



ATAL FDP REPORT

Cyber Security and Forensics

17th to 21st November 2020

**KLE Technological University,
Vidyanagar, Hubballi-580031,
Karnataka**

AICTE-ATAL FDP

ATAL workshop on Cyber Security and Forensics

CYBER SECURITY AND FORENSICS WORKSHOP

F. No. 01/AICTE/ATAL-HQ/2020-21/ 1581 Date: 3rd November 2020

KLE Technological University, Hubballi

Application Number: 1584349685 **Status:** Accepted

The AICTE Training and Learning (ATAL) Academy sponsored Five-Day Faculty Development Program (FDP) on Cyber Security and Forensics, 17th - 21st November 2020, was conducted by the Department of Master of Computer Applications at KLE Technological University, Hubballi, Karnataka, in an online mode using MS Teams software. The training program was attended by 98 participants, who have been the faculty members of the AICTE approved Engineering colleges and institutions, research scholars, and members from Government and Industry across India. The duration of this FDP was five consecutive days with six hours of the session each day that is a total of thirty hours, which was judiciously divided into theory and hands-on practical sessions. The objectives of the FDP was to introduce the participants to the domain of Cyber Security and Forensics; to give an insight into how and where it becomes imperative to be used; to impart the essential skills required to handle different tools and technologies that are developed for securing various IT infrastructures from Cyber Threats; and, to bring awareness of the related legal issues. This FDP was organized into two parts: technical sessions and hands-on sessions. The technical sessions focused on the most challenging contemporary cybersecurity issues (cyber threat, cyber incidents, vulnerabilities, cyber laws, etc.). The hands-on practical sessions focused on the usage of KALI Linux and OWASP tools and the demonstration of incidences of various security threats along with their remediation.

A total of 161 participants had registered for this FDP, out of which 98 participants from across India have benefited from this program, and 51 participants have maintained 100% attendance. During the workshop, the various sessions were mentored by seven renowned resource persons who have been senior academicians and experts from the cybersecurity domain. All the sessions were very informative and met the objectives of the FDP. The presentations by the experts and the follow-up discussions were of great benefit to the participants as the topics matched with the academic curriculum of various Institutions as well as the industry perspectives. The participants were educated on the most widely used advanced tools and technologies in Cyber Security and Forensics and their related fields. The FDP not only covered the fundamental

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knowledge of Cyber Security and Cyber Forensics techniques but also catered to the research perspectives in this domain. This FDP was immensely successful in bringing together the domain experts and the participants to forge an alliance for prospective collaborative work in this domain. The satisfaction of the participants is reflected in their positive feedback about the FDP expressed in MS Teams and WhatsApp groups. The following feedback was received from the participants:

- 86% of the participants felt that the delivery and presentation of the Resource Persons were good.
- 90% of the participants believed that the FDP brought practical knowledge of the subject to them.
- 90% of the participants opined that the FDP was coordinated very well.
- Participants endorsed the fact that such FDPs should be arranged regularly.

Day 1: 17th November 2020 (Tuesday)

MoC: Mrs. Deepa Mulimani

Inauguration and Keynote Address

Dr. Prakash R. Patil, FDP Coordinator, and Professor & Head, Department of Master of Computer Applications, KLE Technological University, Hubballi, welcomed all the resource persons and participants to the FDP.

The program was inaugurated by Professor B.L.Desai, Dean Executive, KLE Technological University, Hubballi, by lighting a digital lamp. The program began with the keynote address by Mr. Karthik Rao, Centre Head, Centre of Excellence in Cyber Security (CySecK), Government of Karnataka, Bengaluru, who dwelt on the current government efforts aimed at cybersecurity of IT infrastructures.

Technical Sessions

These sessions began with a presentation by Mr. Shrinivas Kulkarni, Senior Director, Global Security, Larsen & Toubro, Toronto, Canada, who dealt with the global scenario of cybersecurity. Dr. R. RAVI, Director(Research), Francis Xavier Engineering College, Vannarpettai, Tirunelveli, Tamilnadu, delivered a lecture on Cyber Crime Attacks, Analysis, and Prevention. Dr. Lalit Kumar

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Singh, Scientist NPCIL-BARC, Department of Atomic Energy, Govt. of India, discussed Security Analysis of Safety-Critical Systems based on mathematical modeling using Petri nets. Dr. A. Nagarathna, Associate Professor of Law & Coordinator, Advanced Centre on Research, Development & Training in Cyber Law and Forensics, National Law School of India University, Bengaluru, delivered a lecture on Cyber Crimes, Cyber Law, and Forensics – IT Act 2000 and also discussed some Case Studies on Cyber Crimes from the perspective of IT Act 2000 and 2008, India.

Day 2 & 3: 18th and 19th November 2020 (Wednesday and Thursday)

MoC: Mrs. Sujata Kulkarni and Mr. Amit Kachavimath

MoC: Mrs. Sunita Salimath and Mrs. Shashikala Budni

On these two days, the sessions were conducted by Mr. Robinson Dsouza, Founder of CyberSapiens United LLP, Mangalore, and covered topics on Cyber Security, Cyber-Attacks, Vulnerabilities, Data Breaches, Data Privacy, Security Principles, and Security Controls during Day 2. Further, on Day 3, the sessions covered topics on Ethical Hacking – Hackers Types and Hacking Groups, Ethical Hacking Phases, Information Gathering, Scanning, Gaining Access, Maintaining Access, Clearing Tracks, Vulnerability Assessment, Penetration testing. Ethical Hacking Hands-on sessions followed the technical presentation. The tools required for ethical hacking such as Email Harvesting, Sherlock, whois, BuiltWith, Wappalyzer, amass, Shodan, Th3inspector, Google Dorks, and Kali Linux Tools were demonstrated to the participants.

Day- 4: 20th Nov 2020 (Friday)

MoC: Mrs. Deepa Mulimani and Mrs. Shashikala Budni

Mr. Murali M, Principal Consultant QOS Technology Pvt. Ltd., Bangalore, conducted the sessions on OWASP Top 10 tools and Countermeasures to OWASP, including attacks such as SQL Injection, Cross-Site Scripting (XSS), Broken Authentication and Session Management, Broken Access Control, Security Misconfiguration, Sensitive Data Exposure, and Insufficient Attack Protection. The sessions comprised the demonstration of various tools to simulate the different types of attacks and their remediation. It was interactive, and the participants were asked to implement these tools on their computer systems.

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Day- 5: Saturday 21stday

MoC: Mr. Nagaraj C. and Mr. Praveen S.

Dr. Lalit Kumar Singh, Scientist, NPCIL-BARC, Department of Atomic Energy, Govt. of India, discussed the Reliability Analysis of Communication module of Safety-Critical Systems using mathematical modeling based on Petri nets and Markov chains. Dr. R. Ravi, Director (Research), Francis Xavier Engineering College, Vannarpettai, Tirunelveli, Tamilnad, deliberated on the topic Digital Forensics in Cyber Security along with some case studies and also demonstrated the Cyber Security and Forensics assessment kit. In the last session, Mrs. Vibha Chakrala, IT Project Manager, Centre of Excellence in Cybersecurity, Karnataka, highlighted the Cyber Security Standards & Guidelines: ISO 27001:2013, PCI-DSS, GDPR, HIPAA, and NIST, and also presented the Indian scenario vis-a-vis International scenario of cybersecurity.

Feedback and Valedictory

MoC: Mrs. Deepa Mulimani

The Five-day FDP on “Cyber Security and Forensics” sponsored by AICTE Training And Learning (ATAL) Academy ended with the valedictory session graced by Professor P. S. Hiremath, KLE Technological University, Hubballi.

During the valedictory, Dr. Prakash R. Patil, FDP Coordinator and Professor & Head, Department of Master of Computer Applications, KLE Technological University, emphasized the need for a greater thrust on Cyber Security and Forensics in academics as well as research and also urged the participants to follow up the takeaways from this FDP in their academic pursuits. As the global economy relies on more Internet-based computing and connectivity worldwide, organizations are even more vulnerable to hacking and cyber-attacks. The organization ultimately has to protect its proprietary data as well as customer information. Hence, the Cyber Security job space is evolving every year. But there is a short supply of Cyber Security professionals. Last year, NASSCOM reported that India alone would need 1 million cybersecurity professionals by 2020. Across the world, there are thousands of enterprises in a hunt to hire cybersecurity professionals simultaneously, resulting in steadily rising salaries and a significant crunch in the available skills and talent in the market. He appealed to the participants of FDP to train the students and equip

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them with relevant skills in order to get them employed in the Cyber Security and Forensics domain.

The participants shared their feedback about the conduction of FDP. Following are some of the oral feedback from the participants during this session:

The FDP was excellent and informative. I got exposed to many new things and got broad exposure in the area of cybersecurity. Well organized, systematically. Thank you, organizers. 🙌🙌

- Sushil Lekhi

Congratulations to all the organizing committee members for the successful conduction of FDP. It was a good learning experience. Thank You all.

-Prof.Bahubali Akiwate, KLECET,Chikodi

On behalf of all the participants, let me congratulate and thank the whole organizing team, especially Dr. Patil for his help, support, and cooperation throughout this FDP. It is a great learning experience. Thank You to the entire organizing team. Thank You very much, Patil Sir.

-Dr. Kalpesh A Popat

Concluding remarks were made by Dr. P. S Hiremath with an appreciation to the Resource Persons and the participants for making the deliberations of the FDP more effective and fruitful in terms of its objectives and also dwelling on all the technical, ethical and legal issues of cyber security in greater details. The appreciation is also due to all the members of the Organizing Committee for their well organized, coordinated efforts in making the FDP successful.

Mr. Nagaraj C. proposed the vote of thanks. Mrs. Deepa Mulimani was the master of the ceremony for the program.

Written Feedback and Assessment:

At the end of the FDP, an assessment was conducted for the participants, and certificates were generated by ATAL portal.

Appendix:

A) The detail of the state wise participants:

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ANDHRA PRADESH	4
DELHI	4
GOA	2
GUJARAT	10
HARYANA	6
HIMACHAL PRADESH	2
JAMMU AND KASHMIR	2
JHARKHAND	1
KARNATAKA	60
KERALA	3
MADHYA PRADESH	2
MAHARASHTRA	26
ODISHA	1
PUDUCHERRY	2
PUNJAB	2
TAMIL NADU	16
TELANGANA	3
UTTAR PRADESH	6
UTTARAKHAND	5
WEST BENGAL	5
Total	162

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The speakers for the 5-day workshop on “CYBER SECURITY AND FORENSICS” were:

Dr.Prakash Patil (FDP Coordinator)	
	<p>Dr. P. R Patil is presently working as Professor and Head, Master of Computer Applications department, K.L.E. Technological University, Hubballi. He received his B.E Degree in Computer Science and Engineering from Karnataka University, Dharwad (India) and ME degree in Computer Science from Thapar Institute of Technology (TIET), Patiala, Punjab. He received Ph.D Degree in faculty of Computer Science and Information technology from Visvesvaraya Technological University, Belgaum. He is actively involved in the development of business applications using open source technologies and his areas of interests includes Wireless Sensor Networks, Precisions Agriculture, AI and BIG data analytics and Cyber Security.</p>
Shrinivas Kulkarni (Pursuing PhD - Cybersecurity)	
	<p>He is now in Canada and looking forward to help my fellow Canadians to secure their assets and reduce the risk through a detailed and methodological approach. Industry Exposure – Banking, Insurance, Telecom, Legal, IT & ITES, Real Estate, Hotels, Government, Hospitality & Education.</p>
Dr. LALIT KUMAR SINGH	
	<p>Dr. Lalit Kumar Singh received his Ph.D. degree from IIT, Banaras (Banaras Hindu University) .He is currently a Scientist in NPCIL-BARC, Department of Atomic Energy, Government of India, since 17 years, and has distinction of working on Pressurized Heavy Water Reactors (PHWR) and Light Water Reactors (LWR). He has an illustrious career and succeeded in several critical jobs assigned to him in his illustrious career, though, each of them was challenging. His assignments over the years range from design, development, testing, IV & V, related research and site validation of the safety critical computer based systems of Indian, Nuclear Power Plants. He has published several research papers in journals of high impact factor like IEEE Transactions, IEEE Computer, ACM, Elsevier, Quality & Reliability International, etc.</p>

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Karthik Rao Bappanad	
	<p>Karthik Rao Bappanad is a technologist with a keen interest in public policy. He has 20 years of IT experience, with the last 6 years in Cyber Security. He started as a coder, moved on to systems integration and then project and programme management. He has managed end-to-end cyber security programme across various domains like SOC, identity and access management, cyber risk assessments, infrastructure security, application security, Governance, Risk and Compliance. He has been a speaker in multiple forums like DSCI, TRAI and RBI. Karthik is currently the Centre Head of CySecK, the Centre of Excellence in Cyber Security, an initiative of the Government of Karnataka, anchored by Indian Institute of Science in Bengaluru.</p>
Dr. A. Nagarathna	
	<p>Dr. A. Nagarathna is an Associate Professor at NLSIU, and is the Programme Coordinator for the Distance Education Department's Post Graduate Diploma in Cyber Law and Cyber Forensics (PGDCLCF). She's BA.L. and LL.B., completed her LL.M. and then her Ph.D. in 2012. Her subjects of interest include Criminal Laws, Cyber Laws & Cyber Forensics and Medical Laws. She has undertaken training on "Cyber forensic" including on hard disk analysis, mobile forensics, network forensics and live forensic from CDAC, Trivandrum in 2015 and 2016. Dr. Nagarathna is also the Chief Coordinator for the Advanced Centre on Research, Development & Training in Cyber Law and Forensics and is heading the Centre's Cyber Forensic Lab at NLSIU. She was the coordinator for the Advanced Certified Course on Criminal Laws, for the officers of the CBI. She has edited 6 books on cyber laws, and has authored chapters on Cyber Crime laws for various publications. Currently she teaches Criminal Laws and Cyber Laws related courses at the Law School.</p>
Robinson Dsouza	
	<p>Robinson Dsouza - Founder of CyberSapiens United LLP. He is Expert in Cyber Security and Cyber Law. He is Speaker and a Trainer, have trained around 15,000 people so far.</p> <p>Qualification: Masters in Information Security Management Systems.</p> <p>Qualification: * Masters in Information Security Management Systems. * ISO 27001 Certified Security Implementer * PCI DSS Certified Payment Card Data Security Implementer</p>

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Murali M	
	<p>Murali M. regularly interacts with the associated customers regarding security issues being noted in their infrastructure and provides the required support. He is adroit at troubleshooting critical security components, like Firewall, IPS, advanced threat prevention tools and other applications. Moreover, he has knowledge related to installation, advanced troubleshooting, configuration, and upgradation of all Checkpoint products. He has a strong inclination towards learning new technologies and also teaches multiple technologies to professional engineers and students. He is also a certified ethical hacker a Threat hunter.</p>
Mrs Vibha Chakrala	
	<p>Mrs Vibha Chakrala is currently working with Karnataka State's Cybersecurity Centre of Excellence as Information Technology Project Manager. She is a Certified Information Systems Auditor and has focused extensively in the information security field. She has performed information security control design & implementation reviews, information security risk assessments, third party risk management framework design & implementation, regulatory compliance reviews and has been a part of several cyber awareness initiatives. She has previously worked with KPMG India, Aricent (Altran) and JP Morgan Chase & Co. She is an active member of the Rotary Bangalore Northwest club, is extremely passionate towards public service and aims to build awareness and facilitate innovation in Cyber Security</p>
Dr. R Ravi	
	<p>He is Dr. in Engg & Dr. in Law R. RAVI, Ph.D & Ph.D.Post. Doc., working as a Professor & Director Research, Francis Xavier Engineering College, Tirunelveli, Tamilnadu State. He has received Rupees One Crore and 20 Lakhs funding in the Area of Cyber Security from AICTE, DST, MNRE, TNSCST and so on. Also chaired the session in the Internal Conference at Indian Institute of Technology, Chennai, in the Area of Cyber Security as well as Chaired the session, Keynote speaker & Resource person for LAW University, Devi Ahilya Vishwavidyalaya, Indore Madhya Pradesh, in the field of Cyber Law. Also, guided and completed 12 scholars in the area of Cyber Security. He acted as a Resource person at nearly more than 25 Institutions. Recently, AICTE online FDP in the area of Cyber Security, I acted as a Resource person at Sri Krishna College of Engineering and Technology, at Coimbatore.</p>

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Resource Persons Details

Sl. #	Name	Email Id Mobile	Organization	Designation
1.	Mr Karthik Rao Bappanad	ch.cyseck@karnataka.gov.in 9819078292	Government of Karnataka, anchored by Indian Institute of Science in Bengaluru	Centre Head of CySecK, the Centre of Excellence in Cyber Security
2.	Mr Robin Dsouza	robin@cybersapiens.in 9964203651	CyberSapiens United LLP	Founder of CyberSapiens United LLP
3.	Dr A Nagarathna	Nagarathna@nls.ac.in 9590007464	NLSIU, Bangalore	Associate Professor at NLSIU, and is the Programme Coordinator for the Distance Education Department's Post Graduate Diploma in Cyber Law and Cyber Forensics (PGDCLCF)
4.	Mrs Vibha Chakrala	pm.cyseck@karnataka.gov.in 8970995754	Karnataka State's Cybersecurity Centre of Excellence	Information Technology Project Manager
5.	Mr Murali M	murali@qostechology.in 7760425296	QOS Technology Pvt. Ltd. Bangalore, India	Principal consultant
6.	Dr. Lalit Singh	lalit.rs.cse@iitbhu.ac.in 9757237734	Govt. of India	Scientist NPCIL-BARC Department of Atomic Energy
7.	Mr. R. RAVI	directorresearch@francisxavi er.ac.in 8838273728	Francis Xavier Engineering College, Vannarpettai, Tirunelveli - 627003, Tamil Nadu State, India.	Director(Research),Pr ofessor & Research Centre Head, Department of Computer Science and Engineering,
8.	Mr. Shrinivas Kulkarni	shrinivaskk@gmail.com +1 6473251181 (Canada)		

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Program Schedule

AICTE ATAL Sponsored Five Days online FDP on

Cyber Security and Forensics

Program Schedule

17th to 21st November 2020

Day	Session	Event Description	Speaker	Duration
Day 1: Tuesday 17 th Nov 2020	S1	Inauguration and Keynote address	1) Mr Karthik Rao Bappanad Centre Head, CoE in Cyber Security, Govt of Karnataka https://cs-coe.iisc.ac.in/ 2) Mr. Shrinivas Kulkarni Senior Director, Global Security, Larsent & Toubro, Toronto, Canada	10:00 am to 11:00 am
	S2	Cyber Crime Attacks, Analysis and Prevention	Dr. R. RAVI, Director(Research), Professor & Research Centre Head, Department of Computer Science and Engineering, Francis Xavier Engineering College, Vannarpettai, Tirunelveli - 627003, Tamil Nadu State, India.	11:00 am to 12:15 pm
	Tea Break			12:15 pm to 12:30 pm
	S3	Security Analysis of Safety Critical Systems	Dr. Lalit Kumar Singh Scientist NPCIL-BARC Department of Atomic Energy Govt. of India	12:30 pm to 02:00 pm
	Lunch Break			2:00 pm to 3:00 pm
	S4	Cyber Crimes, Cyber Law and Forensics – IT Act 2000, Case Studies on Cyber Crimes	Dr A Nagarathna. Associate Professor of Law & Coordinator, Advanced Centre on Research, Development & Training in Cyber Law and Forensics.	3:00 pm to 4:30 pm
Day 2: Wednesday 18 th Nov 2020	S1	Introduction to Cyber Security Cyber-Attacks, Vulnerabilities, Data Breaches, Data Privacy, CIA Triad, Security Principles, Security Controls Cyber Security Career Paths, Global certifications & Courses, Designations, Roles & Responsibilities, Industry needs & future scope	Mr. Robinson Dsouza CyberSapiens United LLP, Mangalore – 575003 Karnataka – India https://cybersapiens.in/	10:00 am to 11:00 am
	Tea Break			11:00 am to 11:15 am
	S2	Ethical Hacking – Hackers Types and Hacking Groups, Ethical Hacking Phases, Information Gathering, Scanning, Gaining Access, Maintaining Access,	Mr. Robinson Dsouza CyberSapiens United LLP, Mangalore – 575003 Karnataka – India https://cybersapiens.in/	11:15 am to 1:15 pm

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Day	Session	Event Description	Speaker	Duration
		Clearing Tracks, Vulnerability Assessment, Penetration Kali Linux – Ethical Hacking OS, Kali Linux Overview, Kali Linux Installation, Kali Linux Tools Demonstration		
	Lunch Break			01:15 pm to 02:30 pm
	S3	Ethical Hacking Hands-on using any 2 demo targets performing Ethical Hacking with the below Kali Linux tools: nmap, Sublister, Nessus, WP Scan	Mr. Robinson Dsouza CyberSapiens United LLP, Mangalore – 575003 Karnataka – India https://cybersapiens.in/	2:30 pm to 4:30 pm
Day 3: Thursday 19 th Nov 2020	S1	Ethical Hacking Hands-on Email Harvesting, Sherlock, whois, BuiltWith, Wappalyzer, amass, Shodan, Th3inspector, Google Dorks	Mr. Robinson Dsouza CyberSapiens United LLP, Mangalore – 575003 Karnataka – India https://cybersapiens.in/	10:00 am to 11:30 am
	Tea Break			11:30 am to 11:45 am
	S2	Eavesdropping Attack & MITM Attack Tools: Wireshark and BurpSuite	Mr. Robinson Dsouza CyberSapiens United LLP, Mangalore – 575003 Karnataka – India https://cybersapiens.in/	11:45 am to 1:15 pm
	Lunch Break			01:15 pm to 02:30 pm
	S3	Web Application Fundamentals & Security, POST and GET Methods, TLS/SSL Certificates, Cryptography	Mr. Robinson Dsouza CyberSapiens United LLP, Mangalore – 575003 Karnataka – India https://cybersapiens.in/	2:30 pm to 4:30 pm
Day4: Friday 20 th Nov 2020	S1	OWASP Top 10 Global Standards/Frameworks SANS Top 25 Software Errors WASC NIST OWASP What is OWASP (Open Web Application Security Project) Significant OWASP Projects OWASP Top 10	Mr Murali M Principal Consultant QOS Technology Pvt. Ltd. Bangalore, India https://qostechnology.in/	10:00 am to 11:30 am
	Tea Break			11:30 am to 11:45 am
	S2	OWASP Top 10 tools (Hands-on) Countermeasures to OWASP Top 10 2017 Injection SQL, XSS, CSRF, Broken Authentication and Session Management	Mr Murali M Principal Consultant QOS Technology Pvt. Ltd. Bangalore, India https://qostechnology.in/	11:45 am to 1:15 pm
	Lunch Break			1:15 pm to 2:30 pm
	S3	OWASP Top 10 (Hands-on) Cross-Site Scripting (XSS), Broken Access Control, Security Misconfiguration, Sensitive Data Exposure, Insufficient Attack Protection, Cross-Site Request	Mr Murali M Principal Consultant QOS Technology Pvt. Ltd. Bangalore, India https://qostechnology.in/	2:30 pm to 4:30 pm

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Day	Session	Event Description	Speaker	Duration
		Forgery (CSRF), Using Components with Known Vulnerabilities		
Day 5: Saturday 21 st Nov 2020	S1	Digital Forensics in Cyber Security	Dr. Prakash R Patil Professor and Head, MCA Department KLE Technological University, HUBBALLI - 580 031 https://kletech.ac.in	10:00 am to 11:30 am
	Tea Break			11:30 am to 11:45 am
	S2	Cyber Security Standards & Guidelines ISO 27001:2013, PCIDSS, GDPR, HIPAA, NIST	Mrs Vibha Chakrala Information Technology Project Manager, Centre of Excellence in Cybersecurity, Karnataka.	11:45 am to 1:15 pm
	Lunch Break			1:15 pm to 2:30 pm
	S3	Reliability Analysis of Communication module of Safety Critical Systems	Dr. Lalit Kumar Singh Scientist NPCIL-BARC Department of Atomic Energy Govt. of India	2:30 pm to 4:30 pm
	S4	Feedback Session & Valedictory Ceremony		4.30 pm to 5.00 pm

