERTIFICATE OF COMPLETION
of
INTERNSHIP

We present this certificate to

KIRAN S

*In appreciation for your successful work as intern at VI Solutions, Bangalore,
From 30-November-2020 to 05-January-2021*

A handwritten signature in blue ink, appearing to read 'Sunil Kumar V'.

Mr. Sunil Kumar V
Managing Director
VI Solutions, Bangalore



CERTIFICATE OF COMPLETION
of
INTERNSHIP

We present this certificate to

KISHORE.S

*In appreciation for your successful work as intern at VI Solutions, Bangalore,
From 10th-May-2021 to 11th-June-2021*

A handwritten signature in blue ink, appearing to read 'Sunil Kumar V'.

Mr. Sunil Kumar V
Managing Director
VI Solutions, Bangalore



CERTIFICATE OF COMPLETION
of
INTERNSHIP

We present this certificate to

MUNNA KUMAR PANDIT

*In appreciation for your successful work as intern at VI Solutions, Bangalore,
From 30-November-2020 to 05-January-2021*

A handwritten signature in blue ink, appearing to be 'S. Kumar'.

Mr. Sunil Kumar V
Managing Director
VI Solutions, Bangalore



CERTIFICATE OF COMPLETION
of
INTERNSHIP

We present this certificate to

SANJAY J

*In appreciation for your successful work as intern at VI Solutions, Bangalore,
From 30-November-2020 to 05-January-2021*

A handwritten signature in blue ink, appearing to be 'S. Kumar'.

Mr. Sunil Kumar V
Managing Director
VI Solutions, Bangalore



CERTIFICATE OF COMPLETION
of
INTERNSHIP

We present this certificate to

SANJAY R

*In appreciation for your successful work as intern at VI Solutions, Bangalore,
From 30-November-2020 to 05-January-2021*

A handwritten signature in blue ink, appearing to read 'S. Kumar'.

Mr. Sunil Kumar V
Managing Director
VI Solutions, Bangalore



CERTIFICATE OF COMPLETION
of
INTERNSHIP

We present this certificate to

VIJAY D

*In appreciation for your successful work as intern at VI Solutions, Bangalore,
From 30-November-2020 to 05-January-2021*

A handwritten signature in blue ink, appearing to read 'S. Kumar'.

Mr. Sunil Kumar V
Managing Director
VI Solutions, Bangalore



CERTIFICATE OF COMPLETION
of
INTERNSHIP

We present this certificate to

VISHNU MANOHAR TUMSI S

*In appreciation for your successful work as intern at VI Solutions, Bangalore,
From 30-November-2020 to 05-January-2021*

A handwritten signature in blue ink, appearing to read 'Sunil Kumar V'.

Mr. Sunil Kumar V
Managing Director
VI Solutions, Bangalore



CERTIFICATE OF COMPLETION
of
INTERNSHIP

We present this certificate to

VISHNU S KUMAR

*In appreciation for your successful work as intern at VI Solutions, Bangalore,
From 30-November-2020 to 05-January-2021*

A handwritten signature in blue ink, appearing to be 'S. Kumar'.

Mr. Sunil Kumar V
Managing Director
VI Solutions, Bangalore



CERTIFICATE OF COMPLETION
of
INTERNSHIP

We present this certificate to

AKANKSHA V REDDY

*In appreciation for your successful work as intern at VI Solutions, Bangalore,
From 30-November-2020 to 05-January-2021*

A handwritten signature in blue ink, appearing to be 'S. Kumar'.

Mr. Sunil Kumar V
Managing Director
VI Solutions, Bangalore



CERTIFICATE OF COMPLETION
of
INTERNSHIP

We present this certificate to

OMKAR ZADAGE

*In appreciation for your successful work as intern at VI Solutions, Bangalore,
From 30th-November-2020 to 05th-January-2021*

A handwritten signature in blue ink, appearing to read 'Sunil Kumar V'.

Mr. Sunil Kumar V
Managing Director
VI Solutions, Bangalore

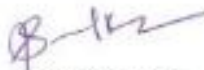


CERTIFICATE OF COMPLETION
of
INTERNSHIP

We present this certificate to

PRAVEEN KUMAR SALIMATH

*In appreciation for your successful work as intern at VI Solutions, Bangalore,
From 05-October-2020 to 11-November-2020*


Mr. Sunil Kumar V
Managing Director
VI Solutions, Bangalore



CERTIFICATE OF COMPLETION
of
INTERNSHIP

We present this certificate to

BHAT NIRANJAN RAMAKRISHNA

*In appreciation for your successful work as intern at VI Solutions, Bangalore,
From 30-November-2020 to 05-January-2021*


Mr. Sunil Kumar V
Managing Director
VI Solutions, Bangalore



CERTIFICATE OF COMPLETION
of
INTERNSHIP

We present this certificate to

BHANUSHREE O

*In appreciation for your successful work as intern at VI Solutions, Bangalore,
From 14th-June-2021 to 16th-July-2021*

Mr. Sunil Kumar V
Managing Director
VI Solutions, Bangalore



CERTIFICATE OF COMPLETION
of
INTERNSHIP

We present this certificate to

JAYANTH C

*In appreciation for your successful work as intern at VI Solutions, Bangalore,
From 05-October-2020 to 11-November-2020*

Mr. Sunil Kumar V
Managing Director
VI Solutions, Bangalore

PRINCIPAL

The Oxford College of Engineering
Bommanahalli, Hosur Road
Bengaluru-560 068