

A Report on the Faculty Development Program on Internet of Things
Conducted from 07/12/2020 to 11/12/2020 (Application No. - 1582809212/ Workshop No. 760)

Hosted by IIIT Allahabad

Patron : Prof. P.Nagabhushan, Director, IIIT Allahabad

Course Coordinator : Dr. Bibhas Ghoshal, Assistant Professor, Dept. Of IT, IIIT Allahabad

Brochure

**FACULTY DEVELOPMENT PROGRAM
ON
Internet-Of-Things (IoT)**
07-11 December 2020

Patron:
Prof. P. Nagabhushan
Director-IIIT Allahabad

Co-Ordinated By:
❖ Dr. Bibhas Ghoshal, IIIT-Allahabad

Hosted By:
❖ IIIT- Allahabad
❖ Systems Lab-IIITA

Sponsored By:
❖ AICTE Training and learning
(ATAL) Academy

Under the Aegis of:
❖ "Beyond Twenty by 2020"
Celebration of IIIT Allahabad

Eminent Speakers:

- ❖ Prof. T.V. Prabhakar, IISc Bangalore
- ❖ Prof. I. Sengupta, IIT Kharagpur
- ❖ Prof. G.C. Nandi, IIIT Allahabad
- ❖ Prof. O.P. Vyas, IIIT Allahabad
- ❖ Prof. Shekhar Verma, IIIT Allahabad
- ❖ Dr. Nitin Auluck, IIT Ropar
- ❖ Dr. Sharad Sinha, IIT Goa
- ❖ Dr. John Jose, IIT Guwahati
- ❖ Dr. Ajay Kattepur, Ericsson Labs, Bangalore
- ❖ Dr. Jagpreet Singh, IIIT Allahabad
- ❖ Dr. Bibhas Ghoshal, IIIT Allahabad

About the Program:

The Internet of Things, or IoT, refers to the billions of physical devices around the world that are now connected to the internet, collecting and sharing data. Predictions are made that the number of such devices would reach to 25 billion by this decade and majority of the services would be available through IoT. Naturally, development and maintenance of such IoT based products and services would require sufficient workforce equipped with knowledge of IoT technologies, more so in countries like India where the IoT boom is yet to pick up. With an aim to develop workforce in IoT, this course introduces to students, researchers and academicians the basic concepts of IoT through a practical view with emphasis on design, requirement, data interfacing and capabilities. The course would cover IoT fundamentals, blended with industrial case studies, design and development of IoT systems, cloud computing, and data analysis. Lab sessions will supplement the lectures.

Summary :

A total of **250 applicants** had applied for attending the FDP via the ATAL portal. Out of these **240 were approved**.

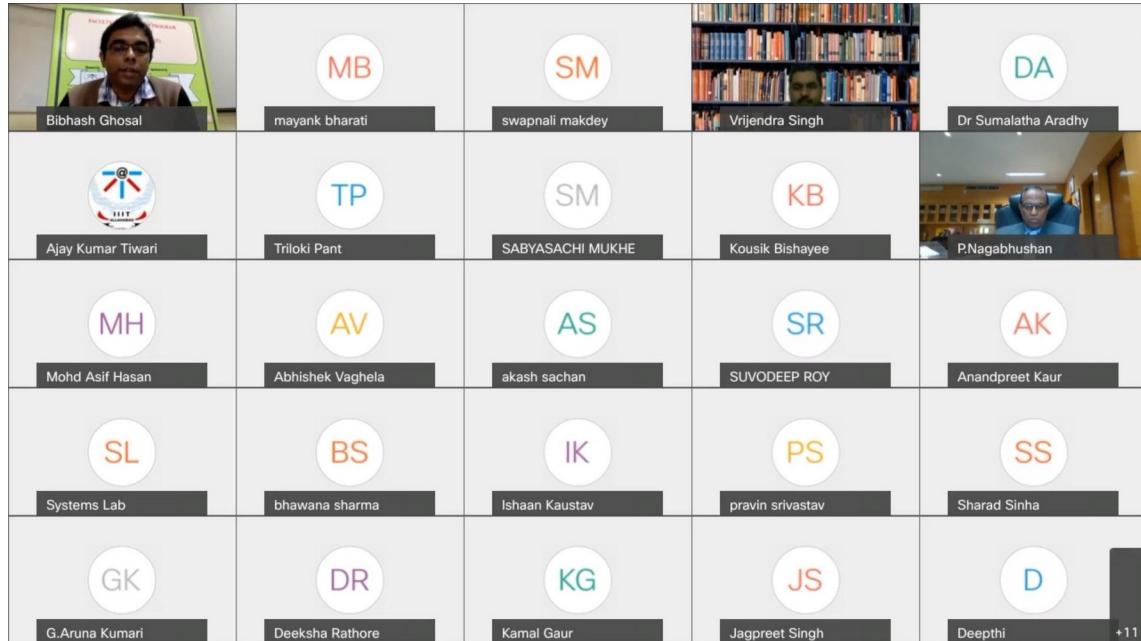
The event was held in online mode owing the current COVID-19 pandemic situation.

There were **16 technical sessions** in total, **12 lecture sessions** and **4 hands-on and demo sessions**. A total of **129 participants successfully completed the FDP** and were awarded certificates. The list of participants who were awarded certificates have been provided at the end of this report.

The Program Highlights :

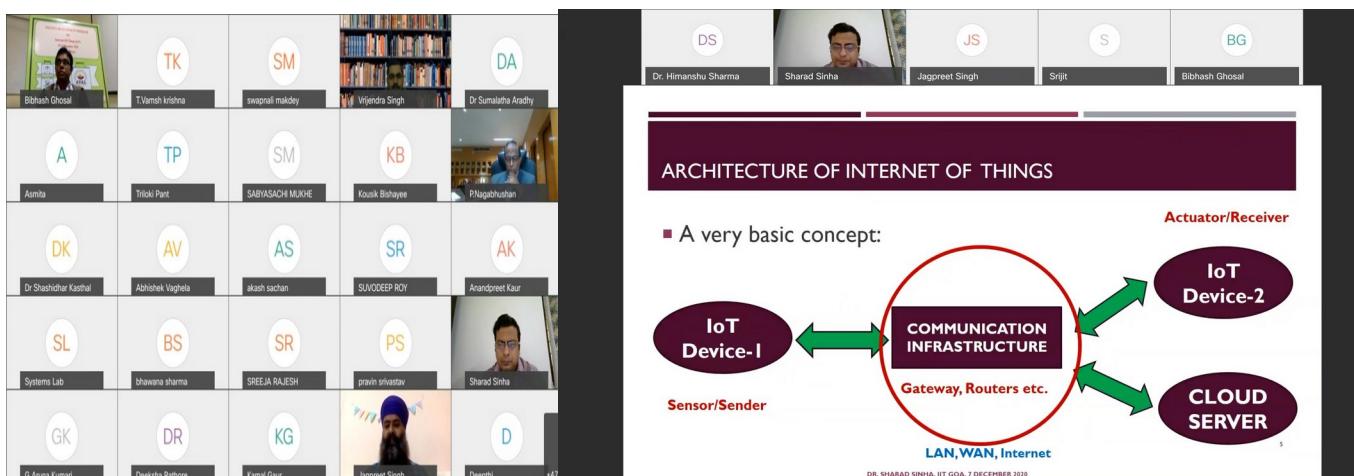
Day 1 : Inaugural , Technical Session 1 and 2, Tutorial and Hands-on sessions

Inaugural – The inaugural session was chaired by Prof. P. Nagabhushan, Hon’ble Director, IIIT Allahabad. Others esteemed guests who were present at the ceremony were Prof. U.S.Tiwari, Dean, Human Affairs, IIIT Allahabad, Dr. Vrijendra Singh, Head of the Department of IT, IIIT Allahabad and other faculty members of IIIT Allahabad.