List of participants with attendance for FDP

No	Name	Email- ID	Phone	Institute Name
1.	Mr. Abdul Faruque	afaruque71@gmail.com	9614765485	ISLAMPUR GOVERNMENT POLYTECHNIC
2.	Mr. Amit Kumar Sharma	amit.sh.9002@gmail.com	7897048878	PSIT COLLEGE OF ENGINEERING
3.	Mr. Anil Mallappa Kabbur	amkabbur@kletech.ac.in	7619407004	K.L.E Technological University
4.	Mr. Amol Karmarkar	amol.krkrkr@rediffmail.com	9823191543	H V P Mandals College of Engineering and Technology
5.	Miss Desai Ankita K	ankidesai87@gmail.com	9428390812	A Y Dadabhai technical institute kosamba
6.	Dr. Anwar Khan	anwarmediakhan@gmail.com	9827597557	MK Media Group MP
7.	Miss Aruna S	arunasreedharan90@gmail.com	7356676993	IHRD
8.	Miss Atiya R Kazi	atiya.kazi@famt.ac.in	8378823679	FINOLEX ACADEMY OF MANAGEMENT AND TECHNOLOGY
9.	Mr. Atul Kathole	atul.kathole@zealeducation.com	9579150021	ZCOER
10.	Mr. Bahubali Mahaveer Akiwate	bahubalimakiwate@gmail.com	8971948565	KLE College of Engineering and Technology
11.	Miss Sangeeta Banik	banik.sangeeta4@gmail.com	8335804471	SISTER NIVEDITA UNIVERSITY
12.	Dr. Basavarajeshwari G. Hokarani	basavarajeshwari18779@gmail.com	9611431878	BasaveshwarEngineeringCollege(A), Bagalkot
13.	Miss Manjubashini N	bashini215@gmail.com	9500864550	Rathinam Technical Campus

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No	Name	Email- ID	Phone	Institute Name
14.	Miss Bharathi S	bharathimecse12@gmail.com	9344410710	RATHINAM TECHNICAL CAMPUS
15.	Mrs. Dr. Bharathi S	bharathishivu2017@gmail.com	9980700776	Dr.AIT
16.	Mr. Chandrashekhar Laxmeshwar	chambal143@gmail.com	9980673383	Mcube Investment Software
17.	Mr. Satish Chikkamath	chikkamath@kletech.ac.in	9620194478	KLE Technological University
18.	Mr. Sanjay Das	das.sanjay0203@gmail.com	9681733880	CID
19.	Mrs. Deepa Mulimani	deepamulimani@kletech.ac.in	9739823536	KLE technological University
20.	Miss Deepti Deshpande	deeptideshpande@klebcahubli.in	9148085316	KLES'S BCA HUBBALLI
21.	Dr. Dilip Motwani	dilip.motwani@vit.edu.in	9820804727	VIDYALANKAR INSTITUTE OF TECHNOLOGY
22.	Miss Dimple Chauhan	dimple.chauhan@marwadieducation.edu.in	9904815065	Marwadi University
23.	Mrs. Pallavi Dixit	dixitpal04@gmail.com	9936491789	BUDDHA INSTITUTE OF TECHNOLOGY,GIDA GORAKHPUR
24.	Dr. Yogesh Hiremath	dr.yogeshhiremath@gmail.com	9663483399	KLE COLLEGE OF PHARMACY , HUBLI
25.	Mr. Ramesh Chandrahasa	drrcmay@gmail.com	7829454531	Institute of Management Studies
26.	Dr. Sanjay Kumar Dwivedi	drskmgkvp08@gmail.com	8840981907	MDKP College of Law Makanpur Barabanki
27.	Mr. Shah Krunalkumar Dipakkumar	einstein1410@gmail.com	8200713617	Shantilal Shah Engineering College, Bhavnagar
28.	Dr. Deepak Gambhir	gambhir.deepak@gmail.com	9871595384	Galgotias college
29.	Mrs. Vishala G. Chandrapattan	gc22.vishala@gmail.com	7483079939	K.L.E. SOCIETY'S C.B.KOLLI POLYTECHNIC,HAVERI
30.	Mr. Gopal Parmeshwar Burkul	gopalburkul214@gmail.com	7030153788	Deogiri Institute of Engineering & Management Studies
31.	Dr. Gurmohan Singh	gurmohan79@gmail.com	9464523344	C-DAC, Mohali
32.	Harjeet Kaur	harjeet.kaur@cumminscollege.in	7798777110	Cummins College of Engg. for Women, Pune
33.	Dr. Wadkar Harshad Suryakant	harshad.wadkar@cumminscollege.in	9422517896	MKSSS's Cummins College of Engineering for Women, Pune
34.	Mr. Hemant Narottam Chaudhari	hemantch09@gmail.com	9766000209	JCEI's Jaihind Polytechnic Kuran
35.	Mr. Hitesh G Darji	hitesh@irma.ac.in	9687991282	IRMA
36.	Dr. S. Indrakumar	indrakumar.maths@kongu.edu	9944354749	Kongu Engineering College
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39.	Dr. Jaypalsinh A Gohil	jaypalmca@gmail.com	9998708357	Marwadi University, Rajkot
40.	Dr. Kalpesh A. Popat	kalpesh.popat@marwadieducation.edu.in	9979585345	Marwadi University
41.	Mr. Kamlesh Ramesh Dandagvhal	kamleshdndgvhl16@gmail.com	9975590711	GOKHALE EDUCATION SOCIETY SIR DR MS GOSAVI COLLEGE OF PHARMACEUTICAL EDUCATION AND RESEARCH NASHIK

ATAL workshop on Cyber Security and Forensics

No	Name	Email- ID	Phone	Institute Name
42.	Mrs. K. Kanaka Vardhini	kanakavardhini@gmail.com	9704543248	DRK College of Engineering and Technology
43.	Dr. Karibasappa K G	karibasappa_kg@kletech.ac.in	9901146255	KLE Technological University
44.	Dr. R.A.Karthika	karthika.se@velsuniv.ac.in	9994839194	Vels Institute of Science, Technology & Advanced Studies
45.	Mrs. Karuna Premanand Tidke	karunabagde15@gmail.com	9960389830	HVPMandal's College of Engineering and Technology Amravati
46.	Kiran Jash	kiranjash@gmail.com	9547095440	Bengal College of Polytechnic
47.	Maheshwari	kpmashri123@gmail.com	#N/A	#N/A
48.	Mr. Krishnendu Mondal	krishweb123@gmail.com	8777859773	Abc
49.	Mrs. Krupa K S	krupaks@gmail.com	9108357801	Global Academy of Technology
50.	Mr. Gopal Anantrao Kulkarni	kulkarnigopal2302@gmail.com	7020078645	SHRI MADHAVRAO PATIL MAHAVIDYALAYA, MURUM. DIST. OSMANABAD. MAHARASHTRA.
51.	Mr. Hemant Kumar	kumarhemant.kec2010@gmail.com	9719003425	Nanhi Pari Seemant Engineering Institute
52.	Miss Lalita Suresh Rao Korade	lalita.korade673@gmail.com	9766927023	Government Polytechnic, Karad
53.	Mr. Chandran A	lecturer_chandran@hotmail.com	7019987266	R.V. Institute of Management
54.	Mrs. Patil Madhuri Sanket	madhuri.juikar@gmail.com	9930642038	MGM CET
55.	Mrs. Gunjan Behl	mailto.gunjan83@gmail.com	9823320880	Bharati Vidyapeeth's Institute of Management and information Technology
56.	Mr. Manish Negi	manishpcs2012@gmail.com	8791284255	GOVERNMENT POLYTECHNIC NARENDRA NAGAR TEHRI GARHWAL UTTARAKHAND
57.	Mr. Morukurthi Sreenivasu	morukurthi.sreenivasu@gmail.com	8639518299	GIET COLLEGE OF ENGINEERING
58.	Mrs. Bushra Jamal	ms.bushrajamal@gmail.com	9990880776	Integrated Institute of Technology
59.	Mrs. Saraswathamma M	msaru364@gmail.com	9036510950	SRI VENKATESHWARA POLYTECHNIC
60.	Mr. Nagaraj Chakalabbi	nagaraj_c@kletech.ac.in	9632015455	KLE Technological University
61.	Miss Nandini B M	nandinibm@gmail.com	9980796791	Government Polytechnic, Kampli
62.	Miss Alange Neeta Sangappa	neetaalange@gmail.com	9922263308	Shri Siddheshwar Women's Polytechnic, Solapur
63.	Mr. Neeraj Kaushik	nidhi.neeraj@gmail.com	9999929416	Amity University
64.	Miss Neha Deshmukh	npdeshmukh@apsit.edu.in	8454845117	APSIT
65.	Dr. Pijush Barthakur	pbarthakur@git.edu	9635680108	KLS Gogte Institute of Technology
66.	Mrs. Josephineard Jyothi	pearl_jothi@yahoo.com	#N/A	#N/A
67.	Mr. Piyush Kala	piyushkala1204@gmail.com	9412369242	GOVERNMENT POLYTECHNIC NARENDRA NAGAR TEHRI GARHWAL UTTARAKHAND
68.	Miss Parvatidevi Shashimath	pl_shashimath@kletech.ac.in	9902222353	KLE Technological University
69.	Mr. Prasad Patibandla	prasad.patibandla@gmail.com	9059415927	CRCIDF

ATAL workshop on Cyber Security and Forensics

No	Name	Email- ID	Phone	Institute Name
70.	Mr. Prashant R Sthanky	prashant.sthankey.12@gmail.com	9427208166	JNV DevBhumi Dwarka(Guj.)
71.	Mr. Praveenkumar S M	praveenkumar_sm@kletech.ac.in	9886963609	KLE Technological University
72.	Mr. Pavan Mitragotri	pvmitragotri@git.edu	8867747835	KLS Gogte Institute of Technology, Belagavi
73.	Mr. B Rambabu	rambabubandi@gmail.com	9290666665	CVR COLLEGE OF ENGINEERING
74.	Miss Reshma M	reshma.m03@gmail.com	9035014392	VTU
75.	Mr. SUSHIL LEKHI	ritesh.lekhi@gmail.com	8872300930	RGI ROPAR CAMPUS
76.	Mrs. Ritu Mehta	ritu.mehta@shrieducare.com	9810388714	Shri Educare
77.	Miss Roshan Ara	roshaanara@gmail.com	7006836184	KGP
78.	Mr. Rubn Thottupurathu Jose	rubinthottupuram@amaljyothi.ac.in	9447290939	Amal Jyothi College of Engineering
79.	Mr. Rudra Tripathy	rudra1in@yahoo.com	9439491331	Mindtree Ltd
80.	Sachin Bhardwaj	Sachin.cse@cgce.edu.in	9418537240	Chandigarh Engineering College Landran
81.	Mr. Sahil Kukreja	sahilkukreja@cblu.ac.in	9992492684	Chaudhary Bansi Lal University, Bhiwani
82.	Mr. Saiesh Narcinva Prabhu Verlekar	saiesh.prabhuverlekar@gmail.com	9923481173	Shree Rayeshwar Institute of Engineering and Information Technology
83.	Mr. Saikat Biswas	saikat95biswas@gmail.com	7098903635	KABI JOYDEB MAHAVIDYALAYA
84.	Mr. SAKTHI S	sakthiccetest@gmail.com	8778309893	CHETTINAD COLLEGE OF ENGINEERING & TECHNOLOGY
85.	Mrs. Sandhya G V	sandhya.ganapathi14@gmail.com	9916356927	Bangalore Institute of Technology
86.	Miss Sangeetha Prabhu	sangeethaprabhu96@gmail.com	9731495292	College of Computer science and information science, Srinivas University
87.	Dr. R Sanjeev Kunte	sanjeevkunte@gmail.com	7795250455	J N N College of Engineering
88.	Mr. Sankeerthan R	sankee1020@gmail.com	7760359302	MANGALORE UNIVERSITY
89.	Mr. Santhoshkumar S P	santhosh.cse@rathinam.in	9944699551	RATHINAM TECHNICAL CAMPUS
90.	Mr. Saravana Kumar K	Saravanaeee54@gmail.com	7708170661	Tiruvalluvar polytechnic college
91.	Mr. Sarvesh Shivanand Rane	sarveshrane16@gmail.com	9019702803	Shree Rayeshwar Institute of Engineering & Information Technology
92.	Mr. Subash Chandra Sarangi	schsarangi@gmail.com	9474042129	Department of Personnel & Training
93.	Dr. Shivanand Seeri	seeri@kletech.ac.in	9844664391	KLE Technological University, Hubballi
94.	Mr. Shambhu Shankar Rai	Shambhu.Rai@bharativedyapeeth.edu	9730430376	Bharati Vidyapeeth's institute of Management and Information Technology, Navi Mumbai
95.	Mr. Shamshuddin K	shamshuddin@kletech.ac.in	8088288060	KLE Technological University
96.	Mr. Parveen Kumar Sharma	Sharmaparveen19@gmail.com	9416407750	Chandigarh Engineering college landran Mohali

ATAL workshop on Cyber Security and Forensics

No	Name	Email- ID	Phone	Institute Name
97.	Miss Shashikala V. Budni	shashikala@kletech.ac.in	9742844524	KLE Technological University HUBLI
98.	Mr. Shreenivasa Vithob Namadeva	shreenivas.namadev@gmail.com	9590093304	IGNOU STUDY CENTER, GOVT SCIENCE COLLEGE, NRUPATHUNGA ROAD, BENGALURU
99.	Mr. Siva Mohan S	sivamohan7@gmail.com	9841190076	SRMIST, KTR
100.	Mrs. Sunita K Salimath	sks@kletech.ac.in	6361354601	KLE Technological University Hubballi
101.	Mr. Suresh N Kanakeri	sn_kanakeri@kletech.ac.in	9886370075	KLE Technological University, Hubballi-31
102.	Mrs. Sonia Jenifer Rayen	sonia_rayen@yahoo.co.in	9962742851	Jeppiaar Institute of Technology
103.	Dr. Sudesh Kumar Garag	sudeshdsitm@gmail.com	9410815919	G. L. Bajaj Institute Of Technology And Management, Greater Noida
104.	Mrs. Sujata Kulkarni	sujatakulkarni@kletech.ac.in	9845667319	KLE Technological University
105.	Mrs. Sujata Oak	sujataoak123@gmail.com	9049736145	Ramrao Adik Institute of Technology
106.	Mr. Kailas	sukusva@gmail.com	9743064978	SHARNBASVA UNIVERSITY KALABURAGI
107.	Miss Sushmitha L M	sushmithalm@pestrust.edu.in	8296731459	PES Polytechnic
108.	Miss Swathi V	swathivvs2014@gmail.com	8296547227	PES POLYTECHNIC
109.	Miss Thamizh Amizhdhu G	thamizhamizhdhu@smvec.ac.in	7598269250	Sri Manakula Vinayagar Engineering College
110.	Mrs. Trusha Gaurang Joshi	trusha@irma.ac.in	9978341201	S P University
111.	Mrs. Tripti	vidhidimri@gmail.com	9634963261	government polytechnic chopta
112.	Mrs. Vidya Manoj Bharde	vidya.bharde16@gmail.com	8691057878	Mahatma Gandhi Missions college of Engineering and Technology, Navi Mumbai
113.	Vinay Jeedi	vinayjeedi@gmail.com	7995103697	DREAM(RESEARCH)
114.	Dr. Phemina Selvi M	vm.femina@gmail.com	9994267707	University College of Engineering Villupuram
115.	Mrs. Meenakshi V	vmeenakshi037@gmail.com	9535356982	JSS Polytechnic for Women

ATAL FDP - Cyber Security and Forensics at KLETech Session Recordings link

<https://drive.google.com/drive/folders/1P6OdNBVSbWAskJkaMZ2e6alyn868cUza?usp=sharing>

ATAL workshop on Cyber Security and Forensics

The screenshots of the participants taken on the closing are:-

KLE Technological University
Creating Value
Leveraging Knowledge

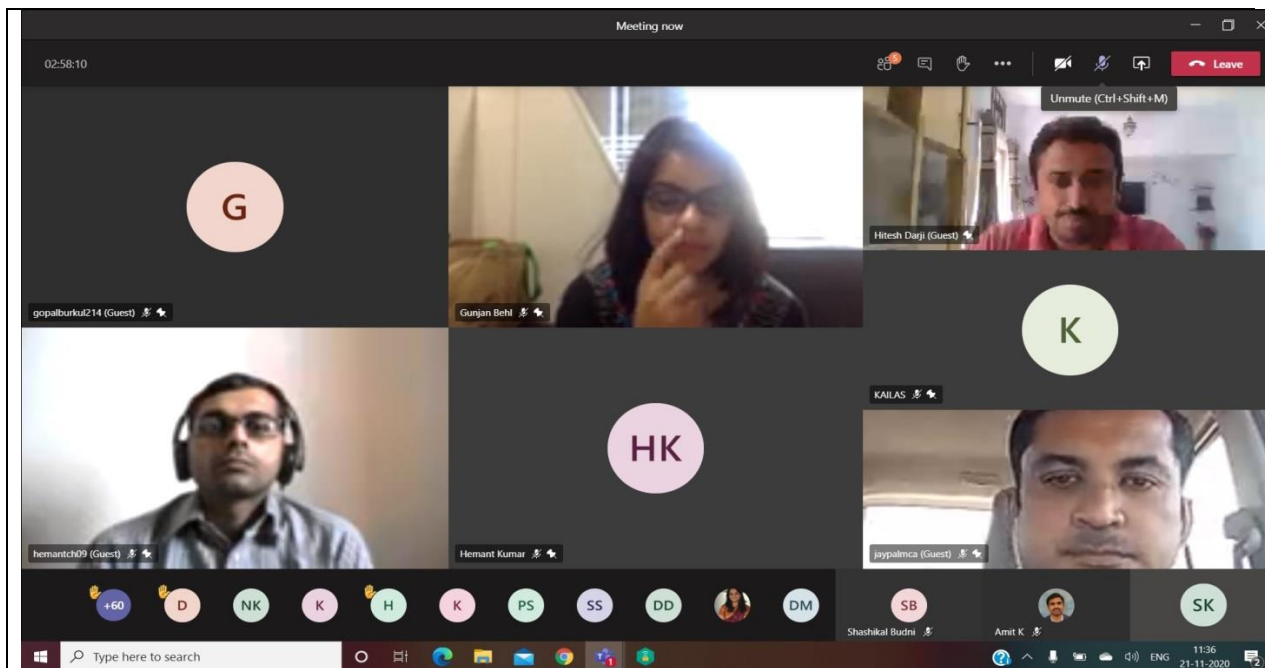
ATAL

Five Days Online FDP
Cyber Security and Forensics

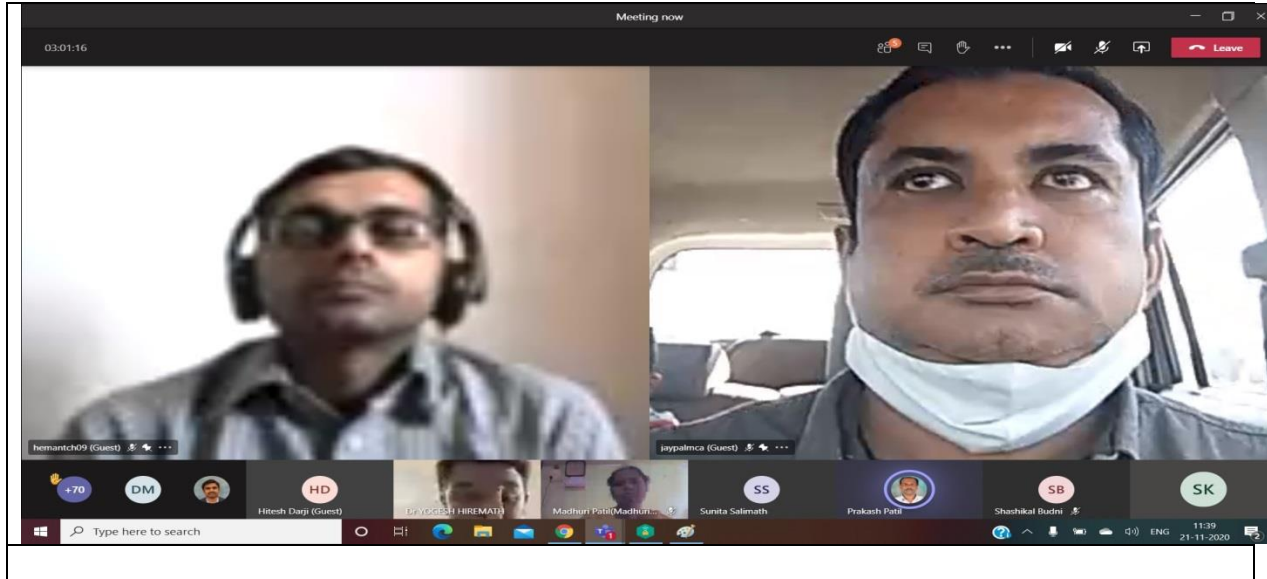
November 17th - 21st, 2020

Sponsored by:
AICTE TRAINING AND LEARNING (ATAL) ACADEMY

Organized by Dept. of MCA and SoCSE
KLE Technological University, Hubballi
Vidyanagar, Hubballi, Karnataka - 580031.
Website: www.kletech.ac.in



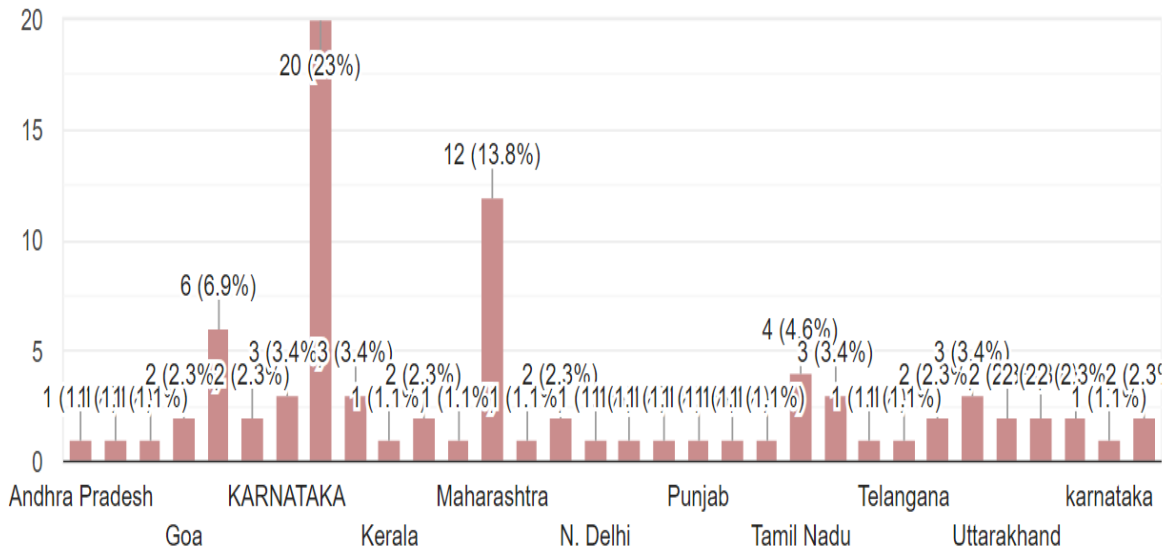
ATAL workshop on Cyber Security and Forensics



Some of the feedback received for the workshop are as below :