Inaugural session video available at : https://youtu.be/340_Vz2vQpc

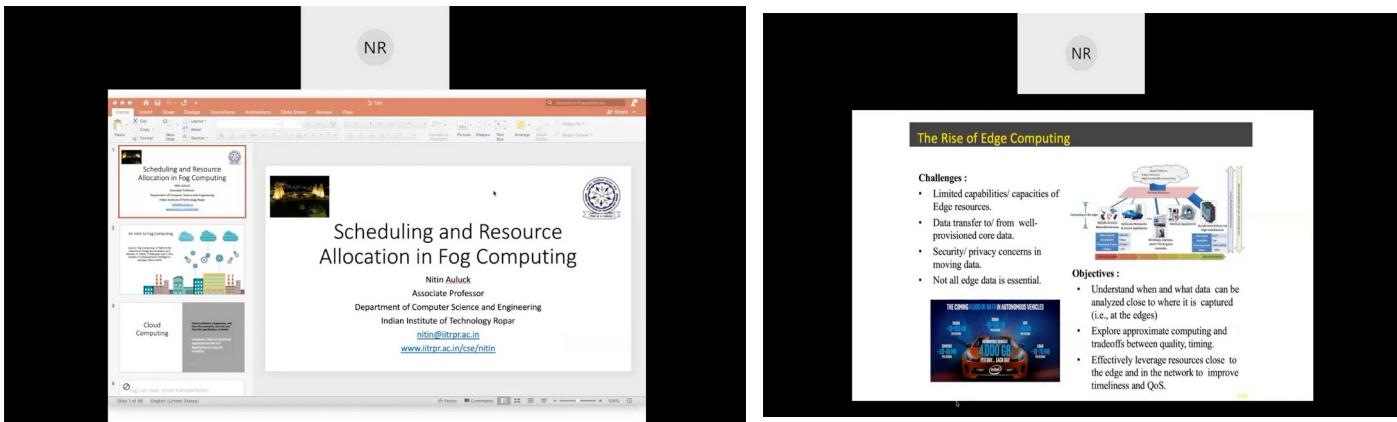
Technical Session 1 (Lecture 1) - This was a lecture session which was renamed as “**Professor Shirshu Varma memorial lecture**” in the memory of Late Professor Shirshu Varma, Professor in the Dept. Of IT, IIIT Allahabad. The lecture was delivered by **Prof. Sharad Sinha, Dept. Of Computer Science and Engineering, IIT Goa** (www.sharadsinha.wordpress.com/about)



Professor Sinha gave an overview of Internet of Things, explaining the architecture, IoT protocols and different applications of IoT. The lecture was the perfect start to the FDP providing the participants the big picture view of Internet of Things

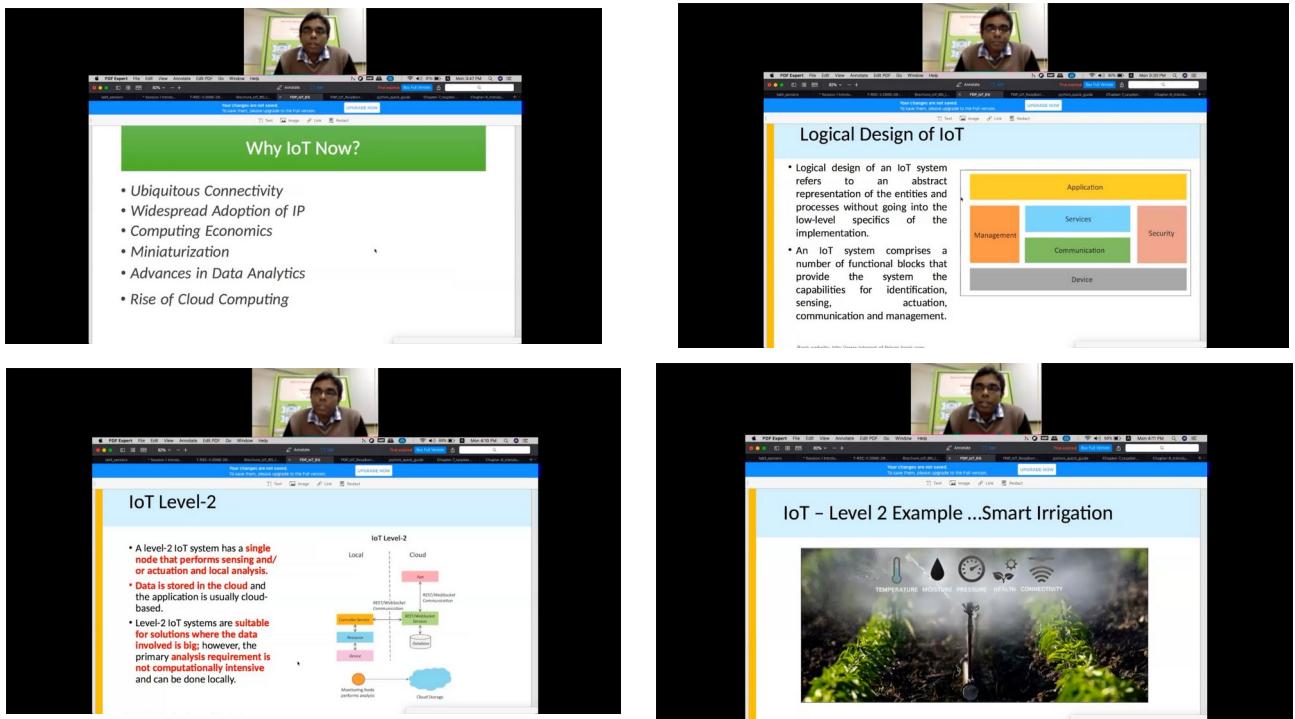
Lecture Video available at : https://youtu.be/340_Vz2vQpc

Technical Session 2 (Lecture 2) : Professor Nitin Auluck, Associate Professor and Head of the Dept. Of Computer Science and Engineering at IIT Ropar (<https://sites.google.com/iitrpr.ac.in/nauluck>) delivered a lecture on **Fog Computing**



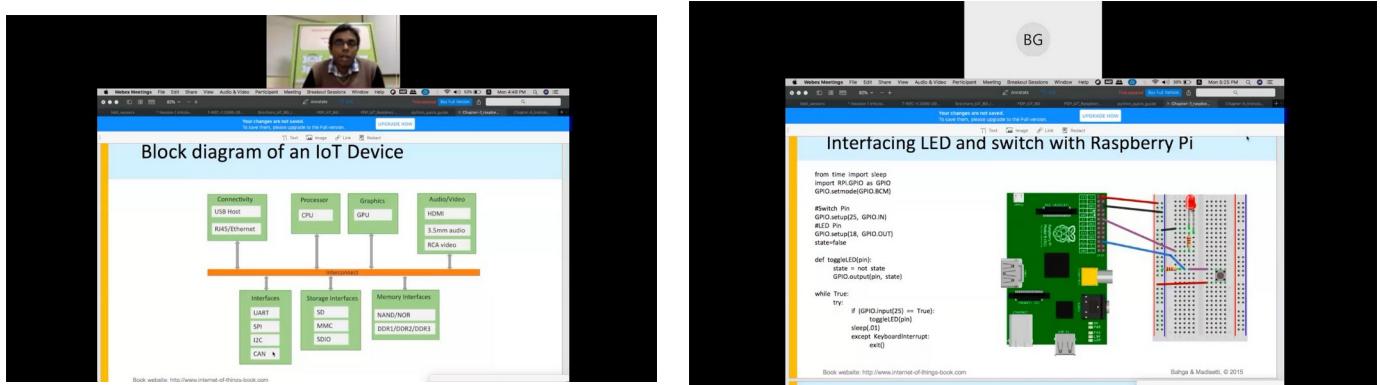
Lecture Video available at : <https://youtu.be/Hk6a4q-go1I>

Technical Session 3.1 (Tutorial Session) : This session was conducted by **Dr. Bibhas Ghoshal**, Assistant Professor in the Dept. Of IT, IIIT Allahabad (<http://profile.iiita.ac.in/bibhas.ghoshal>) and the coordinator of the program. Prof. Ghoshal explained the design of IoT Systems - the logical design, the different levels on IoT System design and case studies.



Video Lecture Available at : https://youtu.be/h_LwkMwVOtM

Technical Session 3.2 (Hands-on Session) : This session was conducted by **Dr. Bibhas Ghoshal**, Assistant Professor in the Dept. Of IT, IIIT Allahabad (<http://profile.iiita.ac.in/bibhas.ghoshal>) and his PhD students. Prof. Ghoshal introduced the Raspberry Pi board to the participants and demonstrated how to program Raspberry Pi using Python



Video Lecture Available at : <https://youtu.be/XEzgqwh16vc>

Day 2 : Total 4 Technicals Session (Two lectures , Tutorial and Hands-on sessions)

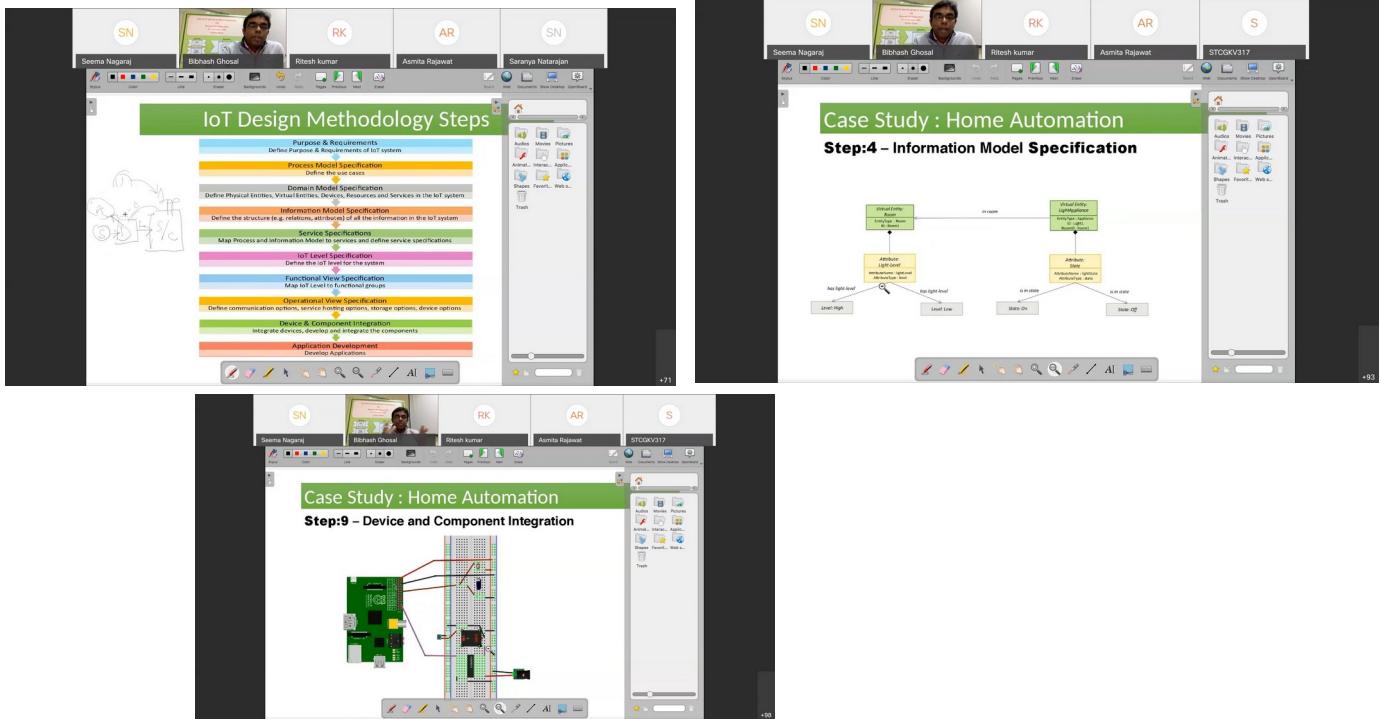
Technical Session 4 (Lecture 3) - This was a lecture session on **Resource Constrained IoT Offloading with Fog Computing** delivered by **Dr. Ajay Kattepur, Research Scientist at Ericsson Research, Bengaluru(<https://scholar.google.com/citations?user=UFFGGzAAAAJ&hl=en>)**

Video Lecture available at : <https://youtu.be/Kw4amW1fWEA>

Technical Session 5 (Lecture 4) - This was a lecture session on **MAC Protocols for IoT** delivered by **Prof. Sekhar Verma, Dept. Of IT, IIIT Allahabad**

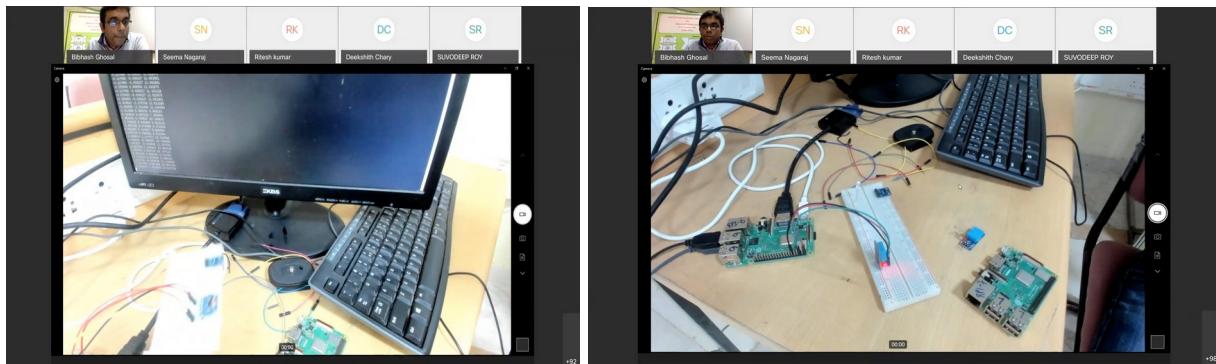
Video Lecture available at : <https://youtu.be/Yzdfy4lUkrc>

Technical Session 6.1 (Tutorial Session) : This session was conducted by **Dr. Bibhas Ghoshal**, Assistant Professor in the Dept. Of IT, IIIT Allahabad (<http://profile.iiita.ac.in/bibhas.ghoshal>) and the coordinator of the program. Prof. Ghoshal explained the design of IoT Systems - the IoT Design steps with a case study on Home Automation



Video Lecture available at : <https://youtu.be/1y-haxMdkTc>

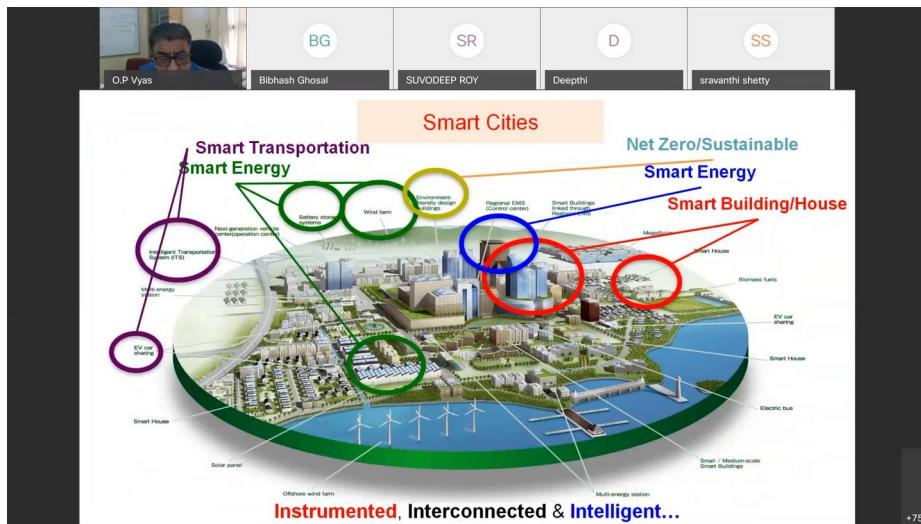
Technical Session 6.2 (Hands-on Session) : This session was conducted by **Dr. Bibhas Ghoshal**, Assistant Professor in the Dept. Of IT, IIIT Allahabad (<http://profile.iiita.ac.in/bibhas.ghoshal>) and his PhD students. Prof. Ghoshal introduced how to interface different sensors to the Raspberry Pi board and how to program the Pi using Python to collect data from these sensors



Video Lecture available at : <https://youtu.be/1y-haxMdkTc>

Day 3 : Total 4 Technicals Session (Two lectures , Tutorial and Hands-on sessions)

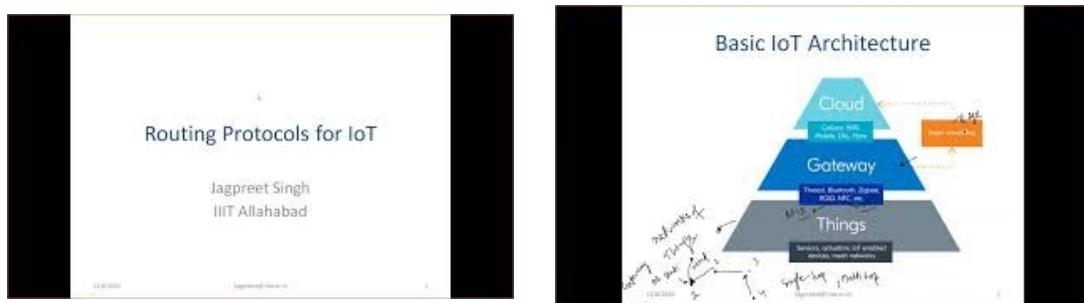
Technical Session 7 (Lecture 5) - This was a lecture session on **Smart Cities** delivered by **Prof. O.P. Vyas, Dept. Of IT, IIIT Allahabad(<https://scholar.google.co.in/citations?user=9-NwhCAAAAAJ&hl=en>)**



Prof. Vyas explained how IoT based systems are designed and deployed considering their application in Smart Transportation, Smart energy etc.

Video Lecture available at : <https://youtu.be/0ZgdQ4Nq4pg>

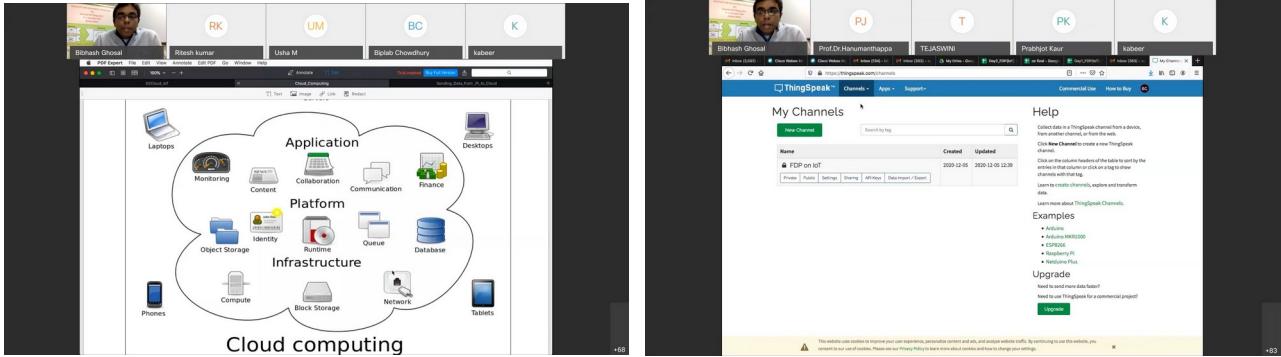
Technical Session 8 (Lecture 6) - This was a lecture session on **IoT Protocols** delivered by Dr. **Jagpreet Singh, Dept. Of IT, IIIT Allahabad(<https://scholar.google.co.in/citations?user=8qUKIE4AAAAJ&hl=en>)**.