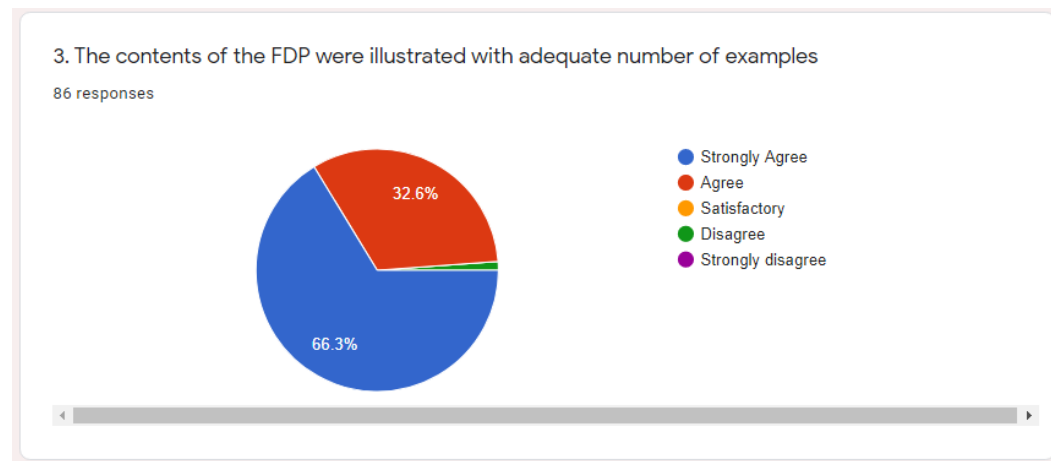
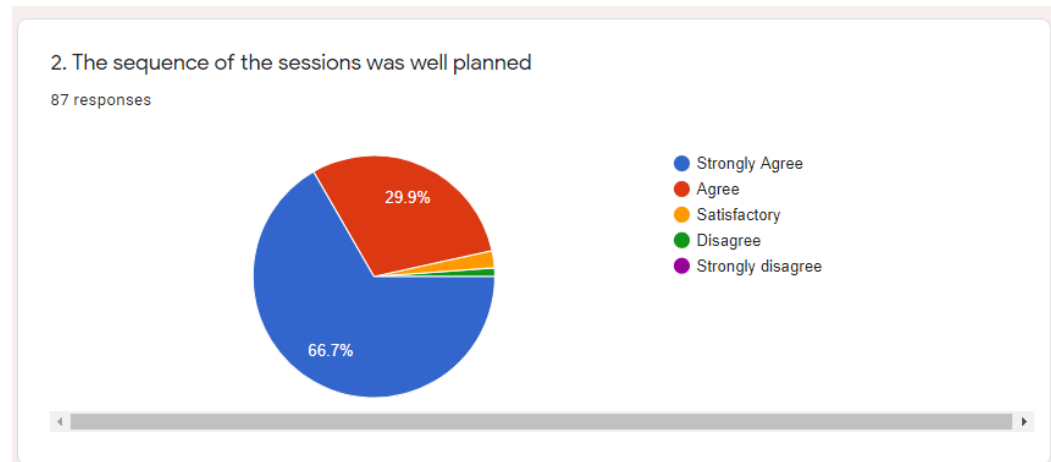
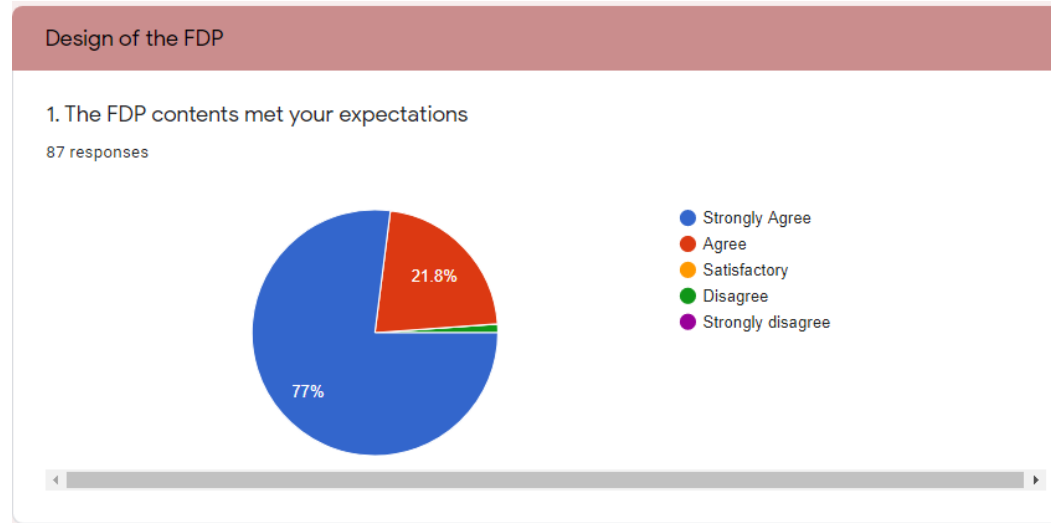
Statewide

87 responses



ATAL workshop on Cyber Security and Forensics

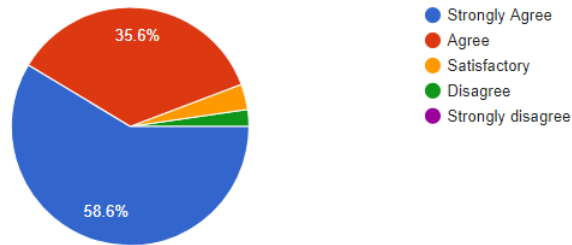
Feed Back Form response chart.



ATAL workshop on Cyber Security and Forensics

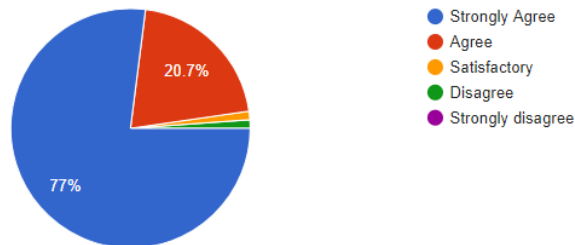
4. The contents presented by the resource persons in the FDP were too empirical

87 responses



5. The FDP exposed you to new knowledge and practices

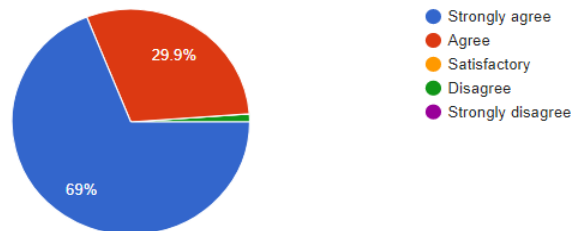
87 responses



The Conduct of the FDP :

1. The sessions were clear and easy to understand

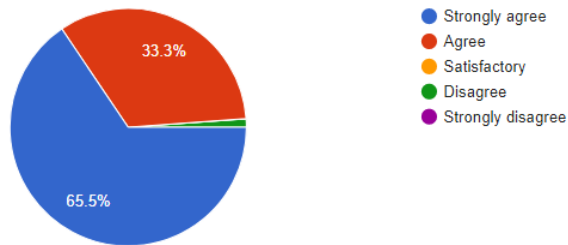
87 responses



ATAL workshop on Cyber Security and Forensics

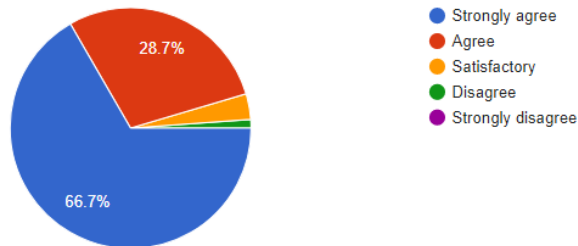
2. The illustration aids were effectively used

87 responses



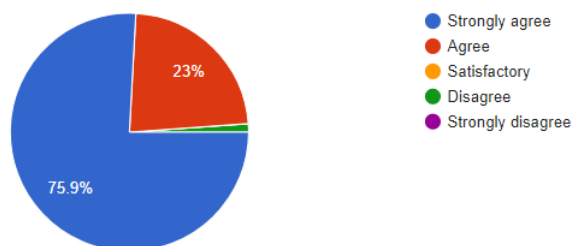
3. The material presented was adequate

87 responses

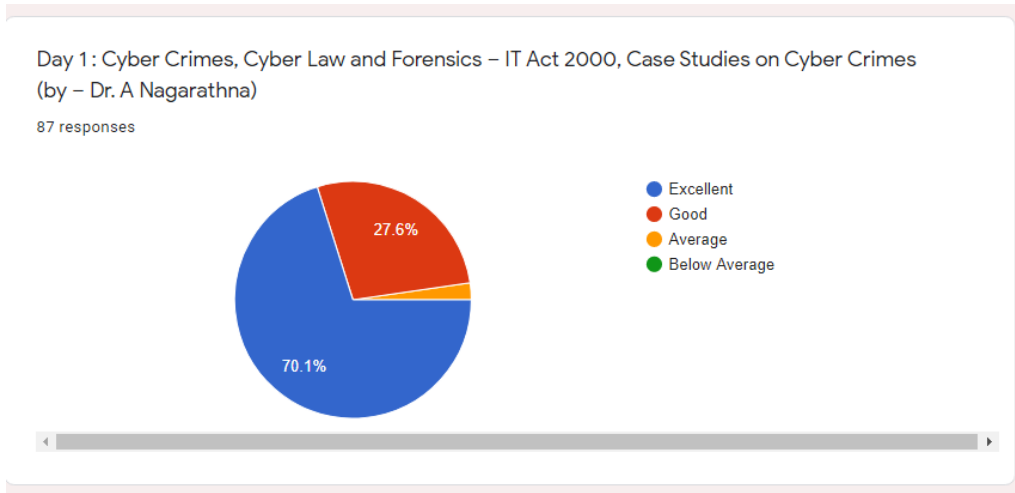
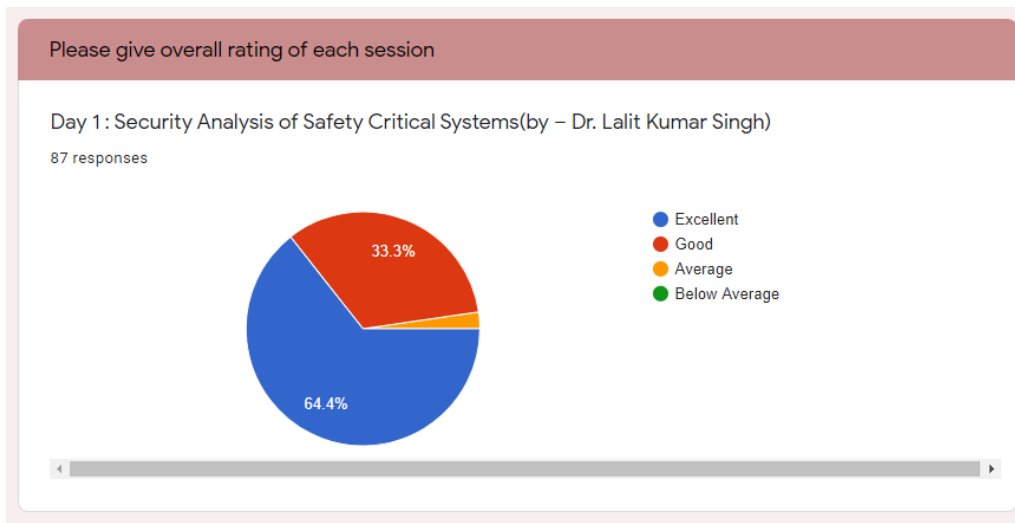
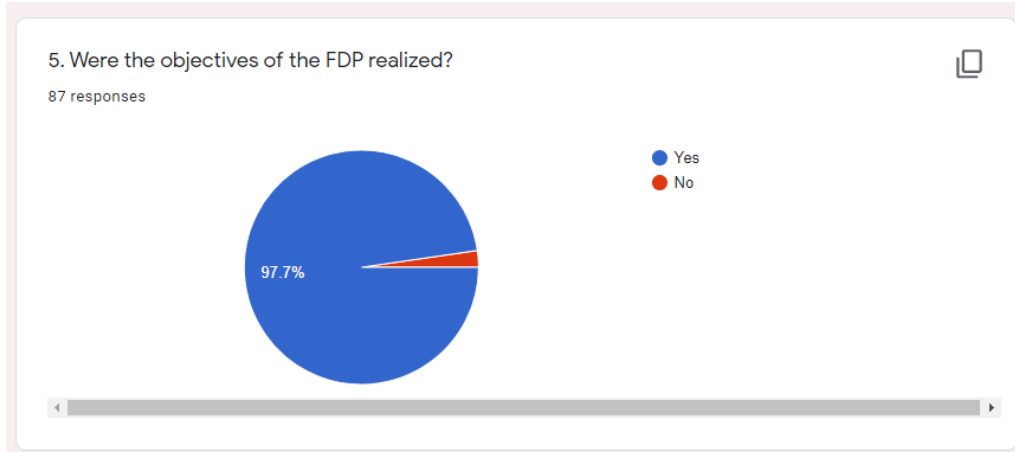


4. The resource persons encouraged interaction and were helpful

87 responses



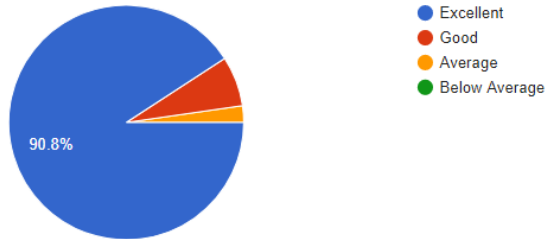
ATAL workshop on Cyber Security and Forensics



ATAL workshop on Cyber Security and Forensics

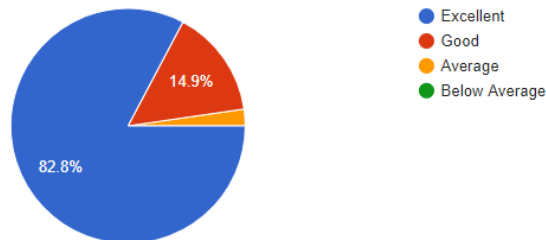
Day 2 & 3 : Cyber Security, Cyber-Attacks, Ethical Hacking, Kali Linux, Eavesdropping Attack & MITM Attack, Wireshark and BurpSuite, Web Application Fundamentals & Security (by – Mr. Robinson Dsouza)

87 responses



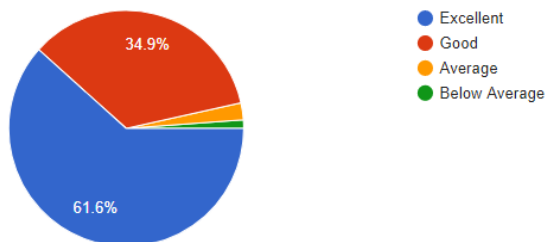
Day 4 : OWASP – Standards, Frameworks, Tools (by – Mr. M Murali)

87 responses

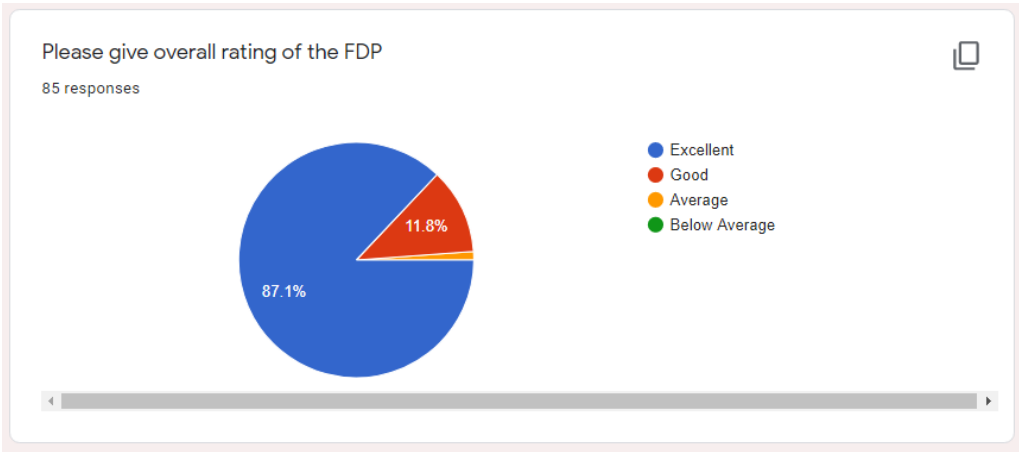
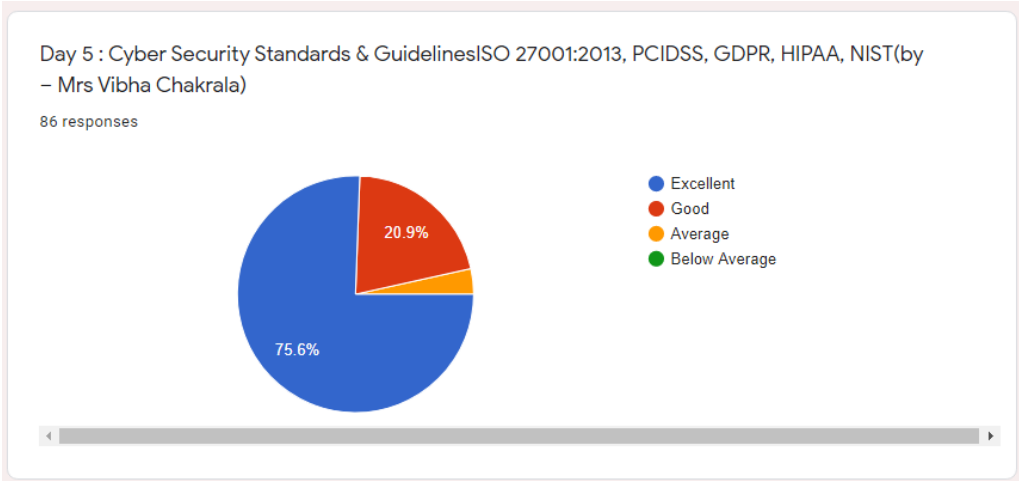
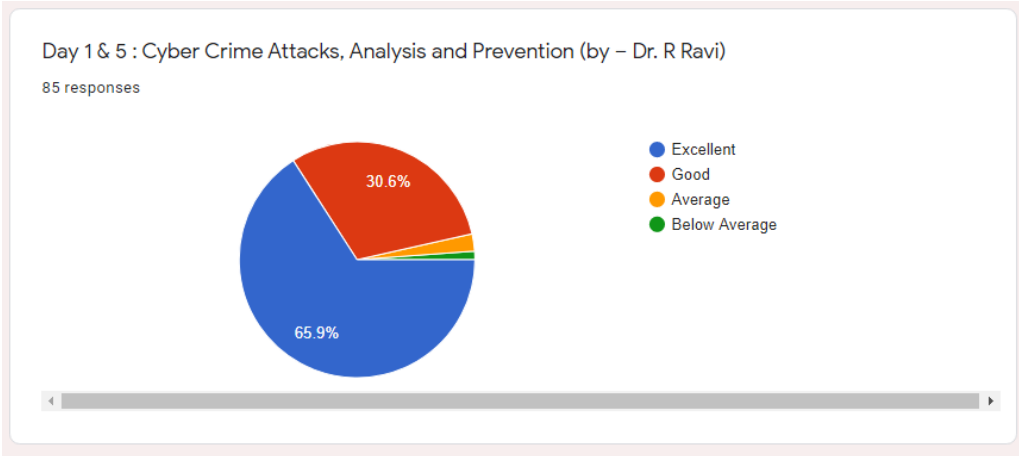


Day 5: Reliability Analysis of Communication module of Safety Critical Systems (by – Dr. Lalit Kumar Singh)

86 responses



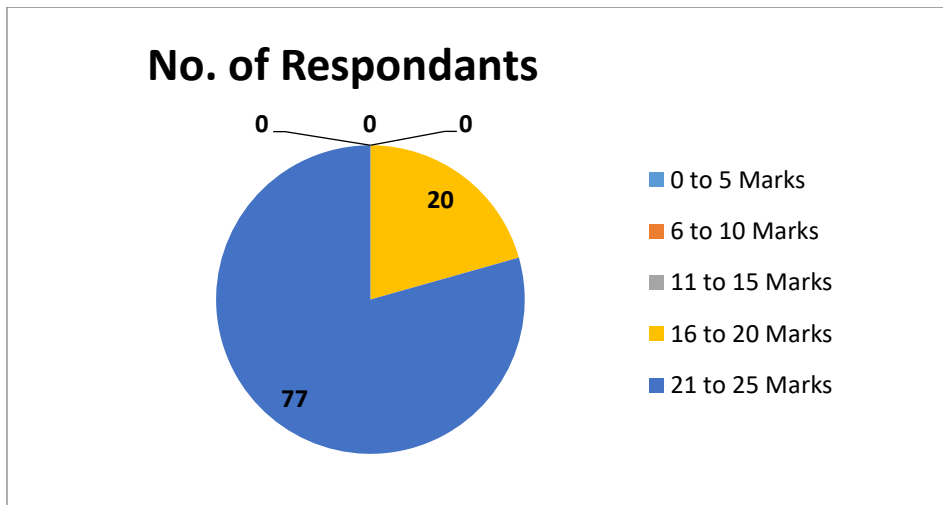
ATAL workshop on Cyber Security and Forensics



ATAL workshop on Cyber Security and Forensics

It was a great Initiative by ATAL Academy. I am thankful to AICTE for giving me this opportunity to conduct online FDP for faculty members of technical institutes of India free of cost. I got huge response for registration as well as lots of compliment of arranging the online workshop, content and hands on.

Result Analysis



ATAL workshop on Cyber Security and Forensics

Sanctioned Letter

Annexure-1



All India Council for Technical Education

(A Statutory body under Ministry of HRD, Govt. of India)
Nelson Mandela Marg, Vasant Kunj, New Delhi-
110070 Website: www.aicte-india.org



AICTE Training and Learning (ATAL) Academy, (Online FDP)

F. No. 01/AICTE/ATAL-HQ/2020-21/1581

Date: 03rd November, 2020

To
The Principal,
K L E Technological University,
BVB Campus, Vidyanagar,
Hubballi - 580031

Sub: Release of a sum of Rs. 93,000 /- for AICTE Training and Learning (ATAL) Academy programme Online FDP of Nine Thrust Areas and Other Emerging Areas.

Sir,

This is to convey the sanction of the Council for payment of Rs. 93,000 /- (Rupees Ninety -Three Thousand Only) for conducting of online AICTE Training and Learning (ATAL) Academy Programme (CYBER SECURITY) to K L E TECHNOLOGICAL UNIVERSITY, HUBBALLI, under AICTE Training And Learning (ATAL) Academy.

This fund is being released in conformity with the terms & conditions as well as norms of the scheme as already communicated, and also being communicated in this letter.

The instructions/guidelines to be followed by University/Institution

I. Release of funds and maintenance of accounts

- The University/College/Institute shall maintain proper accounts of the expenditure out of the grants, which shall be utilized only on approved items of expenditure.
- The cost for conducting per programme will be Rs. 93,000/- as per detail given as under:

1. Honorarium for Director	Rs. 10,000/-
2. Honorarium to Co-ordinator Rs.2000/- per day x 5 days	Rs. 10,000/-
3. Honorarium for experts (Rs.3000 per session for total 14 session)	Rs. 42,000/-
4. Provision for payment to Lab Attendant engaged during lab practices	Rs. 1,000/-
5. Institutional charges	Rs. 15,000/-
6. Miscellaneous charges	Rs. 15,000/-
TOTAL	Rs. 93,000/-

Programmes having permission to change amounts under different heads with overall ceiling of Rs. 0.93 lakh being intact.

- The grant is subject to the adjustment on the basis of Utilization Certificate in the prescribed proforma to be submitted by the University/College/Institution. Further, the accounts of the institute will be open for test check by the Council or Controller & Auditor General of India or any other officer designated by them.

II. Disbursement of funds to institutions

The full amount of the grant sanctioned will be released as an advance to the University/Institute through electronic transfer on the account of the University/Institute after submission of mandate form

III. Conduct of test and issuance of certificate

- A test shall be conducted by coordinator at the end of the program.
- The certificates shall be issued to those participants who have attended the program with minimum 80% of attendance and scored minimum 60% marks in the test.

P.T.O.....

Rohit Sheel
3.11.2020

TOP SECRET
PR. Delhi
General

11/11

ATAL workshop on Cyber Security and Forensics

Utilization Certificate

KLE TECHNOLOGICAL UNIVERSITY, VIDYANAGAR, HUBBALLI-580031,
KARNATAKA

UTILIZATION CERTIFICATE FOR THE FINANCIAL YEAR- 2020-2021

Name of the Scheme under which Grant was sanctioned: **AICTE Training and Learning (ATAL) Academy, (Online FDP)**
AICTE File No. :F. No. 01/AICTE/ATAL-HQ/2020-21/ 1581 Dated:03-11-2020
Name of Co-ordinator :Dr. Prakashgoud Patil
Dates of the Programme :17th to 21st Nov. 2020
Title of the ATAL Programme :Cyber Security and Forensics

Sl. No.	AICTE Sanction Order/Letter No. & Date under which grant was sanctioned	Amount (Rs.)	Certified that out of the grant-in-aid of Rs.93,000.00 (Rs. Ninety Three Thousand) sanctioned by the AICTE during the financial year 2020-21 in favor of KLE Technological University, Vidyanagar, Hubballi-580031, Karnataka as per letter mentioned in the margin, Rs. NIL(NA) on account of the unspent balance of the previous year, Rs. NIL on account of other income/receipts, a sum of Rs. 1,00,249.00 (Rs. One Lakh Two Hundred Forty-nine) has been utilized for the purpose for which it was sanctioned, and extra money of Rs. 7249.00 (Rs. Seven Thousand Two Hundred Forty-nine) has been borne by the institute.
1.	F. No. 01/AICTE/ATAL-HQ/2020-21/1581 Date: 3 rd November 2020	93,000.00	

Certified that I have satisfied myself that the conditions on which the grant-in-aid was sanctioned have been duly fulfilled and that I have exercised the following checks to see that the money was actually utilized for the purpose for which it was sanctioned.