In this lecture, Dr. Singh introduced the different IoT protocols in use and discussed the advantage and disadvantage of each and how they can be utilized in design of different IoT based systems.

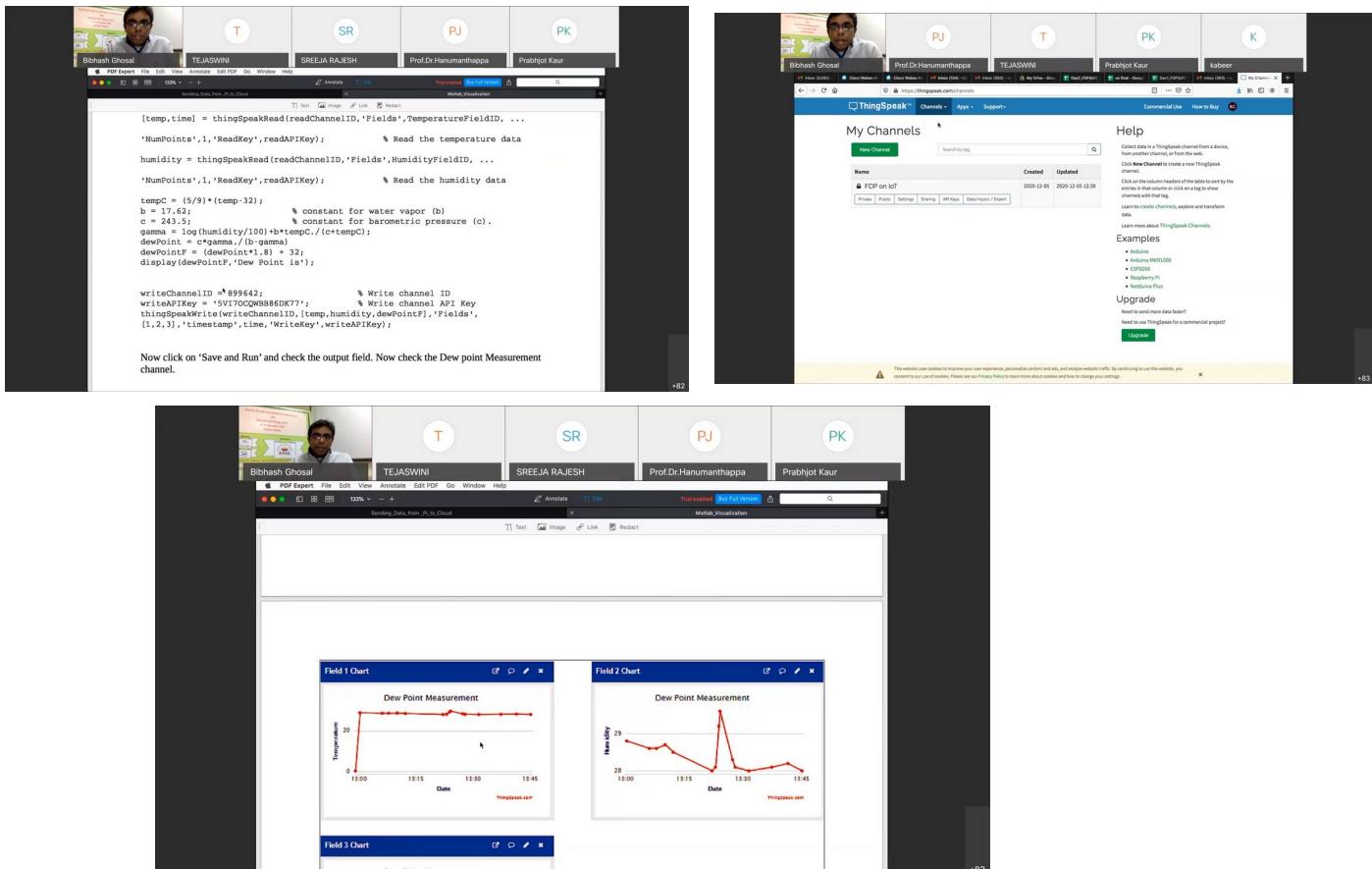
Video Lecture Available at : <https://youtu.be/8spYNHUoVgs>

Technical Session 9.1 (Tutorial Session) : This session was conducted by **Dr. Bibhas Ghoshal**, Assistant Professor in the Dept. Of IT, IIIT Allahabad (<http://profile.iiita.ac.in/bibhas.ghoshal>) and the coordinator of the program. Prof. Ghoshal explained the role of cloud in design of IoT Systems. He also provided a tutorial on ThinkSpeak, an Open IoT Platform to show used of cloud for IoT based systems.



Video Lecture Available at : <https://youtu.be/CbPEJO594JE>

Technical Session 9.2 (Demo Session) : This session was conducted by **Dr. Bibhas Ghoshal**, Assistant Professor in the Dept. Of IT, IIIT Allahabad (<http://profile.iiita.ac.in/bibhas.ghoshal>) and the coordinator of the program. Prof. Ghoshal explained the use of ThinkSpeak, an Open IoT Platform using Raspberry Pi which collected data from a humidity sensor and sent the date to the cloud.



Video Lecture Available at : <https://youtu.be/CbPEJO594JE>

Feedback of participants for Day 3 :