Kinds of checks exercised: -

Audited Annual Accounts of the Institute
Receipt and Payment account
Periodical Progress Reports.

(Dr. Prakashgoud Patil)
Name and Signature of Co-ordinator with Seal
Head of the Department
Department of Master of Computer Applications
KLE TECHNOLOGICAL UNIVERSITY
HUBBALLI-580 031.

(Dr. N H Ayachit)
Name and Signature of Head of Institution with Seal

REGISTRAR
KLE Technological University
HUBBALLI-580 031

Signature of Chartered Accountant:

Name of Chartered Accountant:

Membership No: For, CHENNI ASSOCIATES
Chartered Accountants

Rubber stamp:

Full Address: CA. SURESH K. CHENNI
Proprietor
M.No.026214 FL.No.000228

Date: UDIN: 020026214 AAAAEF 9950
Date: 17-12-2020.

(Signature of Pooja R Kandoi)
Signature (with Seal) of the Finance/Account Officer
Name of the Finance Officer: Mrs. Pooja R Kandoi

FINANCE OFFICER
KLE TECHNOLOGICAL UNIVERSITY
HUBBALLI-580 031.
(If it is Govt./Govt. Aided Institute)



Note:-If it is more than one page, each page must be signed in all annexure

UDIN: 020026214 AAAAEF 9950

ATAL workshop on Cyber Security and Forensics

Statement of Expenditure

Annexure-III

AICTE Training And Learning(ATAL) Academy Programme

FORMAT FOR STATEMENT OF EXPENDITURE

AICTE File No. (As in Sanction Order/Letter): F. No. OI/AICTE/ATAL-HQ/2020-21/ 1581
 Dated : 03rd November, 2020
 Title of the Programme : Cyber Security & Forensics, Thrust Area: Cyber Security
 Name of the Coordinator : Dr. Prakashgouda Patil
 Application No: 1584349685 Workshop Id: 143

Sanction No. and Date	Grant Sanctioned in INR	Details of expenditure incurred item wise	Amount Rs. (in each head)	No. of Participants	Duration of the Programme (with dates)
F. No. OI/AICTE/ATAL-HQ/2020-21/ 1581 Date:03rd November, 2020	93,000/-	1. Honorarium for Director/Vicechancellor/H ead of Institution.	10000	98	5 Days, 17 th to 21 st Nov. 2020
		2. Honorarium to Coordinator Rs.2000/- per day x 5 days	10000		
		3. Honorarium for experts (Rs.3000 per session for total 16 session).	*48000		
		4. Institutional charges	15000		
		5. Miscellaneous charges	*16249		
		6. Provision for payment to lab attendant during lab practices	1000		
		Total	100249		
		Grant Received	93000		
		Balance to be Received	*7249		

* Note: ATAL-FDP has sanctioned remuneration for 14 sessions @ Rs.3000/session. To complete the syllabus of FDP 16 sessions were arranged. So, Rs. 6000/- extra remuneration has been paid and also miscellaneous charges increased by Rs. 1,249/-, Hence there was extra expenditure of Rs. 7249/-

(Dr. Prakashgoud Patil)

Name and Signature of Coordinator with Seal
Head of the Department
 Department of Master of Computer Applications
KLE TECHNOLOGICAL UNIVERSITY
 HUBBALLI-580 031.

(Dr. N H Ayachit)

Name and Signature of Head of Institution with Seal

REGISTRAR
KLE Technological University
 HUBBALLI-580 031

FINANCE OFFICER
KLE TECHNOLOGICAL UNIVERSITY
 HUBBALLI-580 031.

Signature (with Seal) of the Finance Officer/Auditor/Accounts Officer (If it is Govt./Govt. Aided Institute)



Signature of Chartered Accountant:

Name of Chartered Accountant: **For. CHENNI ASSOCIATES Chartered Accountants**

Membership No:

Rubber stamp:

CA. SURESH K. CHENNI
 Proprietor
M.No.026214 FR.No.0006223

Full Address:

Date:

VDIN: 020026214 AARNEF 9950
 Date: 17.12.2020

ATAL workshop on Cyber Security and Forensics

All India Council for Technical Education

Nelson Mandela Marg, Vasant Kunj, New Delhi – 110070

Mandate Form for Institute/College/University/Other Organisations

1	Name of the Beneficiary Institute	KLE Technological University, Hubballi-31
2	Permanent Id of Institute, if any	1-3626724751
3	Head of Institute (Tick one)	Registrar
4	Type of Institute (Tick one)	Private
5	Address of the Institute	BVB Campus Vidyanagar, Hubballi-580031, Karnataka, India
6	PAN No. of the Institute	AACAK9702A
7	GST No., if allotted	29AACAK9702A1ZV
8	E-mail id of Head of Institute	registrar@kletech.ac.in
9	Name of the Bank	CANARA BANK
10	Branch Name & Bank Code	BVB College Campus, 001244
11	Address of Bank with PIN Code	BVB College Campus, Vidyanagar, Hubballi-580031
12	Telephone No. of the Bank	PHONE: (0836) – 2378436, 2278093
13	Name of the Account Holder with Designation	Registrar KLE Technological University Hubli
14	Account Type (Tick One)	Savings Bank
15	Account Number	12442010009267
16	Bank Branch IFSC Code	SYNB0001244
17	Bank Branch MICR Code	580025011
18	Whether the Account is in the Name of Beneficiary Institute (Tick One)	Yes
19	Whether the Account is Operational (Tick One)	Yes
20	Whether the Account is No-Frill Account (Tick One)	No
21	Whether the Account is a Joint Account (if yes, give details)	No

It is declared that all the information provided above are true and complete in all respects.

(Signature of Account Holder with Designation) Certified that the above details are verified
Or Authorised Signatory on (date).....
With Institute Seal

Date: 13/08/2020

REGISTRAR
KLE Technological University
HUBBALLI-580 031

(Banker's Signature with Seal)



कृते केएच यू/For CANARA BANK
13/08/2020
उपरोक्त/परिचय प्रमाण/Manager/Sr.Manager,
सी.बी.टी. इंजीनियरिंग कॉलेज, हुबली-31
KLE ENGINEERING COLLEGE HUBBALLI-31

Date: 18-12-2020

Dr. Prakash R Patil
Coordinator ATAL-FDP
Professor and Head,
MCA Department
KLE Technological University,
HUBBALLI - 580 031
<https://kletech.ac.in>

DATE: 29-07-2020

CIRCULAR

Sub: One day workshop on Cybercrime and Cyber Security Resiliency.

With reference to the above subject, this is to inform that the Department of Master of Computer Applications, KLE Technological University, Hubli is conducting a **“One Day Workshop”** on the topic **“Cybercrime and Cyber Security Resiliency”** on 01st August 2020, 10:00 AM to 05:00 PM, at Master of Computer Applications class room.

The following speaker will deliver their address:

Mr. Shrinivas Kulkarni

Cyber Security Expert

You are hereby requested to inform the first and third-year students and faculty members of Master of Computer Applications department for the above said workshop.



Sign of HOD

Head of the Department
Department of Master of Computer Application
KLE TECHNOLOGICAL UNIVERSITY
HUBBALLI-580 031.

OBJECTIVES

The objectives of this workshop are:

1. Importance of cybersecurity and its impacts on the global economy
2. To provide fiscal benefits to businesses for adoption of standard security practices and processes.
3. To enable protection of information while in process, handling, storage & transit so as to safeguard privacy of citizen's data and for reducing economic losses due to cyber-crime or data theft.
4. To enable effective prevention, investigation and prosecution of cyber-crime and enhancement of law enforcement capabilities through appropriate legislative intervention

Speaker Information:

Mr. Shrinivas Kulkarni - Cyber Security Expert



Sign of HOD

Head of the Department
Department of Master of Computer Application
KLE TECHNOLOGICAL UNIVERSITY
HUBBALLI-580 031.

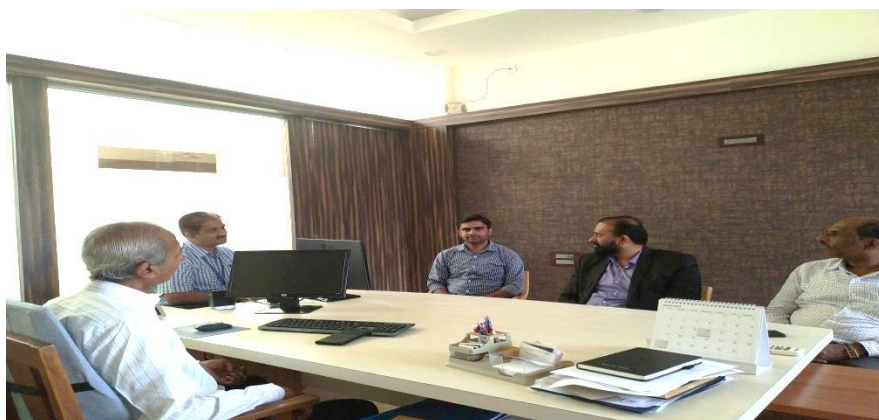
Workshop : -Cybercrime and Cyber Security Resiliency

Venue : MCA LAB1

Date: 01/08/2020

For MCA Students -72 students

Resource Person : From IT Industry: Mr. Shrinivas Kulkarni (Pursuing PhD) from Canada



Sign of HOD

Head of the Department
Department of Master of Computer Application
KLE TECHNOLOGICAL UNIVERSITY
HUBBALLI-580 031.



DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

Attendance Sheet

Event Title - Trends in Technology - Cyber Crime and Cyber Security Resiliency

Date - 01/08/2020

Sl. No	USN	Name
1.	01FM18MCA001	RASHMI PANCHAMUKHI
2.	01FM18MCA003	ARFA TAHSILDAR
3.	01FM18MCA004	MAHADEVI TOTIGER
4.	01FM18MCA005	RASHMI HATTALLI
5.	01FM18MCA006	KEERTI V MOKASHI
6.	01FM18MCA008	ASHWINI HAVANNAVAR
7.	01FM18MCA010	ABHISHEK MATH
8.	01FM18MCA012	LAVANYA D MUDENUR
9.	01FM18MCA013	S SHAHESTHAN ANJUM
10.	01FM18MCA014	NAGARAJ PRABHU GOBBI
11.	01FM18MCA018	YASHODA Y MEDAR
12.	01FM18MCA021	SHRUTI S PATIL
13.	01FM18MCA023	HARSHINI H S
14.	01FM18MCA025	POORNIMA B HANDIGOL
15.	01FM18MCA027	SHANTA G HOSAMANI
16.	01FM18MCA028	K POOJA
17.	01FM18MCA029	MARILYN PAPABATHINI
18.	01FM18MCA032	AISHWARYA V PULASKAR
19.	01FM18MCA033	VINAYAK S SHIROOR
20.	01FM18MCA034	HALESH N KURUBAGOND
21.	01FM18MCA036	SHRINIVAS MALI
22.	01FM18MCA037	AISHWARYA B SHAHAPURMATH
23.	01FM18MCA039	SHIVASHANKAR M H
24.	01FM18MCA042	SHEETAL S AKKI
25.	01FM18MCA044	GOURI SABARAD
26.	01FM18MCA047	SANGEETA C SALIMATH
27.	01FM18MCA049	SANDHYA PATIL
28.	01FM19MCA001	KALAGOUDA PATIL
29.	01FM19MCA003	KARTIK S PALLED
30.	01FM19MCA004	BORGI V MALLESHAPPA
31.	01FM19MCA005	KEERTHI A KALAL
32.	01FM19MCA006	SAQUB AHMED KHAZI
33.	01FM19MCA007	VAISHNAVI DIDI
34.	01FM19MCA008	SUSHMA KOUJALAGI
35.	01FM19MCA009	SUMA NEERALGI
36.	01FM19MCA010	RASHMI P KORAKOPPA
37.	01FM19MCA012	MEGHANA P BABAR
38.	01FM19MCA013	SOUJANYA S TELI
39.	01FM19MCA014	PRIYANKA ROKHADE
40.	01FM19MCA015	PADMAVATI PILLAI
41.	01FM19MCA016	USHA GANJI
42.	01FM19MCA017	BHARAT GUJAMAGADI
43.	01FM19MCA018	TAYYABA BALABATTI
44.	01FM19MCA019	TANUSHREE WALIKAR
45.	01FM19MCA020	POOJA U



DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

Sl. No	USN	Name
46.	01FM19MCA021	POOJA K B
47.	01FM19MCA022	RACHANA A B
48.	01FM19MCA023	SANGEETHA K G
49.	01FM19MCA024	PRARTHANA A CHARANKAR
50.	01FM19MCA025	KAVYA GOUDAR
51.	01FM19MCA026	AKASH M GORAVANAKOLL
52.	01FM19MCA027	APURVA DESHPANDE
53.	01FM19MCA028	PAVAN P MADIWALAR
54.	01FM19MCA029	SHRUTHI MUNAVALLI
55.	01FM19MCA030	SHREYAS SHANKAR
56.	01FM19MCA031	ROSELIN KATIPOGU
57.	01FM19MCA032	NAGARAJ G BHANDARKAR
58.	01FM19MCA033	MUBARAK JAMADAR
59.	01FM19MCA034	AKSHATA VINOD BHAT
60.	01FM19MCA035	ASHWINI HALLENNAVAR
61.	01FM19MCA036	PRIYA KAREKAR
62.	01FM19MCA037	SUDHA B MYAKERI
63.	01FM19MCA038	KANCHANA SHINDE
64.	01FM19MCA039	GOUTAM SHAM DAREKAR
65.	01FM19MCA040	ANKITA M SANGURMATH
66.	01FM19MCA041	NEHA M JOGUR
67.	01FM19MCA042	AKSHATA A PATIL
68.	01FM19MCA043	ANITA S GOUDAPPANAVAR
69.	01FM19MCA044	SANJEEV R
70.	01FM19MCA045	KAVYA B KITTALI
71.	01FM19MCA048	MANJUNATH KUSUGAL
72.	01FM19MCA049	PRAVEEN HALYALKAR



Sign of HOD
Head of the Department
Department of Master of Computer Applications
KLE TECHNOLOGICAL UNIVERSITY
HUBBALLI-580 031.

DATE: 31-08-2020

CIRCULAR

Sub: One day workshop on Cyber Security initiatives by GoK.

With reference to the above subject, this is to inform that the Department of Master of Computer Applications, KLE Technological University, Hubli is conducting a **“One Day Workshop”** on the topic **“Cyber Security initiatives by GoK”** on 03rd September 2020, 10:00 AM to 05:00 PM, at Bio-Technology Auditorium.

The following speaker will deliver their address:

Mr. Karthik Rao,
Centre Head, Centre of Excellence in Cyber Security (CySeck),
Government of Karnataka, Bengaluru

You are hereby requested to inform the students and faculty members of all the departments for the above said workshop.



Sign of HOD
Head of the Department
Department of Master of Computer Application
KLE TECHNOLOGICAL UNIVERSITY
HUBBALLI-580 031.

OBJECTIVES

The objectives of this workshop are:

1. To create a culture of cyber security India and privacy enabling responsible user behavior & actions through an effective communication and promotion strategy.
2. To develop effective public private partnerships and collaborative engagements through technical and operational cooperation and contribution for enhancing the security of cyberspace.
3. To enhance global cooperation by promoting shared understanding and leveraging relationships for furthering the cause of security of cyberspace.

Speaker Information:

Mr. Karthik Rao,
Centre Head, Centre of Excellence in Cyber Security (CySeck),
Government of Karnataka, Bengaluru,



Sign of HOD

Head of the Department
Department of Master of Computer Application
KLE TECHNOLOGICAL UNIVERSITY
HUBBALLI-580 031.

Workshop Details – Data Science with Python and ML

Event date – 9TH March 2020

Resource Person - Karthik Rao Bappanad

Centre Head, Center of Excellence in Cyber Security-GoK, IISc, Bangalore

Venue – BT Auditorium

Audience - 5th Sem MCA students & MCA Faculty, Along with all branch students

No. of participants - 278



Sign of HOD

Head of the Department
Department of Master of Computer Application
KLE TECHNOLOGICAL UNIVERSITY
HUBBALLI-580 031.



KLE Society's

KLE Technological University

DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS



DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

Attendance Sheet

Event Title - **Trends in Technology** -Cyber Security initiatives by GoK

Date - **03/09/2020**

Sl. No	USN	Name
1.	01FM17MCA001	AISHWARYA A KODLI
2.	01FM17MCA002	AKSHATA I HIRAGANNAVAR
3.	01FM17MCA003	AKSHAY KAVEESHWAR
4.	01FM17MCA004	ASHRITA BALAKRISHNA UPADHYA
5.	01FM17MCA005	BAHUBALI HATTIHOI
6.	01FM17MCA009	DIVYAINDIRA
7.	01FM17MCA010	GANGADHAR BOLESHWAR
8.	01FM17MCA011	GAYATRI KULKARNI
9.	01FM17MCA012	HRUSHIKESH KULKARNI
10.	01FM17MCA013	ISHWARI KONDAGULI
11.	01FM17MCA019	MALLIKA PINJAR
12.	01FM17MCA021	MEENAZANJUM ABDULAZIZ AURANG
13.	01FM17MCA022	MURAGESH K NAD
14.	01FM17MCA023	MURAGESH KOKATANUR
15.	01FM17MCA024	NIDHI RAO
16.	01FM17MCA025	NINGAMMA KANAJANVAR
17.	01FM17MCA026	NISMITA PADMANABHA SHETTY
	01FM17MCA027	PAVITRA M KALLAMMANAVAR
18.	01FM17MCA028	PAVITRA RAMAPPANAVAR
19.	01FM17MCA029	POOJA CHANGOLI M
20.	01FM17MCA031	POOJA SUNKAD
21.	01FM17MCA032	PRABHANJAN DESAI
22.	01FM17MCA033	PRATIKSHA ASHOK SHANBHAG
23.	01FM17MCA034	PRAVEEN B SINNUR
24.	01FM17MCA035	PRIYA B POOJARI
25.	01FM17MCA036	PRIYADARSHINI BIRADAR S
26.	01FM17MCA037	PRIYANKA NARAYANARADDI SASWIHALI
27.	01FM17MCA039	RAJASHREE S PATTANSHETTI
28.	01FM17MCA040	RAMESH G
29.	01FM17MCA041	RENUKA
30.	01FM17MCA042	SAGARIKA MOHAN NAIK
31.	01FM17MCA044	SHAMBHAVI CHOUDAPPANAVAR
32.	01FM17MCA045	SHWETA KURI
33.	01FM17MCA046	SHWETA SAJJAN
34.	01FM17MCA047	SIMRAN GHODKE
35.	01FM17MCA048	SPURTI SHRIDHAR KULKARNI
36.	01FM17MCA049	SUBRAMANYA KULKARNI
37.	01FM17MCA050	SUMAIYA KITTUR
38.	01FM17MCA051	SUSHMA KADABAGERI
39.	01FM17MCA052	SUSHMITA TIRLAPUR
40.	01FM17MCA054	VAISHALI R KOTENAVAR
41.	01FM17MCA055	VANAJAKSHI MULAMUTTAL
42.	01FM17MCA057	VIJAYLAXMI H GHATNUR
43.	01FM17MCA058	VINAYAK ANGADI
44.	01FM17MCA059	VINAYAK PUNDALIK BHOSLE
45.	01FM17MCA060	VISHAL RAVI BASHETTI
46.	01FM18MCA001	RASHMI PANCHAMUKHI



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Sl. No	USN	Name
47.	01FM18MCA003	ARFA TAHSILDAR
48.	01FM18MCA004	MAHADEVI TOTIGER
49.	01FM18MCA005	RASHMI HATTALLI
50.	01FM18MCA006	KEERTI V MOKASHI
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54.	01FM18MCA013	S SHAHESTHAN ANJUM
55.	01FM18MCA014	NAGARAJ PRABHU GOBBI
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70.	01FM18MCA044	GOURI SABARAD
71.	01FM18MCA047	SANGEETA C SALIMATH
72.	01FM18MCA049	SANDHYA PATIL
73.	01FE16BAR001	ABHIJITH V S
74.	01FE16BAR004	ADITYA V PATIL
75.	01FE16BAR005	AKSHAY NARAYAN BHAT
76.	01FE16BAR006	AKSHAY YADAWAD
77.	01FE16BAR007	AMRUT S M
78.	01FE16BAR011	APOORVA DINESH DODDAMANI
79.	01FE16BAR017	CHINMAY BHAGWAT
80.	01FE16BAR018	ELVIS ERIC G SOANS
81.	01FE16BAR024	Madduluri Pranay Rao
82.	01FE16BAR027	MUSKAN
83.	01FE16BAR030	NIKHIL SRINIVAS WADDAR
84.	01FE16BAR033	RAHUL GADKAR
85.	01FE16BAR042	SHREEHARI DHEERENDRA BAGALKOT
86.	01FE16BAR049	SWATI BASAVARAJ ANGADI
87.	01FE16BAR051	UMAIR AHMED MUJAHID
88.	01FE16BAR054	VIKAS JAMADANDI
89.	01FE16BAR057	YOGITA R KADAMMANAVAR
90.	01FE17BAR401	AMIT A DANI
91.	01FE17BAR402	K ABHISHEK
92.	01FE17BAR403	MADAN S YARAGATTI
93.	01FE17BAR405	SAMUEL MARA
94.	01FE17BAR406	SHANAWAZ M KITTUR
95.	01FE17BAR408	SIDRAMESHWAR KANTIKAR



DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

Sl. No	USN	Name
96.	01FE17BAR409	SIREESH R S MATHAD
97.	01FE17BAR410	VINAY NARAYAN ACHARI
98.	01FE16BBT003	AISHWARYA ANILKUMAR KORISHETTY
99.	01FE16BBT004	AISHWARYA BASAVARAJ MANTANVAR
100	01FE16BBT007	ANURADHA KOTI
101	01FE16BBT008	APARNA DEVARMANI
102	01FE16BBT009	ARATI GANESH LOHAR
103	01FE16BBT015	Chaitra G Soratur
104	01FE16BBT016	DEEPA R REVANKAR
105	01FE16BBT017	DEEPALI V PATIL
106	01FE16BBT018	DIKSHA SANJAY DESSAI
107	01FE16BBT021	LOHAR MANJIRI SHANKAR
108	01FE16BBT022	MAYUR KIRAN KANTHI
109	01FE16BBT023	MEETA M GAVADE
110	01FE16BBT025	MITHUN RATHOD
111	01FE16BBT027	NAMRATA P DODDAWAD
112	01FE16BBT030	NETRA H
113	01FE16BBT032	PUSHTI MAHESH DARBAR
114	01FE16BBT033	Ragini Girish Kerur
115	01FE16BBT037	RASHMY C MUDGAL
116	01FE16BBT038	REEMA S KAMBLE
117	01FE16BBT040	SAKSHI MALAGI
118	01FE16BBT041	SANJANA MORE
119	01FE16BBT042	SEQUEIRA LISA NAOMI
120	01FE16BBT045	SHREYA M S
121	01FE16BBT049	SOUMYA GARAWADMATH
122	01FE16BBT051	SWAGAT UPASE
123	01FE16BBT055	VENESSA DSOUZA
124	01FE16BBT056	SURAJ BASAVARAJ BUTALE
125	01FE16BBT057	PRANAV GIRISH BANVI
126	01FE15BCV001	ABHISHEK M PATIL
127	01FE15BCV002	ADIL SAYEED
128	01FE15BCV003	AISHWARYA B KIRESUR
129	01FE15BCV004	AKASH S KHANDRI
130	01FE15BCV005	AKASH VASANTH PADAKI
131	01FE15BCV006	AKSHATA KATTIMANI
132	01FE15BCV007	Akshay Kadagad
133	01FE15BCV008	AMRUT R MEGHARAJ
134	01FE15BCV009	Amrut V Shetti
135	01FE15BCV010	ANIRUDH KULKARNI
136	01FE15BCV011	ANJANA DHARWAD
137	01FE15BCV014	ANUP RAMESH KULKARNI
138	01FE15BCV015	ANURADHA MALLIKARJUN BALI
139	01FE15BCV016	ANURADHA R PRABHU
140	01FE15BCV018	APPANNA BARDOL
141	01FE15BCV019	Aravind Arakeri
142	01FE15BCV020	ARJUN GUGAWAD
143	01FE15BCV021	ARUNKUMAR S
144	01FE15BCV022	ASHWINI UMACHAGI



DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

Sl. No	USN	Name
145	01FE15BCV024	B C BHOO MIKA
146	01FE15BCV025	Basanagouda Patil
147	01FE15BCV026	BASAVANEPPA
148	01FE15BCV027	Basavaraj M Jambagi
149	01FE15BCV028	CHAITHANYA KUMAR K
150	01FE15BCV029	CHAITRA KALLATTI
151	01FE15BCV030	CHAITRA SINDAGI
152	01FE15BCV031	CHETAN AWATI
153	01FE15BCV032	CHETAN MADAGOUDAR
154	01FE15BCV033	CHETANKUMAR D DODDAMANI
155	01FE15BCV034	CHETHANA A N
156	01FE15BCV035	DARSHAN M HOOLI
157	01FE15BCV036	DEEPTESH PAWASAKAR
158	01FE15BCV037	DINESH NINGARAJ PUJARI
159	01FE15BCV038	GAJU PUJARI
160	01FE15BCV039	GANESH MANJUNATHGOWDA
161	01FE15BCV040	GAYATRI VAIDYA
162	01FE15BCV041	HAGE GAMBO GURO
163	01FE15BCV042	HALESH R T
164	01FE15BCV043	HARHSA RAMESH HOONUR
165	01FE15BCV044	HIPPARAGI ABHISHEK GURUBASAPPA
166	01FE15BCV046	KARTIK SHRAVANAKUMAR KATTI
167	01FE15BCV047	KAVAN MANKANI
168	01FE15BCV048	Kavya Ganganahalli
169	01FE15BCV049	Kiran V Gurlahosur
170	01FE15BCV050	KIRANRADDI GOVINDRADDI KIRESUR
171	01FE15BCV051	KIRTHI SARDA
172	01FE15BCV053	KUMAR
173	01FE15BCV054	MANJUNATH KURI
174	01FE15BCV056	MANJUNATHA BASAVARAJ RATI
175	01FE15BCV057	MEGHA DHONGADI
176	01FE15BCV058	MEGHANA HUBLI
177	01FE15BCV059	MOHAMMADHUSEN S YALAGI
178	01FE15BCV063	NAVNEET DESHPANDE
179	01FE15BCV064	NIKHIL M VERNEKAR
180	01FE15BCV065	NIVEDITA RAO
181	01FE15BCV066	PARASHURAM R MAHENDRAKAR
182	01FE15BCV067	PAVAN KUMAR
183	01FE15BCV068	PAVITRA S TOTAD
184	01FE15BCV069	POOJA B KONDAGOLI
185	01FE15BCV070	PRADEEP GURAPPA SANADI
186	01FE15BCV071	PRADEEP SADASHIV NAYAKODI
187	01FE15BCV072	Prajwal H Badiger
188	01FE15BCV073	PRITHVI M MEDLERI
189	01FE15BCV074	PRIYANKA D PUJAR
190	01FE15BCV076	PUNEET KULKARNI
191	01FE15BCV077	PUNYASHREE H M
192	01FE15BCV078	Rajalaxmi Bhandiwaddar
193	01FE15BCV079	RAMESH M BINNAL



DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

Sl. No	USN	Name
194	01FE15BCV080	RAMKRISHNA
195	01FE15BCV081	RAMYASHREE A G
196	01FE15BCV083	RAVINDRA SHRIDHAR NAIK
197	01FE15BCV084	RENUKA DESAI
198	01FE15BCV085	Rohan S Deshanur
199	01FE15BCV086	SAGAR
200	01FE15BCV087	SAMPATH KUMAR C M
201	01FE15BCV088	SAMREEN BEGUM HULLUR
202	01FE15BCV091	SANGAMESH BIDARAKUNDI
203	01FE15BCV092	SANJANA MAHALANK
204	01FE15BCV093	SANJEEVKUMAR DODAMANI
205	01FE15BCV094	SARTHAK NAYAK
206	01FE15BCV095	SHABARINATH A PATIL
207	01FE15BCV096	Sharat Bhat
208	01FE15BCV099	SHREYAS ABBIGERI
209	01FE15BCV100	Shriharsha S Pandurangi
210	01FE15BCV101	SHRUTI S BANDENAWAR
211	01FE15BCV102	SHUBHAM S JOSHI
212	01FE15BCV103	SIDDARTH PAWADABASAPPA GARASANGI
213	01FE15BCV105	SIDDU TELI
214	01FE15BCV106	SOUMYA S CHAVAN
215	01FE15BCV107	SOURABH KOTUR
216	01FE15BCV109	SUGAREDDI BENDEGUMBAL
217	01FE15BCV110	SUREKHA
218	01FE15BCV111	SUSHMITA KULKARNI
219	01FE15BCV112	SYED SARFARAAZ HUSSAIN
220	01FE15BCV113	TANUSHREE G PATIL
221	01FE15BCV114	Tarh Lellam
222	01FE15BCV116	TEJASHWINI MUTTAPPANAVAR
223	01FE15BCV117	TOKO KACHA
224	01FE15BCV118	VEENA N BHAJANTRI
225	01FE15BCV119	VIJAYALAXMI HORAKERI
226	01FE15BCV120	VINAYPRASAD SHEELAVANTAR
227	01FE15BCV121	VINOD LAMANI
228	01FE15BCV122	VISHAL GADAG
229	01FE15BCV123	VISHWASAGAR SARANGAMATH
230	01FE15BCV124	YALLALINGA HOSAMANI
231	01FE15BCV125	YASH R KOLEKAR
232	01FE15BCV126	AKASH POL
233	01FE15BCV127	AKSHAY HARAGON
234	01FE15BCV128	D MALATESH
235	01FE15BCV129	PALLAVI S MADAGUNAKI
236	01FE16BCV401	ABDULHAFIZ M BYAHATTI
237	01FE16BCV402	ABHISHEK C HIREMATH
238	01FE16BCV403	ABHISHEK GIDDALINGANNAVAR
239	01FE16BCV404	ADARSH Y GUDIHAL
240	01FE16BCV405	ADITYA M KALGUDI
241	01FE16BCV406	AKSHATA A KARADI
242	01FE16BCV407	AKSHAYKUMAR PATIL



DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

Sl. No	USN	Name
243	01FE16BCV408	Amar
244	01FE16BCV409	ANJALI V MUSTIPALLI
245	01FE16BCV410	ANMOL V AMARAPURKAR
246	01FE16BCV411	CHANNABASAPPA KURUNAKOPPA
247	01FE16BCV412	DARSHAN R BADDI
248	01FE16BCV413	JANAKARAJ M HALAMANI
249	01FE16BCV414	KIRAN LAMANI
250	01FE16BCV415	KUNDAN PAILWANAWALE
251	01FE16BCV416	MALLIKARJUN ASHOK KAROSHI
252	01FE16BCV417	MANJUNATH SHIRIGANNAVAR
253	01FE16BCV418	MANJUNATHA KARIYAPPA JADAR
254	01FE16BCV419	MOEEN DODWAD
255	01FE16BCV420	MOHAMMED AYUB TILAVALLI
256	01FE16BCV421	NAVEEN JAYARAJ TALAVAR
257	01FE16BCV422	PARAMANANDA HANAMASAGAR
258	01FE16BCV424	RAMESH VITHALRAO PATIL
259	01FE16BCV425	Shabbeer
260	01FE16BCV426	SHADAB AHMED MULLA
261	01FE16BCV427	SHIVANAND CHANDRAGUTTI
262	01FE16BCV428	SUMANTH KALLIHAL
263	01FE16BCV430	VILAS R POOJARI
264	01FE16BCV431	VINAY HUDED
265	01FE16BCV432	VINAY VEERESH KOTI
266	01FE16BCV434	VINOD KERIKAR
267	01FE16BCV435	Vishnu Kumar
268	01FE15BCV001	ABHISHEK M PATIL
269	01FE15BCS011	AISHWARYA MATTUR
270	01FE15BCS012	AISHWARYA S LANGOTI
271	01FE15BCS022	AKULA REVATHI
272	01FE15BCS028	ANJANA BURADIKATTI
273	01FE15BCS029	ANKITA P BENNI
274	01FE15BCS030	ANOOP RON
275	01FE15BCS040	B DINESH
276	01FE15BCS042	Basavaraj S Madagyal
277	01FE15BCS044	BHARATI DEVENDRAPPA LAMANI
278	01FE15BCS054	DEEPIKA BAGRECHA

Sign of HOD

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Department of Master of Computer Applicatio
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KLE Society's

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Application Filing Receipt

**Government of India
Patent Office**
Intellectual Property Office Building,
G.S.T. Road, Guindy,
Chennai -600032
Phone- 044-22502081-84
Fax: 044-22502066
e-mail: chennai-patent@nic.in

CBR Number : 29526

CBR date: 05-09-2020

Application Type: ORDINARY APPLICATION

Priority Number:

Priority Date:

Priority Country: Not Selected

To,

HALLAD, Shankar A.

LEXORBIS 709/710, Tolstoy House 15-17, Tolstoy Marg, New Delhi – 110 001 Telephone No. 91 11 23716565 Mobile No. 9811161518 Fax No. 91 11 23716556

Received documents purporting to be an application for patent numbered 202041038408 dated 05-09-2020 by HALLAD, Shankar A. of Kalidasnagar, Hubballi, India relating to Hydrophobic Coating of Biodegradable Material for Packaging Applications together with the Provisional and fee(s) of ₹1600 (One Thousand Six Hundred only).

Note:

1. In case of Patent Application accompanied by a Provisional Specification, a complete Specification should be filed within 12 months from the date of filing of the Provisional Specification, failing which the application will be deemed to be abandoned under Section 9(1) of the Patent Act, 1970.
2. You may withdraw the application at any time before the grant of patent, if you wish so. If, in addition to withdrawal, you also wish to prevent the publication of application in the Patent Office Journal, the application should be withdrawn within fifteen months from the date of priority of date of filing, whichever is earlier.
3. If not withdrawn, your application will be published in the Patent Office Journal after eighteen months from the date of priority of date of filing, whichever is earlier.
4. If you wish to get your application examined, you should file a request for examination in Form-18 within 48 months from the date of priority or date of filing, whichever is earlier, failing which the application will be treated as withdrawn by the applicant under Section 11(B)(4) of the Patent Act, 1970.

(For Controller of Patents)

Report

Demystifying Industry 4.0-Webinar

Objective:

Participants are able to:

1. Gain insights on Industry 4.0
2. Understand concepts from laymen perspective
3. Apply concepts in the related field

The webinar was conducted for faculties and students of Management institutes

Brochure:



The brochure is a vertical poster with a light yellow background and colorful geometric shapes at the top and bottom. It features logos for KLE Technological University, Razi Chavananna University (RCU)-Belagavi, School of Management Studies and Research (SMSR) KLE Technological University-Hubbali, and Kirloskar Institute of Advanced Management Studies (KIAMS)-Hubli. The central text reads: "Jointly Present A Webinar On 'Demystifying Industry-4.0'". Below this, it specifies the date as "Date: 18 June 2021" and time as "Time: 10:00 AM to 12:00 PM". A central graphic shows a circular diagram with "Industry 4.0" in the center, surrounded by icons for various technologies. The brochure lists the Chief Patron, Prof. M. Ramachandra Gowda, Vice-Chancellor of RCU, Belagavi. It also lists three Patrons: Prof. S.C. Padi (RCU, Belagavi), Prof. Jagdish Rajat (SMSR, Hubbali), and Prof. Biplob Kumar Biswal (KIAMS, Hubli). Under Resource Persons, it lists Mr. Navin Kulkar (Freelancing Industry Professional, Mumbai), Prof. Chetan V. Nimmath (Associate Professor, KIAMS, Hubli), and Prof. G.S. Waniath (Professor, SMSR, Hubli). At the bottom, it provides a Registration Link, Faculty Coordinator Prof. Vinayak Banakar (Associate Professor, SMSR), and contact details: Email: vinayak_banakar@kitech.ac.in, Mobile: 9686276318.

Notice for the Faculties:

School of the Management Studies and Research, has planned to organize Webinar on Demystifying Industry-4.0 on 18 June 2021. The resource persons for the event are

1. Mr.Navin Kolhar Practising Industry Professional, Bengaluru.
2. Prof.CHetan Hiremath, Associate Professor, KIAMS-Harihar.
3. Prof.G.S.Hiremath,Professor SMSR,KLE Technological University Hubballi.

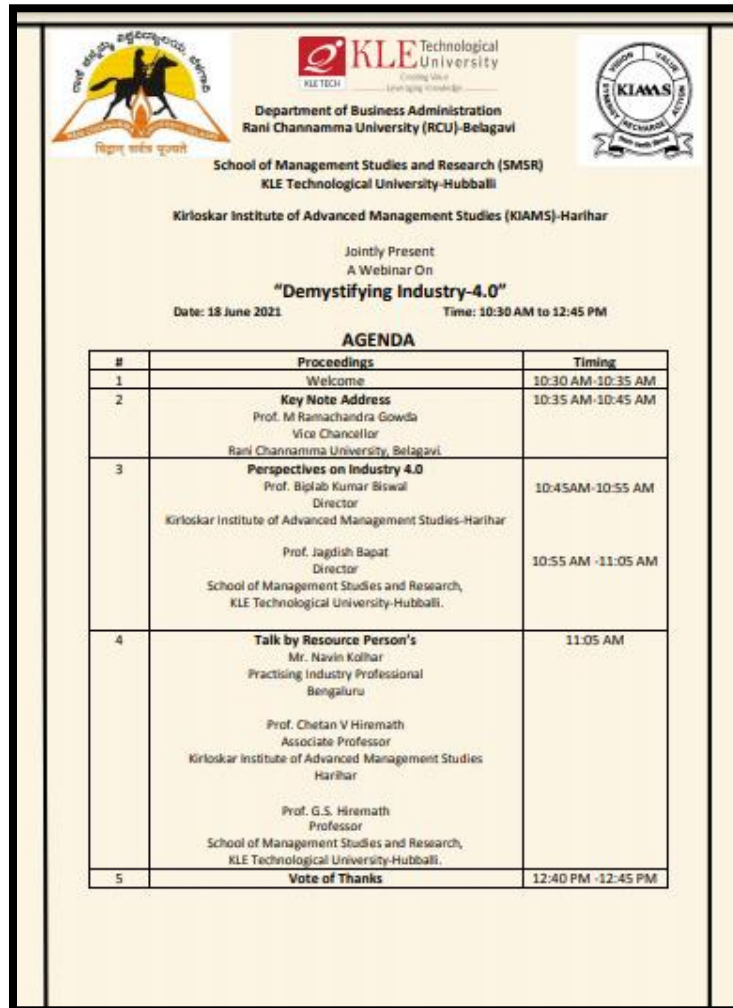
This workshop is expected to benefit students and faculties of Management Institutions in simplifying concepts pertaining to Industry-4.0

Demystifying Industry-4.0

Date: 18 June 2021

Platform: MS Teams

AGENDA



The poster features logos for KLE Technological University, Rani Channamma University (RCU)-Belagavi, and Kirloskar Institute of Advanced Management Studies (KIAMS)-Harihar. It details the event as a webinar on "Demystifying Industry-4.0" held on June 18, 2021, from 10:30 AM to 12:45 PM. The agenda table is as follows:

#	Proceedings	Timing
1	Welcome	10:30 AM-10:35 AM
2	Key Note Address Prof. M Ramachandra Gowda Vice Chancellor Rani Channamma University, Belagavi.	10:35 AM-10:45 AM
3	Perspectives on Industry 4.0 Prof. Biplob Kumar Biswal Director Kirloskar Institute of Advanced Management Studies-Harihar	10:45AM-10:55 AM
	Prof. Jagdish Bapat Director School of Management Studies and Research, KLE Technological University-Hubballi.	10:55 AM -11:05 AM
4	Talk by Resource Person's Mr. Navin Kolhar Practising Industry Professional Bengaluru Prof. Chetan V Hiremath Associate Professor Kirloskar Institute of Advanced Management Studies Harihar Prof. G.S. Hiremath Professor School of Management Studies and Research, KLE Technological University-Hubballi.	11:05 AM
5	Vote of Thanks	12:40 PM -12:45 PM

Resource Person:

1. Mr.Navin Kolhar Practising Industry Professional,Bengaluru.
2. Prof.CHetan Hiremath, Associate Professor, Kirloskar Institute of Advanced Management Studies-Harihar.
3. Prof.G.S.Hiremath,Professor, School of Management Studies and Research, KLE Technological University Hubballi.

Participants Details:

#	Full Name with Prefix (Dr/Prof/Mr/Ms)	Designation	Name of the Organisation/Institution	Name of the University	City
1	Dr G S Hiremath	Professor	KLE Technological University	KLE Technological University	Hubli
2	Mr Hrishikesh Sarode	Executive-Admission	Kirloskar Institute Of Advanced Management Studies	Private	Harihar
3	Ms Pranita Somaprasanna	Student	Rani Channamma University	Rani Channamma University	Belagavi
4	Ms sushmita shivanand awati	Student	Rani channamma university belagavi	Rani channamma university belagavi	Belagavi
5	Mr. Omvinayak Patil	Student	Rani Channamma University	Rani Channamma University	Sankeshwar
6	Mr Abhishek Patil	MBA	Rani Channamma University. Belagavi	Rani Channamma University	Belagavi
7	Mr. Akash Namadev Bagadi	Student	Rani channamma university, Belagavi	Rani channamma university, Belagavi	Belagavi
8	Ms chaitranjali b karadipatil	MBA student	Rani channamma university	Rani channamma university	Belagavi
9	Mr Vinayak Dhanapal Neje	Student	Rani Channamma University Belagavi	Rani Channamma University Belagavi	Belagavi
10	Mr. Amoghavarsh. M Rayannavar	Student	Rani Channamma University Belagavi	Rani Channamma University Belagavi	Belagavi
11	Ms. Kavita shivagunda honnappannavar	Student	R C U	RCU	Belagavi
12	Mr Basavaraj	Student	Rani channamma University belagavi	Rani channamma University belagavi	Belagavi
13	Ms Shridevi kurabet	Student	Rani Channamma university Belagavi	Rani channamma university Belagavi	Katkol
14	Ms.Aishwarya	MBA	RCU	RCU	Belgavi
15	Ms Nivedita Patil	Student	RCU University belagavi	RCU University belagavi	Belagavi
16	Mr. Akash	Student	RCU Belagavi	Rani Channamma	Belagavi

	Suresh Kamble			University Belagavi	
17	Ms Ashwini T S	MBA 2nd Sem	SMSR	KLE	Hubli
18	Ms. Spoorthi kulkarni	Student	K	KLE Technological University	Hubli
19	Mr. Raghuv eer Arkeri	Student	SMSR	KLE Technological university	Hubli
20	Mr.Prateek Patil	MBA	School of management studies and research	Kle technological University	Hubli
21	Ms.Pooja Payagond	Student	School of management studies and research	KLE	Hubli
22	Ms. Rohini Anavekar	Student	School of Management Studies and Research (SMSR), KLE Technological University, Hubballi	KLE Technological University	Hubballi
23	Ms. Vanita Shridhar Chandavar	Student	School Of Management Studies And Research	KLE technological university	Hubballi
24	Ms Aishwarya Patil	Student	School of Management Studies and Research	KLE Technological University	Hubli
25	Manjunath H M	Student	KLE SMSR	KLE Technological University	Hubli
26	Mr K Raghvendra Rao	MBA	SMSR BVB HUBBALLI	Kle technological University	HUBBALLI
27	Manjunath D M	Student	SMSR BVB HUBLI	KLE Technological University	HUBLI
28	Ms Sushma Rudragoudra	MBA	Rani channamma university	Rani channamma university belgavi	Belgavi
29	Rashmi J	MBA	KLE tech (SMSR)	KLE technology of University	Hubli
30	Ms.Vanita chikkalagi	MBA	Rani channamma university belagavi	Rani channamma university belagavi	belagavi
31	Ms.Sannidhi	Mba	School of management studies and research	Kle technological University hubli	HUBBALLI
32	Ms. Sneha Nimbayi	MBA	KLE Technology University(SMSR) Hubli	KLE Technology University	Hubli
33	Mr. Kiranakumar Patil	Student : Pursuing MBA	SMSR : School of Management Studies and Research	KLE Technological University Hubli.	Vijayapur

34	Ms. Souparnika Pandit	Student	School of Management Studies and Research	KLE Technological University	Hubli
35	Ms.Arпита Mallanagoudar	Persuing MBA	School of management studies and research	KLE technological University Hubli	Hubli
36	Veereshwari shivapujiyavar	Student	KLE Technological university SMSR	KLE Techonological university bvb college	Navalgund
37	Kiran Torgalmath	Student	KLE SMSR	KLE technological University	MUDHOL
38	Ms. Daneshwari Guntakall	Student	SCHOOL OF MANAGEMENT STUDIES AND RESEARCH	KLE TECHNOLOGICAL UNIVERSITY HUBBALLI	Hubballi
39	Kumararama	MBA	SMSR	KLE	Hubli
40	Ms Aishwarya Gundawan	Student	KLE institute of technology	Aishwarya Gundawan	BIJAPUR
41	MS Preeti Vasawade	Student	SMSR	Kletech university	Hubali
42	Mr.Rahul Bani	Student	Rani Channamma University,Belagavi	Rani Channamma University,Belagavi	Belagavi
43	MS SANMATI KADDU	Student	Rani channamma university belagavi	Rani channamma university belgavi	Belgavi
44	Pramod sagare	M B A	R c u	R c u	Belagavi
45	Ms. Geeta Bendigeri	Student	Kle Technology - Hubballi	KLE University	Hubali
46	Dr Sumukh Hungund	Assistant Professor	MIT, Manipal	MAHE	Manipal
47	Mr akhil naik	Student	School of management studies and research	Kle technological university	Hubli
48	Ms. Saania Mulla	Student	KLE Technological University	School of Management Studies and Research, Hubballi	Hubballi
49	Mr. Amit Brijawasi	Student	SMSR	KLE TU	Hubli
50	Mr Santosh s k	Student	School of management study and research	KLE university SMSR Hubli	Haveri
51	Mr Santosh S K	Student	School management Studies of research	KLE university SMSR	Haveri
52	Ms. M Manisha	Student	School of Management and	KLE Technological University	Hubli