| Timestamp | Email Address | Title | Name | Designation | Organization Name | Mobile number | Please provide your valuable feedback |
|--------------------|--------------------------------|-------|----------------------------|----------------------------|---|--------------------|--|
| 12/9/2020 17:18:56 | aganathanapandian@vit.ac.in | Dr. | Jaganatha Pandian | Associate Professor | VIT, Vellore | 09840571695 | Nice session good |
| 12/9/2020 17:19:01 | prakashcsopra@gmail.com | Dr. | D K Praghash | Assistant Professor | Koneru Lakshmaiah Educational Institute | 09586535381 | Good session |
| 12/9/2020 17:19:07 | srihari.hanikrishnan@gmail.com | Mr. | Harikrishnan MP | Assistant Professor | AL-AZHAR COLLEGE OF ENGINEERING | 8695912185 | Good session |
| 12/9/2020 17:19:10 | gopal.s@vit.ac.in | Mrs. | Akashdeep Kaur | Research scholar | The Great Institute of Engineering & Technology | 8024516293 | Very informative |
| 12/9/2020 17:19:15 | bapuji0105@gmail.com | Mr. | BILAL ABU CHAUDHURY | Assistant Professor | NSEC | 7044488549 | Excellent session |
| 12/9/2020 17:19:16 | deepak.garg@abes.ac.in | Mr. | Deepak Garg | Assistant Professor | ABES Engineering College | 9811380918 | Very informative |
| 12/9/2020 17:19:19 | namrataasukhija@gmail.com | Mrs. | NAMRATA SUJKHLA | Assistant professor | HRMRTM | 7206906490 | Excellent |
| 12/9/2020 17:19:20 | uthsyabmukhar@gmail.com | Mr. | Uthsyab mukhar mandal | Student | NIT mizoram | 09366578052 | Good |
| 12/9/2020 17:19:23 | sivabalavan1990@gmail.com | Dr. | Sivabalavan | SRF | Periyar University | 9087012989 | Valuable |
| 12/9/2020 17:19:23 | shak@amity.edu | Mr. | Dr. Sindhu Hak Gupta | Associate Professor | Amity University | 9811672731 | Thanks!!!!!! |
| 12/9/2020 17:19:23 | usha@vit.ac.in | Mrs. | Usha | Asst. Professor | BIT | +919945655545 | Informative |
| 12/9/2020 17:19:26 | usha@vit.ac.in | Mr. | Ganesham Mishra | Associate professor | Birla Institute of Technology | 07007462524 | Excellent |
| 12/9/2020 17:19:29 | vrushaliideore15@gmail.com | Mrs. | Vrushali Ramesh Deore | Lecturer | Pimpri Chinchwad Polytechnic | 8308350755 | Nice informative session |
| 12/9/2020 17:19:41 | asmithabhaduria@gmail.com | Mrs. | ASMITA RAJAWAT | ASSISTANT PROFESSOR | AMITY UNIVERSITY, NOIDA | 9971868302 | Session was well delivered and informative |
| 12/9/2020 17:19:42 | deepakmangal83@gmail.com | Mr. | Deepak Agarwal | Lecturer Engineering | SGBB Government Polytechnic | +918003093059 | Informative |
| 12/9/2020 17:19:43 | tahiniyath.shaeen@gmail.com | Mrs. | TAHINIYATH SHAHEEN | ASSISTANT PROFESSOR | Deccan College of Engineer | 8978547382 | Informative session |
| 12/9/2020 17:19:47 | hayansurya@gmail.com | Dr. | G. Suryanarayana | Professor | Sreyas Institute of Engineer | 9885709675 | Too good |
| 12/9/2020 17:19:48 | masettysharanya@gmail.com | Mrs. | Masetty Sharanya | Student | Sphoorthy Engineering College | 8897822817 | Excellent sessions |
| 12/9/2020 17:19:49 | prabhjot.kaur@misit.in | Dr. | Christina Jummar Choudhary | Associate professor | Sri Venkateswara Institute of Science +919381157310 | Wonderful session. | |
| 12/9/2020 17:19:51 | ashutoshchoudhary23@gmail.com | Mr. | Adithya Kumar Choudhary | Assistant Professor | Amity university, Chhattisgarh | 8550038078 | Nice session |
| 12/9/2020 17:19:52 | nora20@amity.edu | Mrs. | NEHA ARORA | Assistant Professor | Amity University, Noida | 9899346489 | Sessions are good and informative |
| 12/9/2020 17:19:53 | mnnandana@qfam.edu | Mr. | N Siva Mallikarjuna Rao | Assistant Professor | GITAM (Deemed to be Unive | 9985392196 | Informative sessions |
| 12/9/2020 17:19:54 | minajirattar20@gmail.com | Mrs. | Minaj R Attar | Lecture | Kle polytechnic mahalingapur | 8867418567 | Very nice innovative ideas I |
| 12/9/2020 17:19:59 | prabhjot.kaur@misit.in | Dr. | Prabhjot Kaur Sidhu | Associate professor | Maharaja Surajmal Institute | 9810665064 | It was really an informative session |
| 12/9/2020 17:20:09 | jairifscholar@gmail.com | Mr. | JAYAPAL ELLURU | Ph.D Scholar (UGC SRF) | S V UNIVERSITY COLLEGE | 7780544503 | Excellent |
| 12/9/2020 17:20:10 | dr.srinivasulu@vit.ac.in | Dr. | DR.SRIKANTH MALLAYYA | Teaching Fellow | Sri Venkateswara Institute of Science | 9999999999 | Sessions are well organized |
| 12/9/2020 17:20:10 | meeg@vit.ac.in | Mr. | Msi studnt muqueem | Asst Professor | Kalakriti Institute of Technolo | 9973333305 | Excellent |
| 12/9/2020 17:20:20 | varshmit990@gmail.com | Mr. | T.vamshi krishna | UG student | CMR TECHNICAL CAMPUS | 0182510333 | Due to health problem I didn't attend |
| 12/9/2020 17:20:23 | tanveer@deccancollege.ac.in | Mrs. | Tanveer Sultan | Assistant Professor | Deccan College of engineeri | 9959681956 | All session : Nice |
| 12/9/2020 17:20:23 | sabitha_v@vaagdevi.edu.in | Mrs. | V.SABITHA | Associate Professor | Vaagdevi College Of Enginee | 9908418571 | excellent sessions |
| 12/9/2020 17:20:27 | gjain.guest@dhgsu.edu.in | Mr. | Gaurav Jain | Assistant professor(guest) | Dr hani singh gour university | 9993645766 | Today resource person has been excellent |
| 12/9/2020 17:20:28 | sakshi@kiit.edu | Mrs. | SAKSHI | Associate Professor | KIET Group of Institutions, G | 8923049510 | Valuable session |
| 12/9/2020 17:20:29 | kanikasharma0@yahoo.co.in | Dr. | Kanika Sharma | Associate Professor | NITTTR, Chandigarh | 9988777427 | very nice sessions |
| 12/9/2020 17:20:43 | chanchalchoudhary827@gmail.com | Dr. | Chanchal Ahlawat | Research Scholar | Jaypee Institute of Informatic | 8938118320 | Excellent session |
| 12/9/2020 17:20:44 | shyamkumarreddy@vit.ac.in | Dr. | Shyamkumar Kasthala | Associate professor | Amity University, Noida | 9447474149 | Sessions were interactive |
| 12/9/2020 17:20:54 | shanthiavaranjan@gmail.com | Dr. | P. Shanti | Assistant professor | JJ college of engineering and | 8936403234 | Very good |
| 12/9/2020 17:21:16 | bsharmavik@gmail.com | Mr. | Brij Bhushan Sharma | Assistant Professor | Schoolini University | 9418550459 | all good |
| 12/9/2020 17:21:19 | ripty.e896@cumail.in | Ms. | Ripty Singla | Assistant professor | Chandigarh University | 7589285596 | Informative session. Kindly explain more |
| 12/9/2020 17:21:24 | bhargeshpatel@acet.ac.in | Mr. | Bhargesh Patel | Assistant Professor | G H Patel College of Enginee | 9725501043 | Today's sessions are very informative |
| 12/9/2020 17:21:37 | arunayothi.muthyalu@gmail.Mrs. | Mrs. | MUTHYALALA ARUNA JYOTHI | Assistant professor | MALLEY REDDY ENGINEER | 6304632386 | Very informative session |
| 12/9/2020 17:21:37 | lakshmi.v@vit.ac.in | Dr. | Nithin Jain | Associate Professor | Jaypee Institute of Informa | 07895451577 | very nice sessions |
| 12/9/2020 17:21:37 | lakshmi.v@vit.ac.in | Dr. | Poonam Verma | Associate Professor | Thapar Institute of Engineer | 9810981014 | Workshop is very helpful |
| 12/9/2020 17:21:44 | kiran@vce.edu.in | Dr. | Kiran V | Associate Professor | R V College of Engineering | 9880098877 | Sessions are informative |
| 12/9/2020 17:21:47 | ramesh ragala@vit.ac.in | Dr. | Dr. Ramesh Ragala | Associate Professor | VIT Chennai | 09087277270 | The sessions are very nice. |
| 12/9/2020 17:22:21 | husaha8@gmail.com | Mrs. | V.Usha | Assistant Professor | Vel Tech Rangarajan Dr.Sag | 8098053157 | All sessions are informative |
| 12/9/2020 17:22:31 | hasan@hotmail.com | Dr. | Dr Mohd Asif Hasan | Associate Professor | University Politechnic, AMU | 9897148434 | Thanks for introducing us to |
| 12/9/2020 17:22:32 | srinivas1974@gmail.com | Dr. | S SRIVINASAN | Associate Professor | Jain Deemed to be Universit | 7708880334 | Excellent session |
| 12/9/2020 17:22:32 | manish.sawant@vit.ac.in | Dr. | Manish D Sawale | HOD | Oriental Institute of Science | 9893939906 | Very informative |
| 12/9/2020 17:22:44 | manjot.mishra@bhu.ac.in | Dr. | Manjot Kaur Mishra | Assistant Professor | Biju Patnaik Institute of Technolo | 9430299806 | Very informative sessions we got |
| 12/9/2020 17:22:45 | m.007.rahal@gmail.com | Mr. | RAHUL MONDAL | LECTURER | RGOSU, BHU | 8971364204 | All the sessions are very informative |
| 12/9/2020 17:22:48 | m.k.sureshkumar@kluniversi | Mr. | K Sureshkumar | Assistant professor | RKMS | 7003761980 | VERY GOOD SESSION |
| 12/9/2020 17:22:49 | crdmurukesh@gmail.com | Dr. | MURUKESH C | Associate Professor | Koneru Lakshmaiah educati | 9894237138 | Good |
| 12/9/2020 17:22:49 | navsingh@nitd.org.in | Mr. | Navneet Singh | EM | Vellamal Engineering Colle | 9841238259 | Informative sessions Hands on |
| 12/9/2020 17:22:52 | sumikg@vit.ac.in | Mr. | Sumit Gupta | Assistant Professor | SRMS CET, BAREILLY | 99900216463 | Again, I am mentioning |
| 12/9/2020 17:22:52 | sumitgupta@vit.ac.in | Mr. | Gangadharan | Associate professor | Dayanand Sagar Gupta Instit | 9759008001 | very good informative sessio |
| 12/9/2020 17:23:02 | annupama@yashasvi@gmail.com | Ms. | Annapurni Haikari | Assistant professor | AIMS Institutes | 9873406134 | session was very informative |
| 12/9/2020 17:23:05 | swapanimaladey@gmail.com | Mr. | Swapani Makdey | Assistant professor | fr. Conceicao Rodrigues coll | 9916377393 | All the sessions are very informative |
| 12/9/2020 17:23:05 | kalmaqau91@gmail.com | Mr. | KAMAL KUMAR GAUR | Engineer | IGTR Ahmedabad | +91761460220 | Interactive session |
| 12/9/2020 17:23:16 | jaiswal1302@mail.com | Dr. | Sushma Jaiswal | Associate Professor | Guru Ghasidas Central Univ | 6260651220 | very informative |
| 12/9/2020 17:23:17 | manimegalai@gmail.com | Dr. | Manimegalai | Assoc Professor | Karunya Deemed University | 9994216011 | Session was good inf |
| 12/9/2020 17:23:26 | pwc2016002@lita.ac.in | Mrs. | Ritesh kumar | Research Scholar | IIT ALLAHABAD | 7800673388 | Session was good especially |
| 12/9/2020 17:23:34 | kalyavizhi19@gmail.com | Mrs. | A. Kalyavizhi | Associate Professor | ANAND Institute of Higher Tech | 9940432635 | excellent .. practical session |
| 12/9/2020 17:23:36 | parthiv@vit.ac.in | Dr. | VICKY VEERANNA | Associate Professor | Tatyasaheb Kore Institute of | 8790530001 | All the sessions are very informative |
| 12/9/2020 17:23:45 | reshma@deccancollege.ac.in | Mrs. | Reema Begum | Associate Professor | Deccan college of Engineeri | 8309855681 | Very Good |
| 12/9/2020 17:23:57 | sgupta1292@gmail.com | Mr. | Siddharth Gupta | Assistant Professor | Graphic Era Deemed to be U | 7417767704 | The session was informative |
| 12/9/2020 17:24:03 | kssatyashree@gmail.com | Dr. | Dr. SATYASHREE KS | LIBRARIAN | Government Engineering Co | +919886721084 | Very interesting sessions we |
| 12/9/2020 17:24:03 | yogeshak@nies.ac.in | Dr. | Yogesha K.K | Asst professor | The national institute of engi | 9192429865625 | Nice programme |
| 12/9/2020 17:24:10 | maulik.trivedi@darshan.ac.in | Prof. | Maulik Trivedi | Associate Professor | Darshan institute of enginee | 9998265095 | Informative Session |
| 12/9/2020 17:24:13 | sunukur27@gmail.com | Dr. | Suresh Nanda Kumar | Senior Assistant Professor | Maharaja Surajmal Institute | 9582065265 | Very useful sessions |
| 12/9/2020 17:24:13 | sunukur27@gmail.com | Dr. | Abhishek Kumar | Associate professor | Xavier Institute of Management | 9975000001 | Good presentation |
| 12/9/2020 17:24:13 | sunukur27@gmail.com | Dr. | Abhishek Kumar | Associate professor | Andhra University | 9940432635 | Very informative |
| 12/9/2020 17:24:45 | annupama@yashasvi@gmail.com | Ms. | Seema Nagrani | Assistant Professor | SANTINIKETAN INSTITUTE | 97980641038 | All the sessions are very informative |
| 12/9/2020 17:24:45 | seemanparimal12@gmail.com | Ms. | Parimala Saini | Asst. Prof | Bengaluru Institute of Techno | 9991631109 | Very informative, sessions were good. |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Graphic Era Deemed to be U | 9902518837 | Sessions are informative, but the presentations are very informative |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9998648303 | Very informative, learnt a lot |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | MIT, Manipal | 9582065320 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Bengaluru Institute of Techno | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | SANTINIKETAN INSTITUTE | 97980641038 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative, sessions were good. |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal Institute of | 9995030001 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Seema Nagrani | Assistant Professor | Manipal Institute of | 9991631109 | Very informative session |
| 12/9/2020 17:25:00 | anupamasingh123@gmail.com | Ms. | Deepthi S | Asst Prof Sr Scale | Manipal | | |