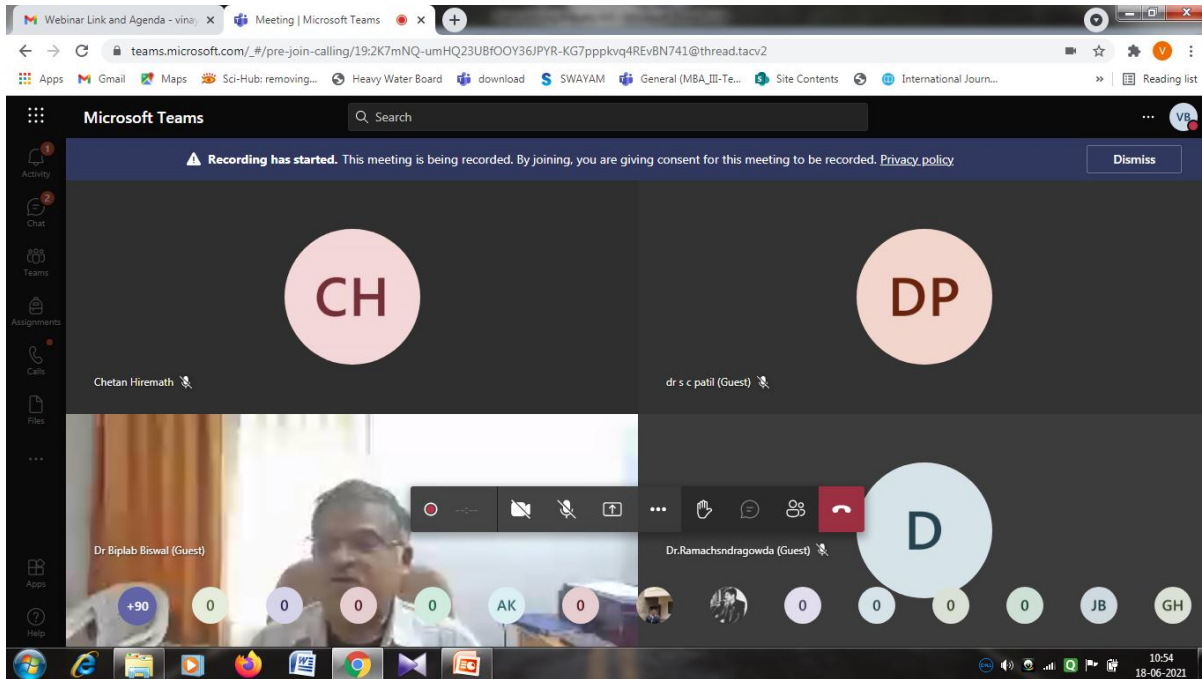
			Studies Research		
53	Mr. Modugula Trinath Reddy	Student	Kirloskar Institute of Advanced Management Studies	Kirloskar Institute of Advanced Management Studies	Davanagere
54	Ms. Rojali Parida	Student	Kirloskar Institute of Advanced Management Studies, Harihar	Kirloskar Institute of Advanced Management Studies, Harihar	Harihar
55	Ms. Sushma kumari	Student	Kirloskar institute of advanced management studies	Kirloskar institute of advanced management studies	Harihar
56	Ms Peram Jyothi	Student	Kirloskar institute of advanced management studies	Kirloskar institute of advanced management studies	Harihar
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59	Mr	Student	KIRLOSKAR INSTITUTE OF ADVANCED MANAGEMENT STUDIES	KIRLOSKAR INSTITUTE OF ADVANCED MANAGEMENT STUDIES	Harihar
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64	Ms. Namrata Pradhan	Student	Kirloskar Institute of advance management and studies	Kirloskar Institute of advance management and studies	Harihar
65	Antara Ghanty	Student	Kirloskar institute of advanced	KIAMS	Harihar

			management studies		
66	Mr. Vikash Kumar Singh	Student	Kirloskar Institute of Advanced Management Studies	KIAMS	Harihar
67	Ms Pragati Bilawadi	Student: pursuing MBA	School of management studies and research	KLE technological University Hubli	Hubli
68	Ms shakunthala.s	Student	KIAMS	Delhi University	Harihar
69	Mr Siddarth P M	MBA	KLE technological university	Dharwad	Hubli
70	Miss. Mrudula M	Student	KLE Technological University SMSR, Hubballi	KLE Technological University, SMSR, Hubballi	Hubballi
71	Ms Anamika Kumari	Student	Kirloskar Institute Of Advanced Management Studies	Kirloskar Institute Of Advanced Management Studies	Harihar
72	Manisha Subhadarshini	Student	Kirloskar Institute of Advanced Management Studies	Kirloskar University	Harihar
73	Mr. B N Manoj	Student : pursuing MBA	School of Management Studies And Research(SMSR)	KLE Technological University	Hubli
74	Ms Kanapartha Sadhana	Student	Kirloskar Institute of Advanced Management Studies, Harihar	KIAMS	Davangere
75	Mr.Gali Sai Prudhvi	Student	Kirloskar institute of advanced management studies	KIAMS	Harihar
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78	Mr Ritunjay Jain	Student	Kirloskar Institute of Advance Management Studies	AICTE	Harihar
79	Miss Vaishnavi V Deshpande	Student	KLE SMSR	KLE Technology University	Hubli
80	Mr ANKEM RAMA KRISHNA	Student	KIAMS	KIAMS	Vijayawada

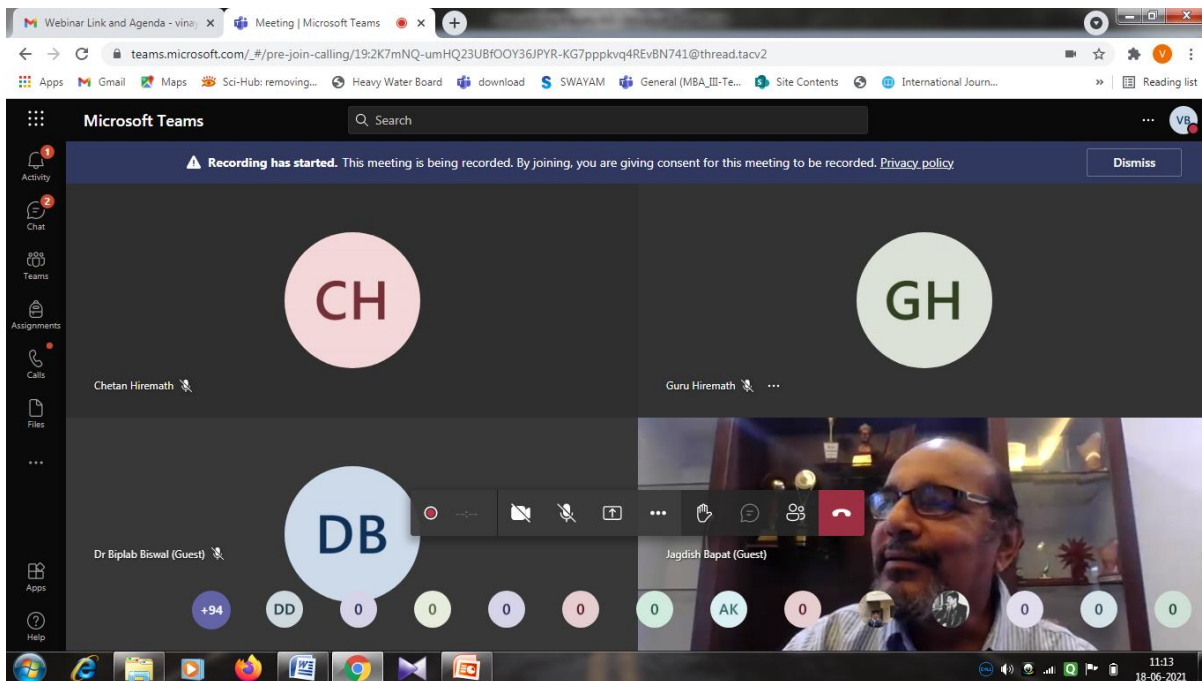
81	Ms. Koyel Roychowdhury	Student	Kirloskar Institute of Advanced Management Studies	Kirloskar Institute of Advanced Management Studies	Davangere
82	Prof.Brijmohan A.Vyas	Assistant Professor	Basaveahwar Engineering College (A) Bagalkot	VTU Belagavi	Bagalkot
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85	Ms. Pooja Singh	Student	Kirlosker institute of advanced management studies	Kirlosker institute of advanced management studies	Harihar
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87	Mr. D. Dileep Mani Kumar	Student	Kirloskar Institute of advanced management studies, harihar	Kirloskar Institute of advanced management studies, harihar	Harihar
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93	Mr G.Anuraag	Student	Kirloskar institute of advanced management studies,harihar	Davanagere university	Davanagere
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106	Megha Medar	Student	Rain channamma university belagavi	Rani channamma university belagavi	Belagavi
107	Prof. Basavaraj Sulibhavi	Assistant Professor	Jain College of Engineering Belagavi	Visvesvaraya Technological University Belagavi	Belagavi
108	Ms. Bharathi V Sunagar	Assistant Professor	SDM COLLEGE OF ENGINEERING AND TECHNOLOGY	Visvesvaraya Technological University	Dharwad
109	Dr. Savita Kulkarni	Professor & Director	BLDEA'S ASP College of Commerce (A) MBA Program Vijayapur Karnataka	RCU Belgavi	Vijayapur
110	Dr Vikram Kulkarni	Associate Professor	IBMR B-SCHOOL	Karnataka University Dharwad	Hubballi
111	Dr Nagaraj BV	Associate professor	KIAMS	KIAMS	HARIHAR

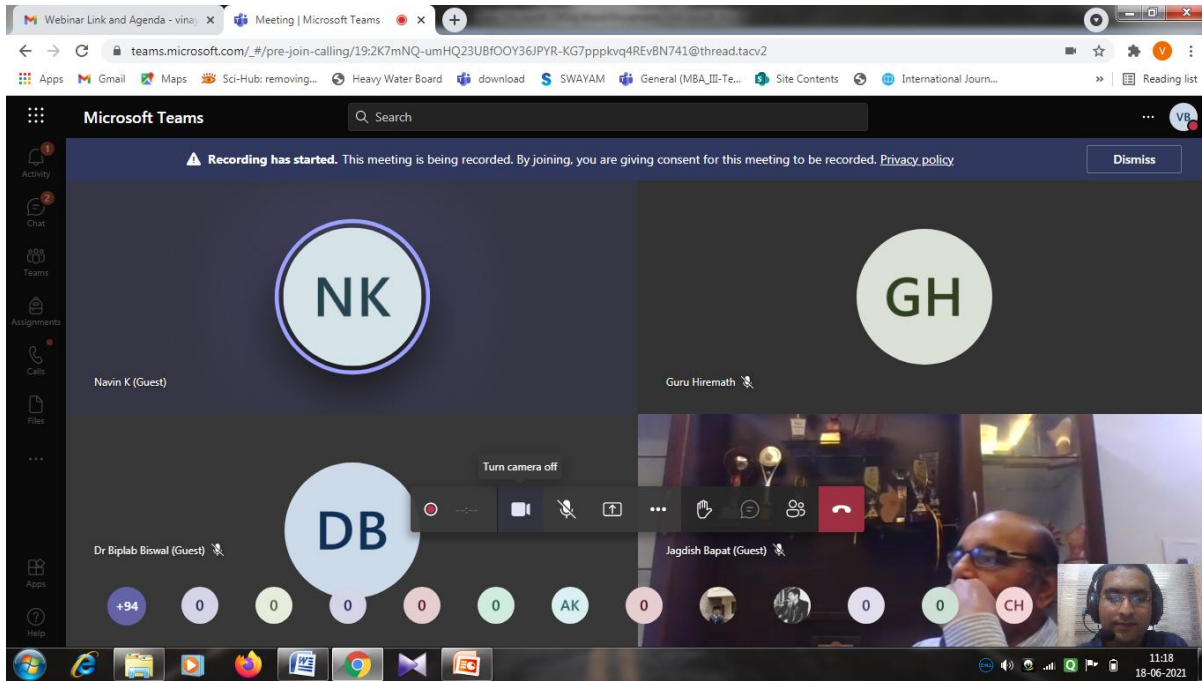
Participants Attendance Details



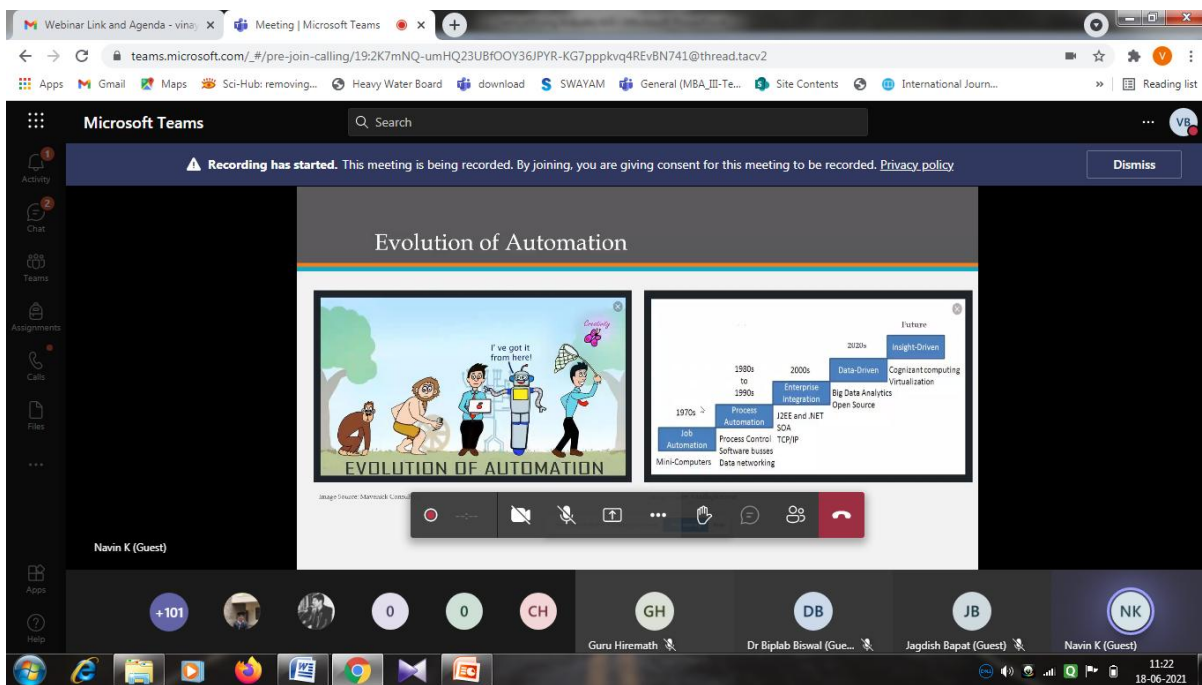
Prof. Biplab Kumar Biswal addressing the Webinar



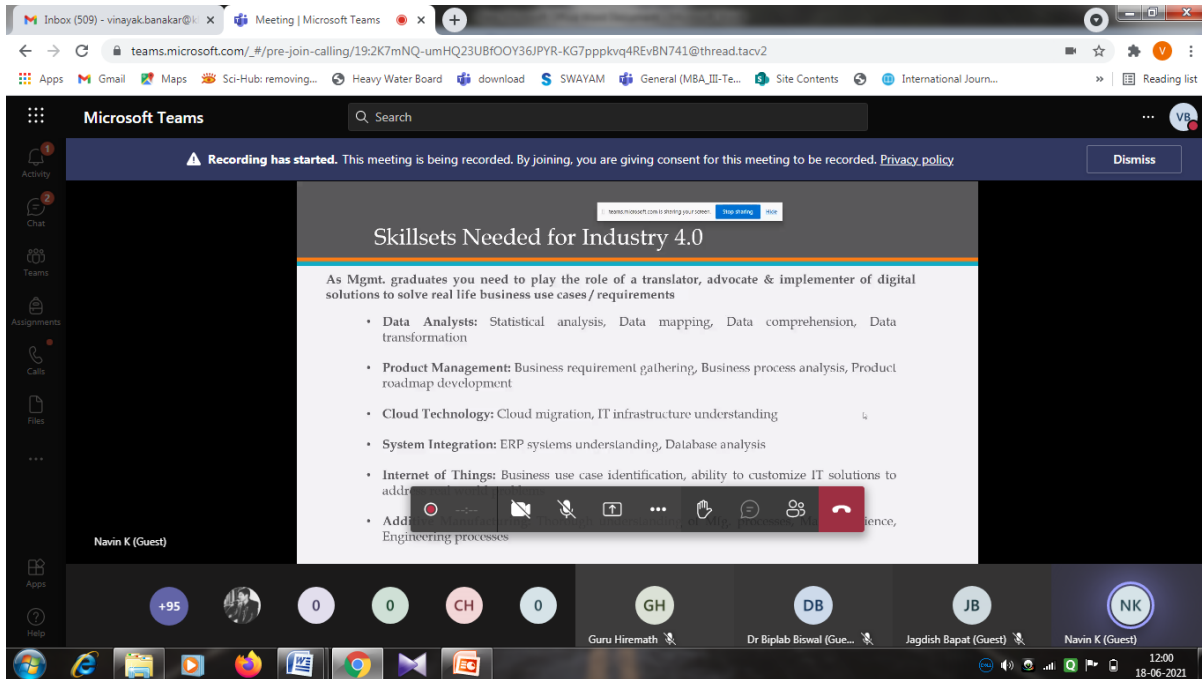
Prof. Jagdish Bapat Addressing the Webinar



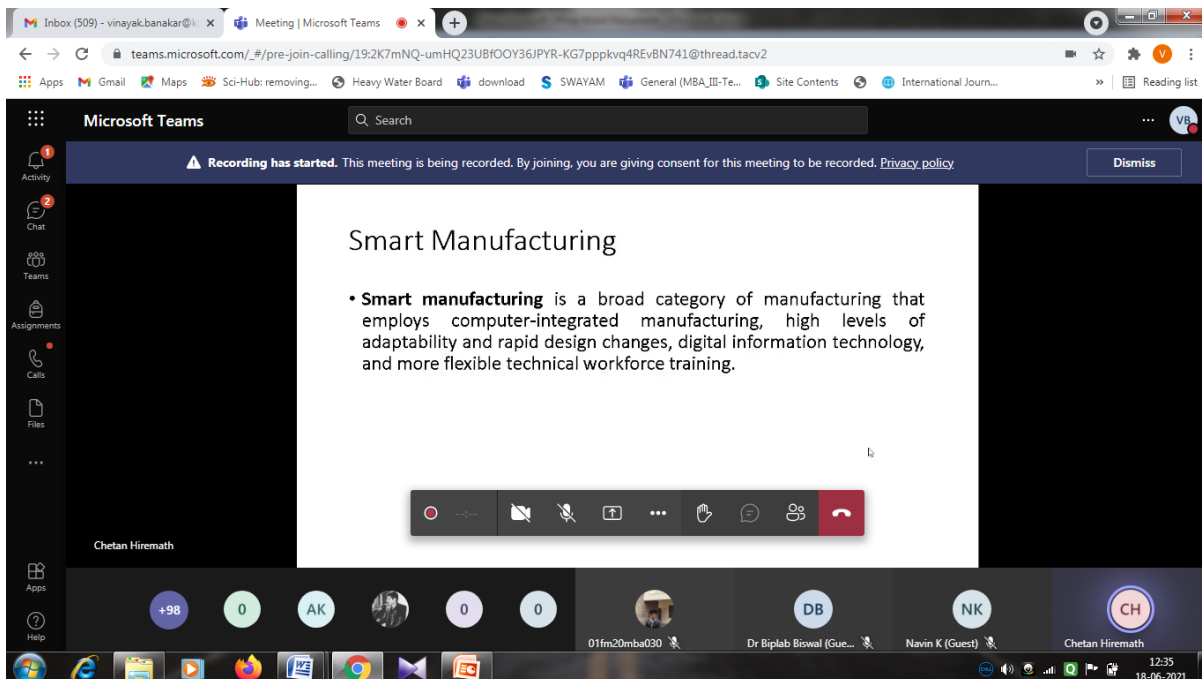
Mr.Navin Kolhar addressing the Webinar



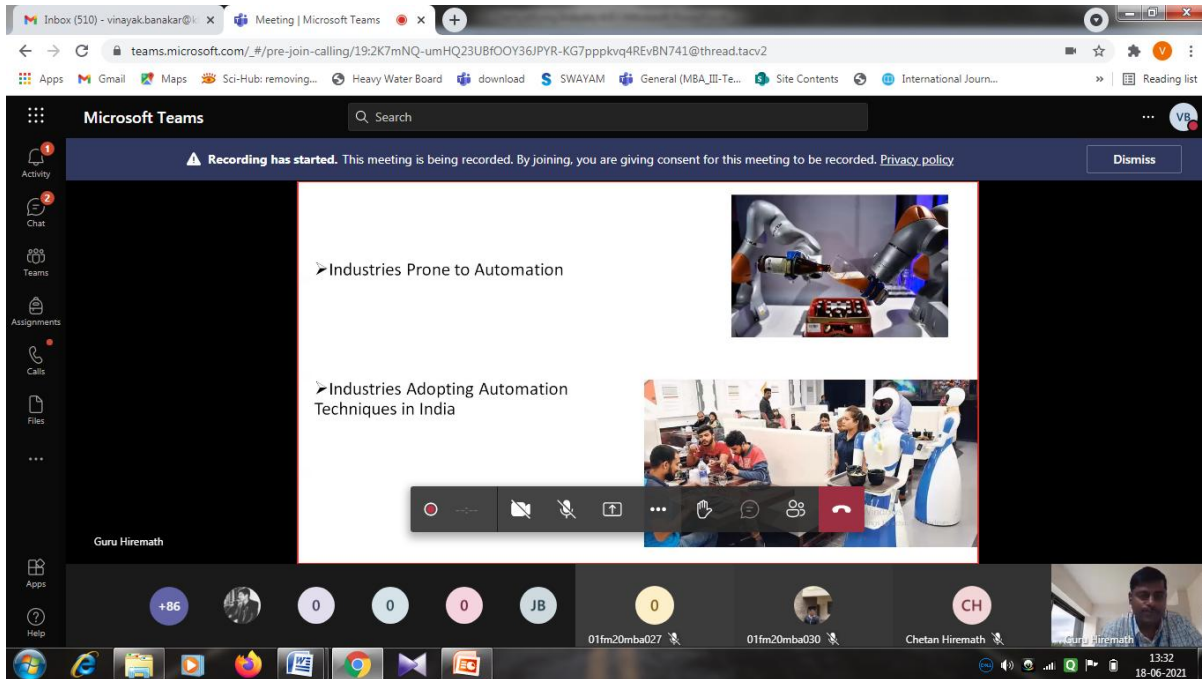
Mr.Navin Kolhar addressing the Webinar



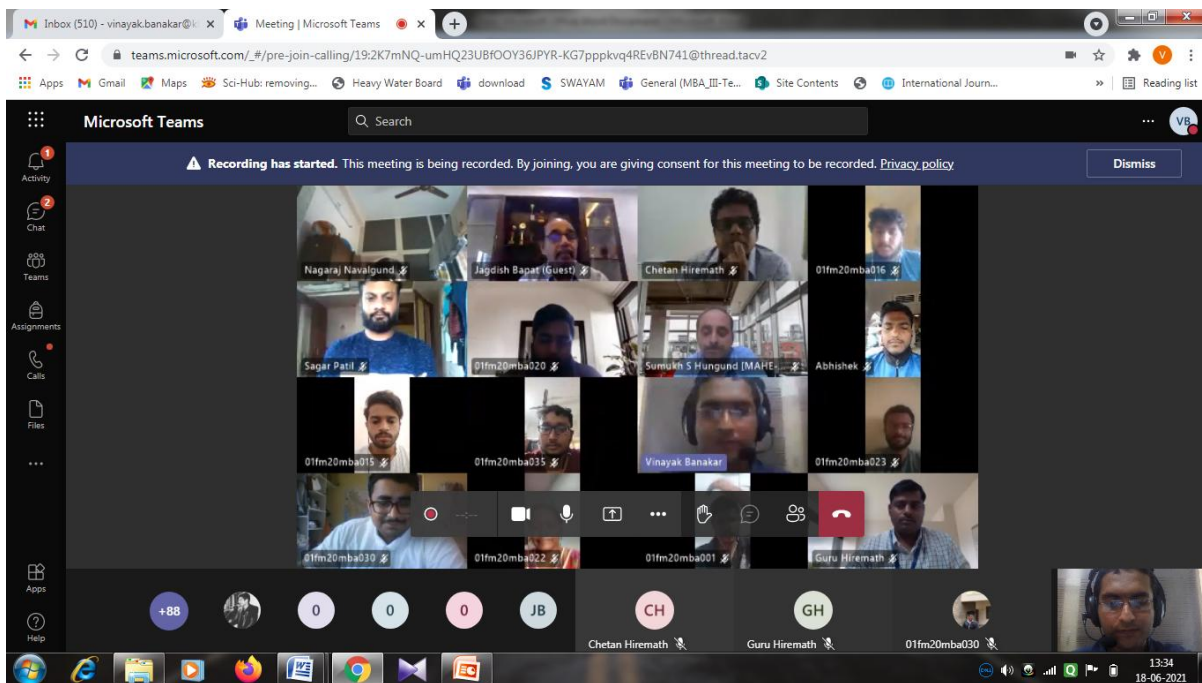
Mr. Navin Kolhar addressing the Webinar



Prof. Chetan Hiremath addressing Webinar



Prof G.S.Hiremath addressing the Webinar



Participants from academia and Industry in Webinar on Industry 4.0



Shankar Hallad <shankar_hallad@kletech.ac.in>

Intimation of selection and invitation for training program

1 message

RKVY-RAFTAAR Agribusiness Incubator 2300 <rabi@uasd.in>

Mon, Dec 21, 2020 at 4:52 PM

To: RKVY-RAFTAAR Agribusiness Incubator 2300 <rabi@uasd.in>

Cc: shreya amarapurkar <shreya.amarapurkar@gmail.com>, kanmanage@gmail.com, salimarabi35@gmail.com, vinayak h <vinayakh123@gmail.com>, praveen.hj@outlook.com

Bcc: shankar_hallad@kletech.ac.in

Dear Sir/Madam,

Greetings from Krishik- Agri Business Incubator!

Congratulations!!!

We are pleased to inform you that your proposal has been selected for the Avishkar training program (60 hours) under RKVY-RAFTAAR, MoA & FW, Gol.

We invite you to attend the **Inauguration session on 22nd December 2020 at 10.00am**. All the training sessions will be conducted through Zoom Platform. (Online)

Login Credentials for attending the inauguration session:

Meeting ID: 287 735 6428**Passcode: 580005**

Thanks and regards

--

TEAM 'KRISHIK'Project Leader: **Dr. Mahadev B. Chetti**, Hon'ble Vice ChancellorPrincipal Investigator & CEO: **Dr. A. S. Vastrad**Co-Principal Investigator: **Dr. P. U. Krishnaraj**Chief Operating Officer **Dr. Vinayak. S. Hosamani**Manager –Innovation Management: **Mr. Praveen H.J**Manager – Finance and ICT: **Mrs. Kanchan Dharwar**

2/9/22, 11:42 AM

KLE Technological University Mail - Intimation of selection and invitation for training program

Manager – Marketing & Communication: **Dr. Shreya V. Amarpurkar**

Business Executive: **Ms. Salima Alnavar**

Supporting Staff: **Mrs. Manjula B. Laxmeshwar**

Office Assistant: **Mr. Akshay A. Jamadale**

Krishik Agri Business Incubator (RABI)

University of Agricultural Sciences, Dharwad

www.krishik-abiuasd.in

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Article

Nanoceramic Composites for Nuclear Radiation Attenuation

Shankar A. Hallad ^{1,*} , Nagaraj R. Banapurmath ^{1,*} , Avinash S. Bhadrakali ¹, Arun Y. Patil ¹ , Anand M. Hunashyal ^{1,2}, Sharanabasava V. Ganachari ³ , T. M. Yunus Khan ⁴ , Irfan Anjum Badruddin ⁴ , Manzoore Elahi M. Soudagar ^{5,*}  and Sarfaraz Kamangar ⁴ 

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Abstract: The development of radiation attenuation materials with lean cross-sections is the need of the hour. However, the inherent threat of radiations accompanying these processes is of major concern. Thus, in an attempt to shield unnecessary radiations, several novel materials have been fabricated alongside the conventional materials available. Yet, there is a need for cost-effective, efficient shielding materials that have good mechanical strength and effective shielding properties. The present work investigates ceramic composite behaviors and radiation shielding capacity reinforced with lead oxide nano-powder. Developed nano-lead-based cement composites were subjected to mechanical tests to determine flexural and compressive strengths to check their suitability for structural applications. Further, the gamma attenuation test of the composites was conducted to determine their neutron absorption capacity. The addition of nano-leadoxide in the control beams was varied from 0.7 to 0.95 and 1 wt.% of the ceramic matrix. The percentage of nano-leadoxide that gives the best results in both enhanced properties and economic aspects was determined to be 0.6 wt.% of the cement.

Keywords: lead oxide; radiation shielding; cement composites; gamma attenuation; flexure strength; deflection



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1. Introduction

Lead can effectively attenuate certain types of radiation, such as X-rays, γ radiation, and neutron radiation. This is mainly due to its high density and high atomic number. The high density (9.53 g/cm^3) of lead is due to the combination of its relatively small atomic size and high atomic mass, atomic number (82) and molecular weight (223.2 g/mol). This results in relatively more electrons and a smaller bond length. Thus, due to a greater number of electrons, lead can effectively block high-energy electromagnetic radiations such as X-rays and γ -radiation by absorption and scattering of the photons.

The applications of lead as a radiation shielding material, current safety issues related to lead, and recent developments of new lead-free shielding materials in nuclear medicine have been reported in the literature [1]. Different radiation shielding materials have been produced to safeguard humans and their surroundings from the destructive impact of radiation [2]. Materials used for gamma radiation should have high density, such as concrete or lead [3]. Heavy materials are known to have high abilities in the attenuation of

gamma rays, which is the most important characteristic of a radiation shielding material for radiation protection [4].

However, lead is not particularly effective in absorbing radiations consisting of neutrons. Thus, incorporating a neutron shielding material is essential in developing the shielding material [5]. Unlike other types of ionizing radiations, shielding neutrons is a relatively complicated process and requires materials with heavy atomic nuclei—neutron shielding results in secondary β and γ radiations due to the mechanism of the shielding process. However, concrete, a heavyweight material, is used to shield neutron radiations in both medical and structural applications. The use of heavy natural aggregates, such as barite and magnetite, increases the density of normal concrete and improves its radiation shielding properties. However, the increased density sets several limitations in its utilization for structural applications. Conventional Portland cement was used in developing the new composite material [6].

The practical application of composite materials in radiation shielding was realized long ago. However, due to limitations such as cost, the newly developed materials have not been implemented.

Lead oxide nano-powder or nanoparticles are nanostructured magnetic particles with high spherical or faceted surface areas. These are typically 20 to 30 nm in size and have a specific surface area (SSA) greater than 5 m²/g. Nambiar et al. reported a lead-based polymer composite for radiation shielding applications using a balling milling process to prepare the nano-lead powder [7]. Polymer composite materials were developed using graded shield material that contains heavy atoms impregnated within hydrogen-rich polymer matrix along with other micro or nanomaterial such as boron, metal oxides, graphitic fibers, and metal whiskers. Kim et al. developed nano-W dispersed gamma radiation shielding materials [8]. A polymer nano-composite-based novel multifunctional neutron shielding material was designed and fabricated by Gözde İrim et al. [9]. Mortazavi et al. fabricated high-density borated polyethylene nanocomposites as a neutron shield [10]. Further, the enhancement of nuclear radiation shielding properties of nano-B₄C, nano-BN dispersed polymer nanocomposites, were investigated by Kim et al. [11]. Saidova, Z. et al., reported on cement-based composites with a complex additive of chrysotile nanofibers and carbon black. Addition of optimized percentage of chrysotile and carbon black in cement results in increase of 31.9% compression strength and a 26.7% flexural strength of cement composite [12].

However, it may be noted that limited work has been reported on the development of ceramic-based matrices incorporated with nanoparticles for nuclear radiation shielding applications. Hence, the objective of the present work is to develop and characterize novel lead oxide nano-powder-based ceramic composite materials for nuclear radiation shielding structural applications.

2. Experimental Approach

This section discusses the materials used and the procedure implemented in developing the nanocomposites and testing the nanocomposites as per ASTM standards.

2.1. Materials and Methods

Properties of lead oxide nano-powder used in the study are presented in Table 1. Lead oxide used in the development of the specimen was industrial-grade nano-powder with purity levels greater than 99.9%. Uniform dispersion of the nanoparticles against agglomeration is essential and regarded as the first step in preparing nanocomposites. To achieve the same, the nanoparticles were probe sonicated for 20 min with water as the dispersion media. In the meantime, the appropriate cement-to-water ratio was weighed (less water was used for dispersion during sonication).

Table 1. Properties of the lead oxide nano-powder used in the study.

Parameters	Properties
Melting point	888 °C
Purity	99.9%
Molecular weight	223.2 g/mol
Density	9.53 g/cm ³
Atomic number	82
Appearance	Red or yellow crystalline
Morphology	Solid spherical
Particle size	20–30 nm

2.2. Synthesis of Lead Oxide (PbO) Nanoparticles

To create PbO nanoparticles, a chemical synthesis method was employed. The micro-level lead oxide was heated to 90 °C with de-ionized water to make the 60 mL solution of 1.0 M lead acetate trihydrate. To dissolve this solution, it was added to a 50 mL beaker containing 19 M NaOH and vigorously stirred. The color of the solution briefly changed from hazy to peach to bright orange-red after the addition of lead acetate. Once the stirring stopped, the precipitate was allowed to settle for a short time. After the supernatant had been decanted using a funnel and cleaned with distilled water, it was dehydrated in an overnight drying oven set at 80 °C for several hours. The sample was gently crushed in a pestle and mortar to ensure that it was removed from the final product. The characterization of the material was carried out to validate the presence of lead oxide nanoparticles.

2.3. Preparation of Specimens

At concentrations of 0.7, 0.8, 0.9, 0.95, and 1 wt.%, nano-Pb₂O₃ (lead oxide) was used as a filler material in the cement matrix, and it was shown to be effective. Water was used to make approximately one-third of the total weight of the cement matrix. It was necessary to utilize a steel mold to cast the specimens, which were 20 mm × 20 mm × 80 mm in size. Specimens were cured for 28 days before being un-molded and tested for characterization and performance. Figure 1 shows the actual samples developed in the lab using the varied percentage of nano-lead reinforced in the cement matrix. Figure 2 depicts the development of the hybrid nanocomposite.

**Figure 1.** Samples developed.

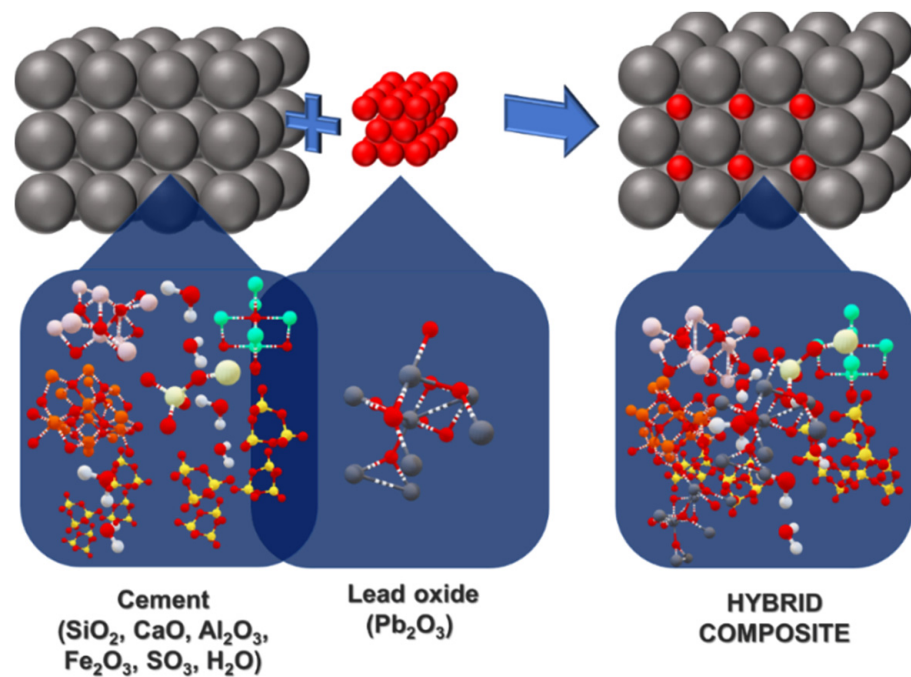


Figure 2. Pictorial representation of the development of hybrid nanocomposites.

To achieve the desired results, various specified amounts of dispersed lead oxide nano-powder were added to the water-mixed ceramic matrix, as indicated in Table 2.

Table 2. Details of the test specimen for mechanical test.

Sample No	Specimen Reference	Constituents	Dimensions	% of Pb_2O_3
1	S1	Plain cement+ Pb_2O_3	20 mm × 20 mm × 80 mm	0.7
2	S2			0.8
3	S3			0.9
4	S4			0.95
5	S5			1
6	PC			Nil

2.4. Experimental Set-Up

The mechanical properties of the developed specimens were evaluated by flexure test and compression load test. Specimen of size 20 mm × 20 mm × 80 mm were tested using three-point loading. A hydraulic closed-loop testing machine, Aimil Ltd. (New Delhi, India) was used. The equipment used for the three-point load test is shown in Figure 3, with the sample placement for the three-point load set-up. Figure 4 shows the equipment Aimil Ltd., New Delhi used for the compression test.

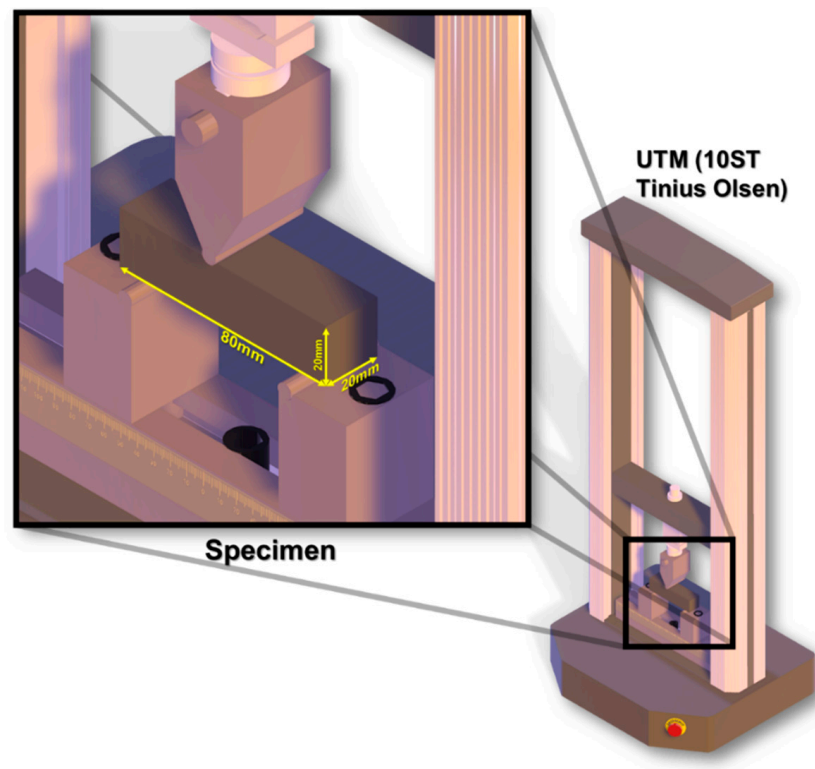


Figure 3. Equipment used for three-point load testing.



Figure 4. Equipment used for compression test.

3. Results and Discussions

This section presents the compressive results obtained to study the behavior of nano-cement composite specimens developed.

3.1. Three-Point Bending Test

This test enables us to determine the best percentage of lead oxide to be used as reinforcement in the cement matrix based on the flexure strength of the developed material. Hence, the flexural behavior of nano-lead oxide-reinforced cement composites was investigated. The newly developed beams were subjected to three-point loading to determine their strength-deflection behavioral properties. The outcome of the tests conducted was plotted against the flexural properties of plain cement beams to understand the improvements for structural applications. The load v/s deflection of the specimen is shown in Figure 5. From the figure, it follows that the flexure strength of the newly developed material increases as the percentage of Pb_2O_3 in the ceramic matrix increases. The maximum flexure strength while considering the economic aspects of the developed specimen was found to be 14.97 MPa. It is also evident that the brittleness of the developed specimens decreased as the percentage of Pb_2O_3 increased in the cement matrix. The increase in the strength may be due to the incorporation of DLC (diamond-like carbon) material into the cement matrix that belongs to the family of carbon elements [13]. The microstructure design of the composite composed of materials with different elastic moduli is also a factor for the increase in the strength of the modified composites [14].

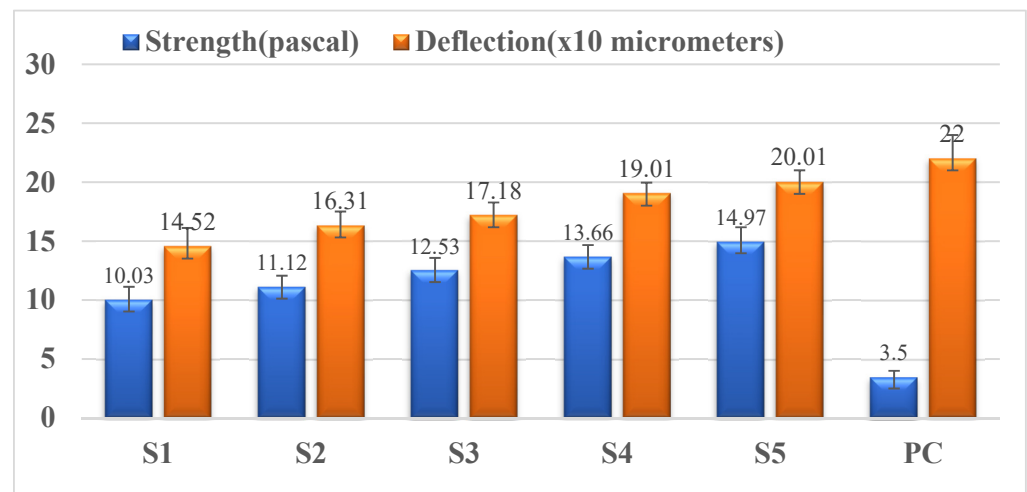


Figure 5. Variation of strength and deflection for different samples.

3.2. Compression Test

This test enables the evaluation of the compressive strength of the developed novel material. This helps in deciding the optimal percentage of lead oxide nano-powder reinforcement in the ceramic matrix that enhances the compressive strength compared to plain cement for structural applications. It is evident from Figure 6 that the compressive strength of the novel material increases as the percentage of lead oxide nano-powder in the cement matrix increases. The maximum compressive strength while considering economic aspects was found to be 33.47 Pa. The compressive strength was directly proportional to the constituents that form pore structure in the cementitious matrix [15]. From the SEM image depicted in Figure 6, an increase in the porosity can be observed between the interfacial nanoparticles. The increase in the porosity has influenced the mechanical property under study.

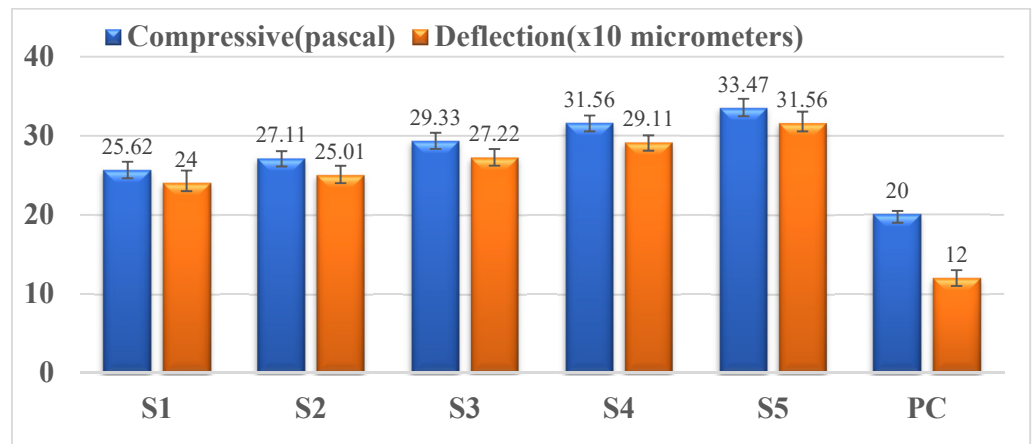


Figure 6. Variation of strength v/s deflection in compression.

3.3. Gamma Attenuation

Lead is very effective in shielding nuclear radiation. However, its individual effects regarding absorption of radiation for gamma radiations when used as reinforcement in the cement-based matrix was investigated. The following are the test results obtained for gamma attenuation. From Table 3, it is found that the S5 specimen had a better neutron absorption capacity than plain cement. The mass of plain cement was 53.51 gm, and the mass of the S5 specimen was 55.92 gm.

Table 3. Estimated gamma attenuation levels.

Sl. No.	Baseline Data Generation (without Specimen)	Attenuated Reading in mm	Reading in mm
1	13.85	10.71 (S3)	2.2671
2	13.84	8.172 (S4)	4.0953
3	13.84	6.189 (S5)	5.5281

The S5 had higher mass when compared to plain cement; its density increased, which in turn increased its specific gravity and absorption capacity. Hence, S5 showed higher neutron absorption capacity.

Figure 7 shows the attenuation variation for the specimens with and without lead oxide reinforcement. As the nano-lead oxide filler dosage increased in the cement matrix, the attenuation decreased. Compared to the plane specimen with no filler, S5 showed a 55.34% attenuation rate. The increase in the radiation attenuation was due to the increase in density of the nanocomposite from the nano-lead oxide [16].

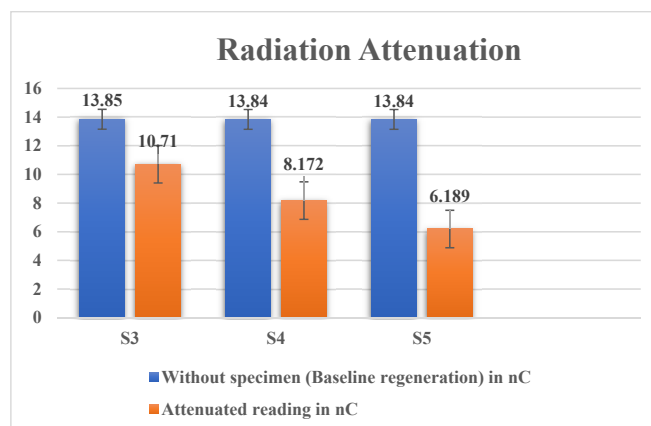


Figure 7. Attenuation for specimens with and without lead oxide reinforcement.

3.4. SEM and EDAX Analysis

Figure 8a,b shows SEM images of modified cement reinforced with lead oxide nano-powder; a uniform distribution of reinforcement is evident. Figure 8c is an SEM image of plain cement. From EDAX analysis, it can be inferred that there is a better distribution of lead oxide nano-powder in S5. The EDAX results are summarized in Tables 4 and 5 below for S4 and S5.

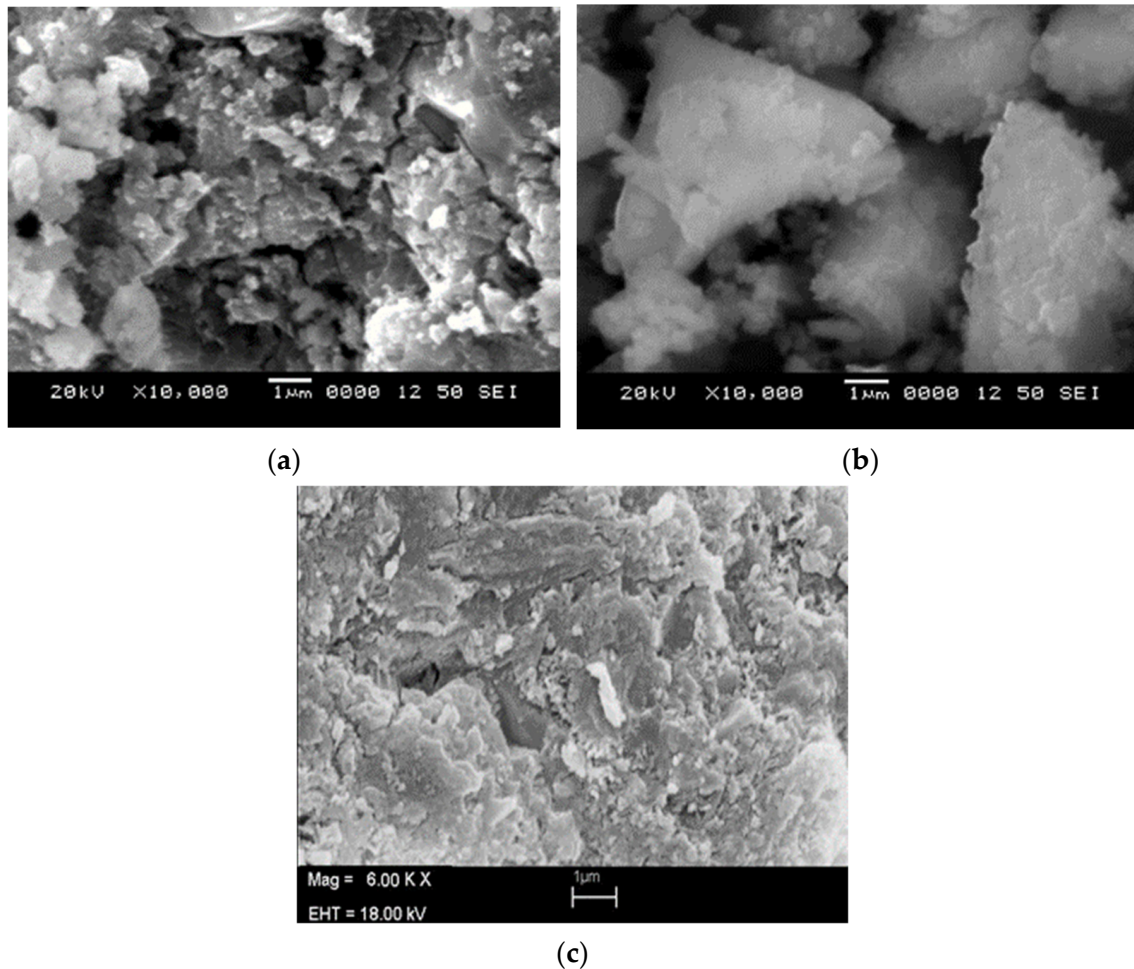


Figure 8. (a) 0.4% Pb_2O_3 (S4), (b) 0.6% Pb_2O_3 (S5), (c) Plain cement (PC).