Technical Session 10 (Lecture 7) - This was a lecture session on **Machine Learning for IoT** delivered by Prof. **G.C. Nandi**, Dept. Of IT, IIIT Allahabad(<https://sites.google.com/site/gcnandi/>).

The left slide, titled "Machine Learning tools", lists requirements for machine learning data and three types of tools, each with sub-points. The right slide, titled "Why Deep Learning?", features a diagram of a brain with various regions labeled and a caption about a brain rewiring experiment.

In this lecture Prof. Nandi discussed different Machine Learning Algorithms and how they can be used for data generated by different IoT based systems

Video Lecture Available at : <https://youtu.be/kBlc8gHoCtQ>

Technical Session 11 (Lecture 8) - This was a lecture session on **Autonomous Vehicles** delivered by Prof. **John Jose**, Dept. Of CSE, IIT Guwahati (<https://www.iitg.ac.in/johnjose/>).

The left slide, titled "Transformation of our Life via IoT", shows four icons: Sensing, Connectivity, Processing (ML, AI), and Safety & Security (incl. Privacy). The right slide, titled "SAE Levels of Automation", details six levels from Level 0 to Level 5, each with a corresponding diagram of a driver's role in vehicle control.

Prof. Jose highlighted another popular application of IoT - the autonomous vehicles.

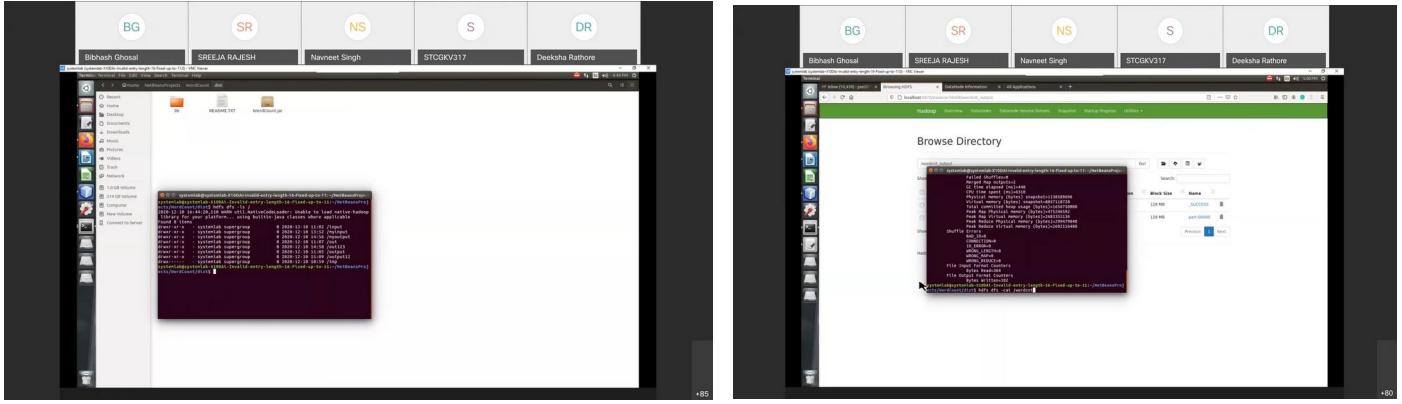
Video Lecture Available at : <https://youtu.be/gRkLkGKIWqI>

Technical Session 12.1 (Tutorial Session) : This session was conducted by **Dr. Bibhas Ghoshal**, Assistant Professor in the Dept. Of IT, IIIT Allahabad (<http://profile.iiita.ac.in/bibhas.ghoshal>) and the coordinator of the program. Prof. Ghoshal explained need for big data analytics in IoT and delivered a tutorial on Hadoop Framework and Map Reduce.

The left slide, titled "Big Data Challenges", compares "Vertical Scaling" (adding more RAM to a single server) and "Horizontal Scaling" (adding multiple servers). The right slide, titled "Example: Sum of squares", illustrates a MapReduce process with input [1, 2, 3, 4], intermediate output [1, 4, 9, 16], and final output 30.

Video Lecture Available at : https://youtu.be/xyo9I_Xi83I

Technical Session 12.2 (Demo Session) : This session was conducted by **Dr. Bibhas Ghoshal**, Assistant Professor in the Dept. Of IT, IIIT Allahabad (<http://profile.iiita.ac.in/bibhas.ghoshal>) and the coordinator of the program and his students. In this session the participants were shown the installation and use of Hadoop Framework through simple examples. The use of Map Reduce was also demonstrated.



Video Lecture Available at : https://youtu.be/xyo9I_Xi83I

Feedback of Participants : Day 4

| Timestamp | Email Address | Title | Name | Designation | Organization Name | Mobile number | Please provide your valuable feedback |
|---------------------|-------------------------------------|-------|-------------------------|----------------------------|---------------------------------------|---------------|--|
| 12/10/2020 17:18:55 | praveena.4u@gmail.com | Mrs. | Praveena nuthakki | Assistant professor | V.r Siddhartha engineering 3 | 0989628444 | Excellent |
| 12/10/2020 17:19:13 | deivamani@auist.net | Dr. | DEIVAMANI MALLAYA | Teaching Fellow | Anna University | 9443732823 | Nice session |
| 12/10/2020 17:19:17 | gunjanbenival@mail.in | Mrs. | Gunjan | Assistant professor | Maharaja Surajmal Institute | 9582026552 | Very helpful session |
| 12/10/2020 17:19:20 | deepak_gang@abes.ac.in | Mr. | Deepak Gang | Assistant Professor | ABES Engineering College | 9811380918 | Very informative session |
| 12/10/2020 17:19:23 | minrajtar20@gmail.com | Mrs. | Minraj R Attar | Lecturer | KMIE polytechnic mahalingapur | 8867418567 | Excellent |
| 12/10/2020 17:19:32 | sabitiba_v@vivaadevi.edu.in | Mrs. | V. SABITHA | Associate Professor | Vaagdevi College Of Enginee | 9908418571 | Very informative session |
| 12/10/2020 17:19:33 | deepakmangala8@gmail.co | Mr. | Deepak Agarwal | Lecturer Engineering | SGBB Government Polytech+918003093059 | Nice Session | |
| 12/10/2020 17:19:45 | prabhijot.kaur@msit.in | Dr. | Prabhijot kaur Sidhu | Associate Professor | Maharaja Surajmal Institute | 9810665064 | All the sessions were really v |
| 12/10/2020 17:19:48 | nirmala.singh1991@gmail.com | Mrs. | NAMRATA SINGHJI | Assistant professor | HRIHARAJ ENGINEERING | 7206906490 | Excellent |
| 12/10/2020 17:19:51 | sonali_ndhuwale1991@gmail.com | Prof. | D.S. Sonali Nduwale | Associate Professor | GHRCE NAUGPUR | 09881713143 | Good session |
| 12/10/2020 17:19:54 | jeelan79@gmail.com | Mr. | G jeelan basha | Professor | Sdgcollege | 8866264940 | Good |
| 12/10/2020 17:19:56 | vijinworld07@gmail.com | Mr. | Vijin Kumar Pandey | Research Scholar | NIT Patna | 8707340564 | Good lectures |
| 12/10/2020 17:20:07 | mndhanu@gmail.edu | Mr. | N Siva Malikaruna Rao | Assistant Professor | GITAM (Deemed to be Univ | 9885392196 | Very good practical sessions |
| 12/10/2020 17:20:16 | 2shashidhar@gmail.com | Dr. | Dr. Shashidhar Kashthal | Assistant Professor | Indian Naval Academy Ezhir | 9496472448 | The training sessions are ve |
| 12/10/2020 17:20:17 | tahriyati@decancollege.ac.in | Dr. | TAHNIYATH SHAHEEN | Assistant Professor | Deccan College of Engineer | 8978547382 | Informative session |
| 12/10/2020 17:20:24 | saisuneshtha410@gmail.com | Mrs. | Madapatti sainuseetha | Assistant professor | Malla Reddy engineering col | 8074777853 | Good |
| 12/10/2020 17:20:27 | hemlatapt@bbdnit.ac.in | Ms. | Hemlata Pant | Assoc. Prof. | BBDITM | 9935627643 | Very informative and interest |
| 12/10/2020 17:20:28 | snukmuk27@gmail.com | Dr. | Suresh Nanda Kumar | Senior Assistant Professor | Xavier Institute of Managem | 7904080206 | Robotics session, automo |
| 12/10/2020 17:20:31 | bsharmik@gmail.com | Mr. | Brijbushan Sharma | Assistant Professor | Shoolini University | 9816260108 | nothing |
| 12/10/2020 17:20:32 | arunayothi_muthyalu@gmail.Mrs. | Dr. | MUTHYALA ARUNA JYOTHI | Assistant professor | MALLA REDDY ENGINEER | 6304632258 | Nice session |
| 12/10/2020 17:20:33 | guruprasadreddy@gmail.com | Mr. | Umesh Prasad Mishra | Associate professor | Biju Patnaik Institute of Technolo | 07007462524 | Good |
| 12/10/2020 17:20:37 | anil.viet@gmail.com | Mr. | ANIL KUMAR CHAUDHARY | HoD Assistant Professor | BUDDHA INSTITUTE OF TE | 9454001789 | Very informative |
| 12/10/2020 17:20:44 | pwc2016002@iiit.ac.in | Mr. | Ritesh kumar | Research Scholar | IIT ALLAHABAD | 7800687388 | good for us especially robotics |
| 12/10/2020 17:20:46 | tkarfat@kiiit.ac.in | Dr. | TEJASWINI KAR | ASSISTANT PROFESSOR | KIIT DEEMED TO BE UNIVE | 7008130862 | GOT SOME IDEA ABOUT H |
| 12/10/2020 17:20:48 | narora2@iiit.edu.my | Mrs. | NEHA ARORA | Assistant Professor | Amity University, Noida | 9899346489 | Sessions are good and infor |
| 12/10/2020 17:20:57 | crdmurukesh@gmail.com | Mr. | MURUKESH C | Associate Professor | Velammal Engineering Colle | 9841238259 | Hadoop hands on is new co |
| 12/10/2020 17:21:08 | manimagalai@karunya.edu | Dr. | Manimegalai | Assoc Professor | Karunya Deemed University | 9994291601 | Session was very useful and |
| 12/10/2020 17:21:20 | kamalgaur1@gmail.com | Mr. | KAMAL KUMAR GAUR | Engineer | IGTR Ahmedabad | +919716405220 | Very impressive session |
| 12/10/2020 17:21:24 | m.007.rahu@gmail.com | Mr. | RAHUL MONDAL | LECTURER | RKMS | 7003761980 | FABULOUS |
| 12/10/2020 17:21:30 | krishna@vce.edu.in | Dr. | Kiran V | Associate professor | R. V. College of Engineering | 8860090877 | Both the sessions are excell |
| 12/10/2020 17:21:37 | maurizio@vce.edu.in | Dr. | Mauro Kumar Singh | Assistant Professor | BabuBaba Institute of Technolo | 9494001333 | Sir Today sessions is nice or |
| 12/10/2020 17:21:43 | anustumana.murali@gmail.c | Mrs. | Gopika Anu Kumar | Asst. Professor | Malta Reddy Engineering co | 8428922331 | interesting session |
| 12/10/2020 17:21:49 | priyesth81@gmail.com | Mr. | Priyesh Tiwari | Assistant professor | Greater noida institute of tec | 9868483013 | No |
| 12/10/2020 17:21:54 | mishra.alok@nic.in | Mr. | ALOK KUMAR MISHRA | STA-A | NIC | 989903205 | Good presentation |
| 12/10/2020 17:21:55 | hasan_in@hotmail.com | Dr. | Dr. Mohd Asif Hasan | Associate Professor | University Polytechnic, AMU | 9897148434 | Outstanding job done by the |
| 12/10/2020 17:22:00 | chanchalchaudhary827@gm | Ms. | Chanchal Ahlawat | Research scholar | Jaypee Institute of informatic | 8938811827 | Very good session |
| 12/10/2020 17:22:10 | shak@amity.edu | Dr. | Sindhu Hak Gupta | Associate Professor | Amity University | 9811872731 | Thanks!!!! |
| 12/10/2020 17:22:40 | annapareddyhaaritha@gmail.Mrs. | Dr. | Annapareddy Haaritha | Assistant Professor | AIMS Institutes | 9196377391 | All the sessions are informat |
| 12/10/2020 17:22:50 | sumilk@gmail.com | Mr. | Sumit Gupta | Assistant Professor | SRMS CET, BAREILLY | 9759008001 | Excellent sessions. |
| 12/10/2020 17:23:01 | shehryar.yalavarthi@gmail.c | Dr. | Usha Devi Yalavarthi | Associate Professor | KLEF | 9133241111 | Interesting |
| 12/10/2020 17:23:12 | kousikibhavya@gmail.com | Mr. | Kousik Bisshayee | Assistant Professor | Ram Krishna Mahato Govt. E | 9477169984 | A Highly informative FDP |
| 12/10/2020 17:23:15 | brijendra104@gmail.com | Mr. | Brijendra sharma | Research scholar | Monial Krishna Jaipur | 9443731333 | Excellent |
| 12/10/2020 17:23:33 | sinhais1974@gmail.com | Dr. | S S Srinivas | Associate professor | Jan Deemed to be University | 7708860000 | Very informative and knowledge s |
| 12/10/2020 17:23:44 | anara.cae@iiit.ac.in | Mrs. | Rana Gill | Assistant Professor | Chandigarh University,Moh | 9876682727 | good |
| 12/10/2020 17:23:52 | asmitabhaduria@gmail.com | Mrs. | ASMITA RAJAWAT | ASSISTANT PROFESSOR | AMITY UNIVERSITY, NOIDA | 9971868302 | session was informative and |
| 12/10/2020 17:24:07 | anujisinghrawat72@gmail.co | Mr. | Anu singh | Assistant professor | GEU | 9634248273 | Very nice session |