Table 4. EDAX results, 0.4% Pb_2O_3 (S4).

Element	Weight (%)	Atomic (%)	Error (%)
C K	2.67	5.60	18.75
O K	32.35	50.98	11.53
Mg K	0.78	0.81	16.43
Al K	3.06	2.86	8.69
Si K	10.17	9.13	5.32
S K	0.81	0.63	13.80
Pb M	1.77	0.22	13.86
Ca K	44.49	27.99	2.23
Fe K	3.90	1.76	9.27

Table 5. EDAX results, 0.6% Pb₂O₃(S5).

Element	Weight (%)	Atomic (%)	Error (%)
C K	3.23	6.25	14.81
O K	40.77	59.27	10.76
Mg K	0.67	0.64	15.51
Al K	3.62	3.12	7.25
Si K	7.26	6.01	5.31
S K	0.58	0.42	13.77
Pb M	1.50	0.17	12.43
Ca K	39.51	22.93	1.98
Fe K	2.86	1.19	9.05

4. Simulation and Modeling

In the last two decades, a module known as simulation has gained lot of importance for evidence in the Industry Internet of Things (IIOT) [17–20]. The simulation covers software tools with a background such as the Finite Element method, molecular dynamics, solid mechanics. Ansys, J-OCTA, and Material studio are the current software tools in use for the analysis of newer materials developed [21]. In this work, the ANSYS workbench has been considered as a tool to validate the experimental results.

4.1. Simulation Method

Among simulation software, the ANSYS workbench is currently the leading tool in industry, able to solve multidisciplinary-related problems. The roadmap for solving the current problem was considered with the following process map, as shown in Figure 9.

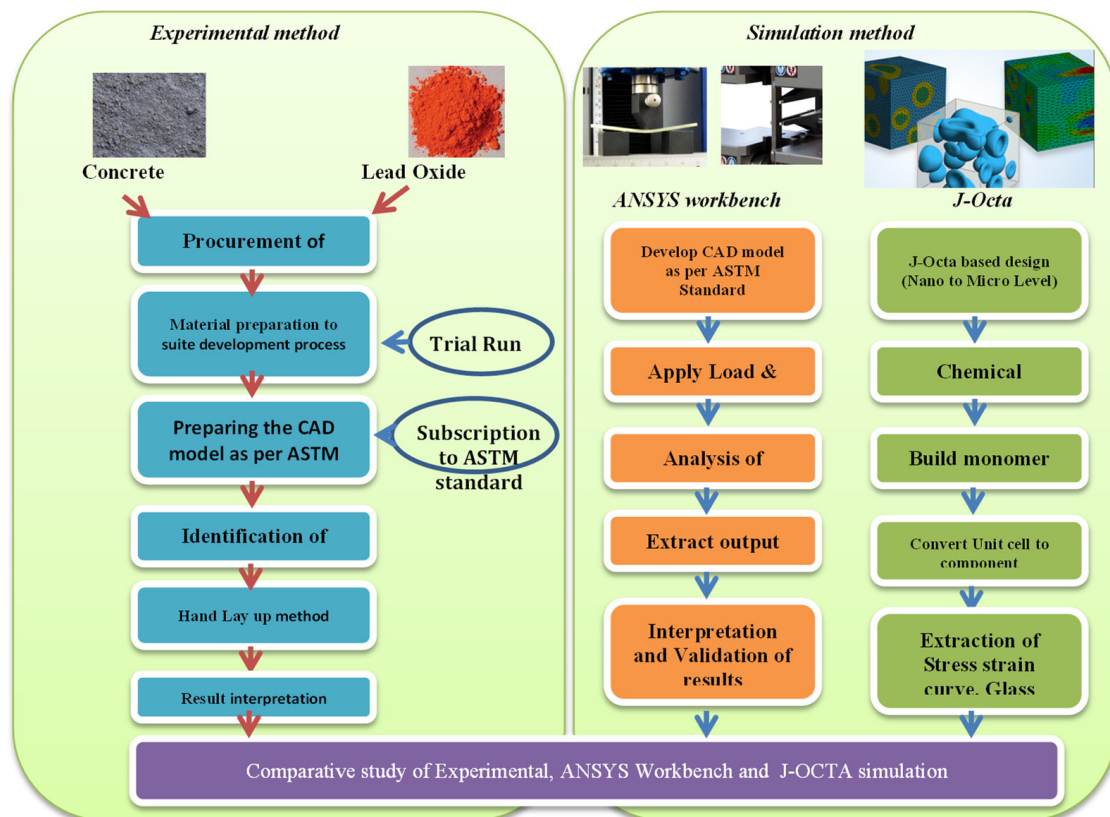


Figure 9. Process map for simulation in experimental work.

4.2. Simulation Process

The current simulation tool deals with geometry models for flexural strength tests, leading to the estimation of deformation [22]. For better correlation purposes, one case with 1% lead oxide reinforcement in cement matrix condition was considered with several iterations to converge the solution along with validation. It is possible to model the air-pockets in the simulation tool using Ansys. However, in this work, the effect of air pockets is not considered as there will already be coarse and fine aggregates that would have created gaps and, subsequently, air pockets. In this way, air pockets are retained in the mix.

4.2.1. Material Properties

Concrete and lead oxide material properties are shown in Table 6.

Table 6. Material properties for concrete and lead oxide.

Sl. No	Material	Young's Modulus	Poisson's Ratio (MPa)	Density (kg/m ³)
1	Concrete	30×10^3	0.18	2300
2	Lead Oxide	16×10^3	0.38	9530

4.2.2. Geometry

The CAD model was developed with the relevant size and shape, as mentioned in the earlier section. The model is shown in Figure 10.

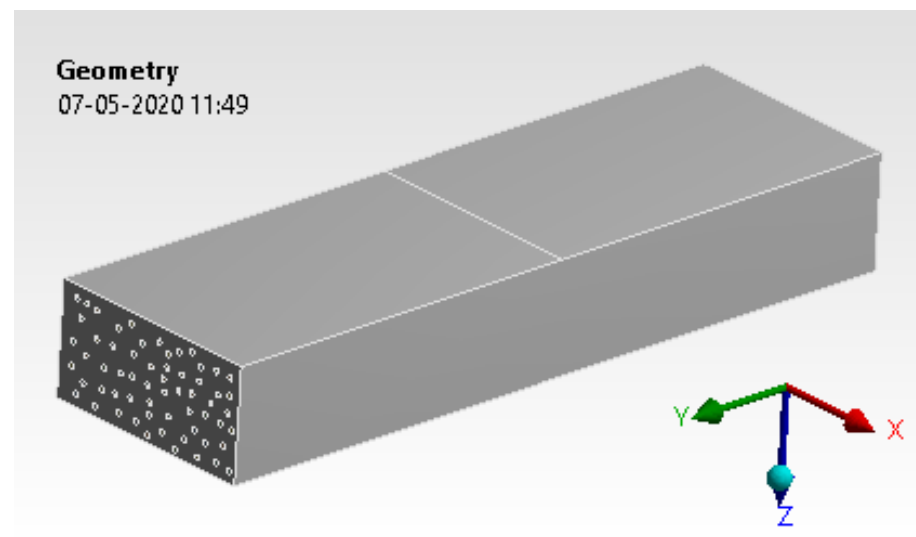


Figure 10. Concrete and lead oxide.

4.2.3. Contact Generation

Contact generation between lead oxide and concrete is assigned with 'Bonded' contact. Each of these contacts was considered with the 'Pure penalty' approach [23,24]. The details of contact generation are illustrated in Figure 11.

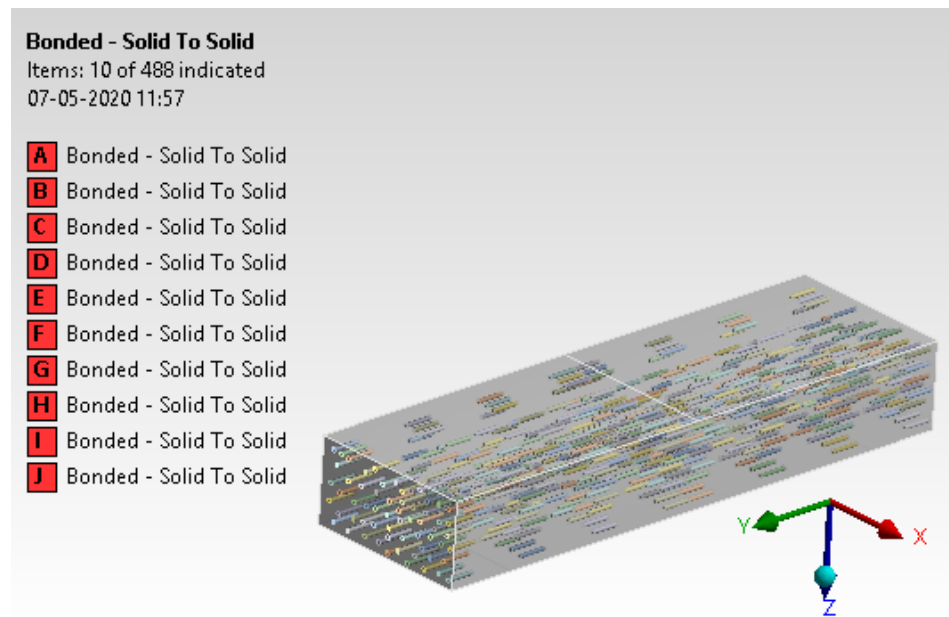


Figure 11. Contact generation.

4.2.4. Mesh Generation

Mesh generation was assigned with mapped face meshing to arrive at the near-exact solution. The h-type and p-type methods were used to analyze the results. The process uses a tetrahedron element with 10 nodes of the second-order condition [25]. Figure 12 provides fine mesh conditions with checking other converging conditions. The entire model was solved for 326,070 elements and 856,686 nodes.

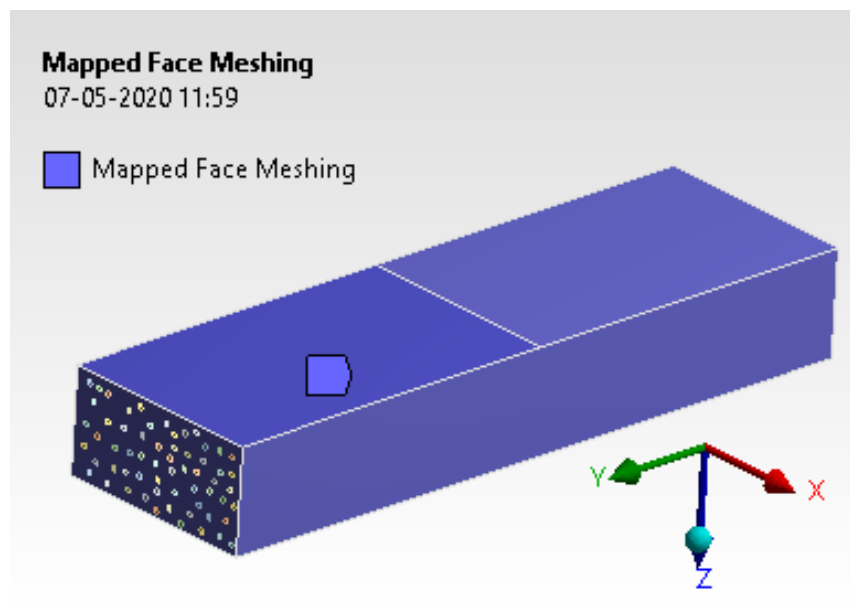


Figure 12. Mapped face meshing.

4.2.5. Loads and Boundary Conditions

The details were fetched from experimental analysis to arrive at loads and boundary conditions. The three-point bend test was considered with free displacement in the y-direction while the other two directions were fixed. Figure 13 illustrates the loading details and boundary conditions.

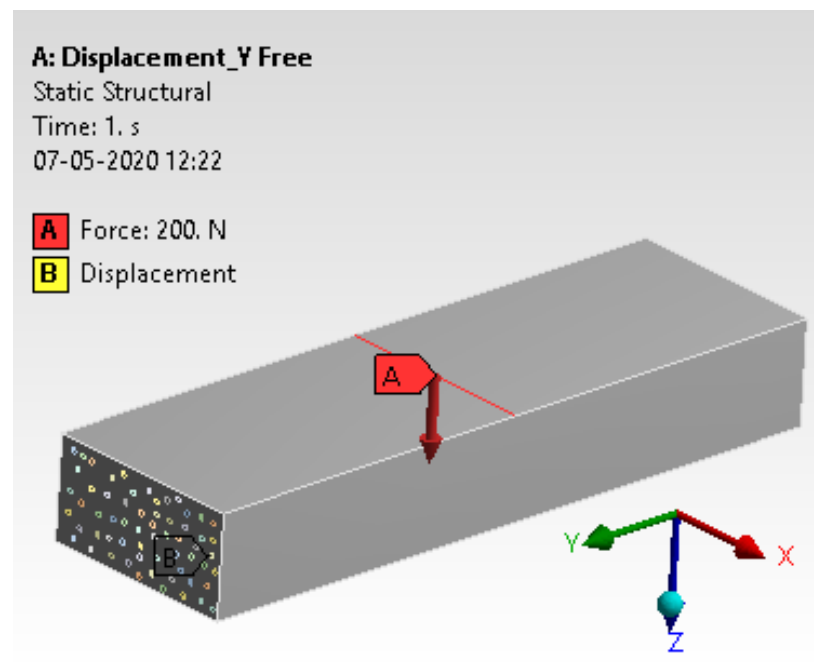


Figure 13. Loading details and boundary conditions.

4.2.6. Results and Interpretation

The total deformation has been extracted from the analysis, and details are discussed in Figure 14.

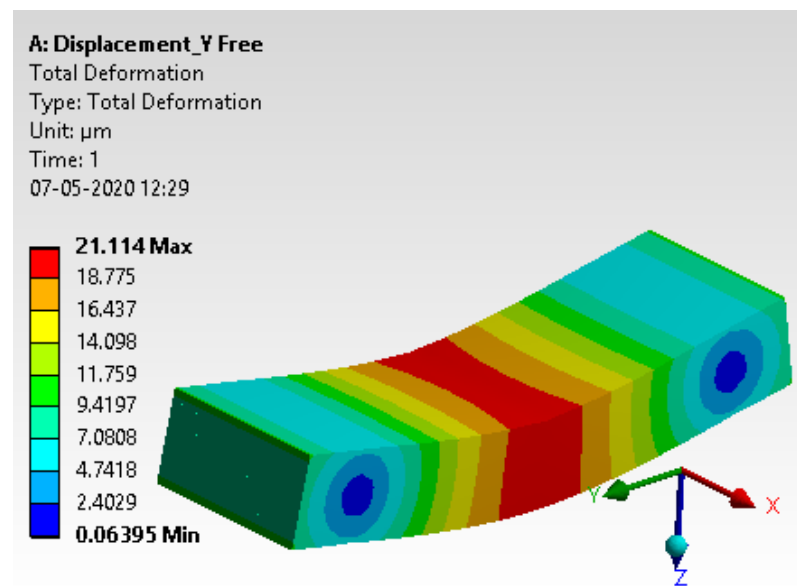


Figure 14. Total deformation.

4.2.7. Comparative Study with Validation

Experimental method results were then compared with simulation results with the help of tabular data, as shown in Table 7. The comparative study reveals a percentage error of 5.21, which is well accepted within industry-standard as for composite materials, the acceptable error range is 20%.

Table 7. Comparative study.

Description	Experimental Method	Simulation Method	% of Error
Total deformation	20.01	21.11	5.21

5. Conclusions

Lead is very effective in shielding nuclear radiation. However, its individual effects regarding absorption of gamma radiation when used as reinforcement along with other elements were investigated.

An attempt was made using materials such as lead fibers, steel fibers, and the combination of both as reinforcements for the cementitious matrix to shield nuclear radiation. The results were promising, as the newly developed material exhibited enhanced mechanical and shielding properties. The lead-zinc granulated slag was used as an alternative for sand in cement matrix to block radiation with the thinnest section of concrete, as compared to the conventional concrete sections. The results showed that the produced concrete demonstrates better radiation attenuation properties with thinner thickness compared to conventional concrete. Thus, it can be intuitively expected that the new material exhibits enhanced radiation absorption properties.

From the conducted tests, it can be summarized that the properties of the newly developed radiation shielding material are better in terms of radiation shielding ability, flexural strength, and compression strength. Sample S5 showed a higher compressive strength of 33.47 pascals and deflection of 31.56 compared to PC. Compressive strength increased by 67.35%, and deformation increased by 163%, respectively. The S5 sample showed a higher radiation attenuation of 123.72%. Thus, the newly developed material could be suitable for structural applications replacing concrete. A higher dosage of lead oxide nano-powder reinforcement into the cement matrix with improved dispersion technique for improved shielding properties of the developed composite requires continued and sustained research.

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Jawaharlal Nehru Awards (16) and Sir C V Raman Young Scientist Awards (09) for outstanding contributions in the field of agricultural research. The University has about 100 National and International Academic collaborations. Research needs of farmers in the region are catered through 30 research stations spread across five agro-ecosystems and 26 All India Coordinated Research Projects (AICRPs). Presently several externally funded projects are operating in the University undertaking basic and applied research in Nano Science Technology, Molecular Biology, Formulations in Biopesticides and Biofertilisers etc. Several nationally / internationally funded programmes like Obama Singh Knowledge Initiative, ICAR Niche Area of Excellence, CIDA-McGill Collaborative Project, World Bank funded projects like Sujala-III project, NAHEP-IDP are being implemented in the University.



The Historical of the City

Dharwad is the district headquarters in Karnataka and merged with Hubballi city in 1961 to form the twin city. Hubballi-Dharwad is the second-largest city in Karnataka after Bengaluru. While Dharwad is the administrative headquarter, the city of Hubballi, is the commercial centre and business hub of North Karnataka. Dharwad is famous for its Dharwad Peda a milk based sweet. Dharwad is well-known for its contributions to Indian classical music and to Kannada literature. Dharwad district is the place which produced national and international level musicians like Mallikarjun Mansur, Gangubai Hangal, and winner of the Bharat Ratna award, Pandit Bhimsen Joshi. It has prestigious educational institutions. The twin cities is familiar for its historical monuments of architectural/religious importance, viz., Chandramouleshwara Temple, Banashankari

Temple, Nuggikeri Hanuman Temple, Nrupatunga Hill, Navagraha Teertha, Indira Gandhi Glass House Garden, Unkal Lake and Siddharoodha Math.

Places of Historical Importance: Badami, Aiohole and Pattadakallu, Gol Gumbhaj(Vijayapur), Hampi, Utsav Rock Garden, Gotagudi, Haveri District & Goa.

GI Tags: Dharwad Peda, Dharwad Cotton Saries, Belagavi Kunda, Gokak Kardant.

Lead Educational Institutes: Karnataka University, Dharwad, Indian Institute of Technology, University of Agricultural Sciences, Dharwad & Medical and Engineering Colleges.

Important Dates

• Last date for receiving applications	31-12-2021
• Intimation of Selection	02-01-2022
• Training	17-26 January 2022

Address for Correspondence

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ICAR Sponsored Short Course on

Recent Advances in Nano-Biotechnology and Biological Management Approaches in Emerging Diseases of Field and Horticultural Crops for export promotion

17-26 January, 2022



Organised by

Department of Plant Pathology
College of Agriculture
University of Agricultural Sciences
Dharwad-580005, Karnataka

Background

Plant pests and pathogens cause significant reductions in crop production, with estimated global losses of 20-40 per cent per year. Plant disease management involving integrated use of multiple tactics of plant pathogen management lead to ecologically sound and economically feasible management strategies. Among the recent plant disease management strategies, Nano-biotechnology can offer advantages, like reducing toxicity, improving the shelf-life and increasing the solubility of poorly water-soluble pesticides, all of which could have positive environmental impacts. Nanotechnology shows high promise in the improvement of agricultural productivity thus aiding to the future food security. Antimicrobial nanoparticles with desired characteristics like shape, pore size and surface properties are applied as a nanofilm on plant, plant products and on packaging materials are suitable for the management of diseases of field and horticultural crops for export potential. The nanoparticles provides crop protection or act as carriers for existing pesticides or double-stranded RNA (dsRNA) and can be applied through various means of application for successful management of the plant diseases. Biosensor, quantum dots (QDs), nanostructured platforms, nanoimaging and nanopore DNA sequencing are the innovative nano-biotechnological tools having potential to raise sensitivity, specificity and speed of the pathogen detection and facilitates high-quality monitoring and crop protection.

The present day research on various formulations of biopesticides, endophytes, microbial consortia with multiple mechanisms of actions are available and are being used for management of diseases of field and horticultural crops. The development and effective adoption of these bio pesticides require a greater understanding of the complex interactions among plants, people, and the environment. Significant expansion is expected in the near future on the application of Nanobiotechnology and bicontrol management strategies with the emphasis on export potential of the produce.

About the Course

The course content mainly involves lectures from subject experts, practicals and also field/laboratory visits on Advances

and applications of Nano technology, Biotechnology and Biopesticides in management of field and Horticulture crop diseases. The course will educate in cutting edge areas of science & technology in identifying recent diseases, Host-Pathogen interaction, diagnosis, recent technology in nano science, molecular technology and fungal, bacterial, viral and nematode antagonists and endophytes in management of plant diseases for sustainable plant health management.

Date and Venue

The short course is of 10 days duration from 17-26 January, 2022 at the Department of Plant Pathology, College of Agriculture, University of Agricultural Sciences, Dharwad. It is on the National Highway No. 04 connecting Pune (Maharashtra) to Bengaluru (Karnataka) well connected by rail and road ways and airport at Hubballi.

Eligibility

Participants from ICAR Institutes/State AUs/CAU/ Agricultural faculty of AMU, BHU, Vishwa Bharti and Nagaland University in the cadre of Assistant Professors or equivalent and above are invited. Participants with Masters Degree in Agriculture/Horticulture/Life Sciences with specialization in Plant Pathology, Agril.Microbiology, Genetics and Plant Breeding, Biotechnology, Soil Science and Horticulture are eligible.

Registration

Interested candidates have to apply online through Capacity Building Programme(CBP) portal at URL:<http://cbp.icar.gov.in/applydetails.aspx>. Applicant has to pay a non refundable Registration fees of Rs.50/- as the demand draft or Indian Postal Order (IPO) drawn in favour of "The Comptroller, UAS, Dharwad" payable at Dharwad. The online filled in application should be printed out and approved from respective competent authority of the organization. Duly approved application form along with registration fees should be sent to The Course Director on or before the closing date (31-12-2021). If required an advance application may be sent to the Course Director. However, their selection will be subject to receiving of approved application only. The selection of

candidates will be informed through e mail only and they should confirm the acceptance through return e mail within two days.

Travelling allowance and accommodation

Travel fare to & fro will be provided as per ICAR Norms. The reimbursement will be limited to AC II tier by Train/Air Bus by shortest route from their place of working for attending the short course. Travel by Air is not permissible. Photocopy of ticket by train/bus need to be produced for reimbursement. For out station participants accommodation will be arranged on twin sharing basis. Meals and refreshments will be provided as per ICAR rules. The Local participants will be provided lunch and inter session tea only. Participants are requested not to bring family members.

Weather in Dharwad

Weather will be pleasant in Dharwad with maximum and minimum temperature of the city will be around 30°C and 15°C, respectively during January month.

About UAS, Dharwad

The University of Agricultural Sciences, Dharwad, established on 1st October 1986, presently has 5 Degree/PG Colleges, 7 Diploma Colleges, 30 Research Stations, 6 Extension Education Units, 5 Krishi Vigyan Kendras and the ATIC. The University, with its jurisdiction spread over seven districts of northern Karnataka namely Bagalkot, Belagavi, Dharwad, Gadag, Haveri, Uttar Kannada and Vijayapur caters to the research needs of diverse soil types, climate, topography, cropping and farming situations. In ICAR Ranking (2020), University has secured Ninth Rank among Agricultural Universities in the Country and First Ranking in the State. The University has won several prestigious awards, to name few National Productivity Council Award (1986-87). Sardar Patel Outstanding Institution Award (2000 and 2015), Indira Gandhi National NSS Award (2001), CGIR King Baudouin Award (2002) and ICRISAT's Doreen Mashiar Award (2002) for Chickpea improvement; More number of Junior Research Fellowships of ICAR (2005-06, 2006-07, 2007-08, 2009-10, 2014-15); Mahindra Samurdhi Krishi Samman Award (2013);