| 12/10/2020 17:24:17 | jaiswal1302@gmail.com | Dr. | Sushma Jaiswal | Assistant Professor | Guru Ghasidas Central Univ | 6260651220 | Very informative |
| 12/10/2020 17:24:29 | ksatayashree@gmail.com | Dr. | Dr.SATYASREE KS | LIBRARIAN | Government Engineering Co | 09886721084 | Very informative sessions |
| 12/10/2020 17:24:31 | tanveer@deccancollege.ac.i | Mrs. | Tanveer Sultan | Assistant Professor | Deccan College of engineer | 9959681956 | Bibbhish Ghosal sir session r |
| 12/10/2020 17:24:32 | jaifjscholar@gmail.com | Mr. | JAYAPAL ELLURU | Ph.D Scholar (UGC SRF) | S.V. UNIVERSITY COLLEG | 7780544503 | Excellent |
| 12/10/2020 17:24:33 | avathaveteran@gmail.com | Mr. | VISLAVATH VEERANNA | Assistant Professor | Talla Padmavathi College | 8790530016 | Very good |
| 12/10/2020 17:24:40 | venkatesce2008@gmail.com | Mr. | Annamboota Venkatesh | Assistant professor | Usha Rama College of Engi | 7981320924 | Good explanation |
| 12/10/2020 17:24:44 | srinivasreddy17@gmail.com | Mr. | Kavitha Kavitha | Research Networking Ad | Harvard School of Engin | 9008336850 | Very nice sessions |
| 12/10/2020 17:25:13 | tany7858@gmail.com | Mr. | Tanvir Jaiswal | Research Scholar | National Institute of Techn | 7987208472 | Very informative |
| 12/10/2020 17:25:18 | riteshchandek@gmail.com | Mr. | Ritesh Kumar | Assistant Professor | School of Engineering and T | 08295711166 | Good Session Today |
| 12/10/2020 17:25:40 | sumalatha@bit.ac.in | Dr. | Sumalatha Aradhya | Assistant Professor | Siddaganga Institute of Tech | 990060254 | none |
| 12/10/2020 17:26:06 | kalayizhivelan.annamalai@gmail.Mrs. | Dr. | A. Kalayvizhi | Associate professor | Anand Institute of Higher Tec | 9940326363 | Very interesting and most ap |
| 12/10/2020 17:26:10 | kanmani.ec@sahyadri.edu.in | Mrs. | Kanmani | Assistant professor | Sahyadri college of engineer | 8762925854 | Good session |
| 12/10/2020 17:26:19 | suvoodeep.roy_705@rediffm | Mr. | SUVOODEEP ROY | LECTURER | BIRLA INSTITUTE OF TECH | 09433135098 | GOOD |
| 12/10/2020 17:26:21 | usha@bt-bangalore.edu.in | Mrs. | Aravindh Kanthan | Assistant Professor | SNS College of Engineering | 9629604421 | Good Session |
| 12/10/2020 17:26:22 | usha@bt-bangalore.edu.in | Dr. | Usha M | Asst. Professor | BIT | +919945655545 | Very good |
| 12/10/2020 17:26:42 | AKASHDEEPM811@GMAIL.C | Ms. | Kanika Sharma | Assistant Professor | NITTTR, Chandigarh | 9988877421 | Very Good Sessions |
| 12/10/2020 17:27:02 | biplab0105@gmail.com | Mr. | AKASHDEEPM811@GMAIL.C | Research scholar | Thapar Institute of engineeri | 8360927626 | Good |
| 12/10/2020 17:27:07 | chaitanya.singh@iit.ac.in | Mr. | BiPLAB CHOWDHURY | Assistant Professor | NSCE | 704485849 | Good Session |
| 12/10/2020 17:27:14 | chaitanya.singh@iit.ac.in | Mr. | Chaitanya Priya J | Research Scholar | AIUB University MIT Campu | +918903865893 | depth illustrations |
| 12/10/2020 17:27:15 | shivgnit@gmail.com | Mr. | Shiv Narain Gupta | Assistant Professor | Dr. hanif soughr university | 9993645766 | Today's session was quite in |
| 12/10/2020 17:27:33 | ac.christy@gmail.com | Dr. | Christy A | Professor | Greater Noida Institute of Te | 0999717946 | No |
| 12/10/2020 17:27:37 | saurabh.sabu@gmail.com | Mr. | Saurabh Sharma | Research Scholar | Sathyabama Institute of Sci | +919381157310 | Very useful session |
| 12/10/2020 17:27:46 | pooman.verma@thapar.edu | Dr. | Pooman Verma | Assistant Professor | Sripathy Engineering Coll | 8878682817 | Excellent session |
| 12/10/2020 17:28:05 | saswata.maiti@gmail.com | Mr. | SASWATA MAITI | PG DIPLOMA STUDENT | CITAM (Deemed to be Univ | 09482057660 | More practical cases needed |
| 12/10/2020 17:28:08 | manoj.mishra@bhu.ac.in | Dr. | PG DIPLOMA STUDENT | PG DIPLOMA STUDENT | Indraprastha Engineering Co | 9711669691 | nice session |
| 12/10/2020 17:28:49 | bhargeshpate@gmail.co | Mr. | Manoj Kumar Mishra | Assistant Professor | Malla Reddy Engineering C | 9550303400 | Good |
| 12/10/2020 17:29:19 | prakashcospro@gmail.com | Dr. | Bhargesh Patel | Assistant Professor | RGSC,BHU | 98725501043 | Sessions are very informati |
| 12/10/2020 17:29:21 | prakashcospro@gmail.com | Dr. | D. K. Praghash | Assistant Professor | Koneru Lakshmaiah Educati | 9586535381 | good |
| 12/10/2020 17:29:29 | gajin.guest@dsqsguest.edu.in | Mr. | Gajin Jaiswal | Assistant professor(guest) | Aligarh Muslim Univ | 9993645766 | Today's session was quite in |
| 12/10/2020 17:32:44 | manish.sawale@gmail.com | Mr. | Manish D Sawale | HOD | SRM Institute of Science | 90346938649 | Excellent |
| 12/10/2020 17:32:45 | mahehs.mucous@gmail.com | Mr. | Mahehs Punyapu | CEO | Greater Noida Institute of Te | 9811047040 | very nice |
| 12/10/2020 17:32:50 | drishabhupad@iit.ac.in | Dr. | Dinesh Gupta | Professor | SRI Institute of Science and | 7015794565 | Good |
| 12/10/2020 17:33:01 | mn.nkm.kumar@gmail.com | Mr. | Maseety Sharanya | Student | IDP, BORGONA MEGHE, V | 9934347907 | Excellent sessions |
| 12/10/2020 17:33:11 | mpoic2018@oipm.com | Dr. | M Naren Kumar | Asst. Prof. | GOVERNMENT POLYTECH | 993437907 | Good one |
| 12/10/2020 17:33:41 | shettyravath18@gmail.co | Mr. | Manish Gupta | Associate Professor | IDP, BORGONA MEGHE, V | 993437907 | Excellent sessions |
| 12/10/2020 17:33:49 | deekshithchary@gmail.com | Mr. | SHETTY, SRAVANTHI | Assistant Professor | Idp,Manipal | 9550303400 | Excellent |
| 12/10/2020 17:41:36 | vrushalideep15@gmail.com | Mrs. | Vrushali Ramesh Deore | Lecturer | Pimpri Chinchwad Polyte | 8308350755 | Very informative session |
| 12/10/2020 17:41:50 | sanjanamangaram@gmail.com | Ms. | Sanjana M Nagaraj | Assistant Professor | Siddaganga Institute of Tech | 6360874134 | Nice session |
| 12/10/2020 17:42:44 | sanjeev0405@gmail.com | Mr. | Sanjeev Patel | Director | Arva IT | 8618337553 | Great and very informative s |
| 12/10/2020 17:44:36 | sudhir482@btu.ac.in | Mr. | Sudhir Shukla | AP | BIT GIDA GKPK | 7458037519 | No comments |
| 12/10/2020 17:44:43 | suny.alts@gmail.com | Dr. | G.Surya Narayana | Professor | Sreyas Institute of Engineeri | 9887509675 | Informative Session |
| 12/10/2020 17:45:07 | shanthisaravanan9@gmail.co | Dr. | P. Shanthi | Assistant professor | JJ college of engineering an | 8939649324 | Good |
| 12/10/2020 17:45:26 | unayashravat26@gmail.com | Mr. | NIRMANA KUNAR SINGH | Assistant Professor | NIRMANA KUNAR SINGH | 09366578052 | Inspired, kindly share the m |
| 12/10/2020 17:48:33 | anupamasingham17@gmail.co | Mr. | Abdul Gaffar Patel | Asst. Prof | Raju Kumar Goel Institute of | 09449846474 | Good |
| 12/10/2020 17:49:09 | aprasiradhdse@gmail.co | Dr. | M. P. M. Prasad | Assistant professor | SRI VENKATESWARA COL | 9494643333 | Good |
| 12/10/2020 17:51:55 | manohar.pardavala@gmail.co | Mr. | Deekshith Chary | Asst. Prof | Chandigarh University | 91 85003 9263 | Inspired, kindly share the m |
| 12/10/2020 17:55:11 | abdulgafar@vit.ac.in | Dr. | Abdul Gaffar H | Asso. Prof | Bharti Institute of Technology | 9002671259 | Very useful session |
| 12/10/2020 17:55:50 | neha.sharma@litrailp.ac.ir | Ms. | Neha Sharma | Assistant Professor | VIT university | 9340730505 | Very informative session |
| 12/10/2020 17:56:04 | deepthi@manipal.edu | Mrs. | Deepthi S | Asst Prof Sr scale | MIT,Manipal | 9902518837 | Good |
| 12/10/2020 17:59:48 | ER.RAJATTIWARI@GMAIL | Ms. | RAJAT TIWARI | ASSISTANT PROFESSOR | CHANDIGARH UNIVERSIT | 9779207699 | INFORMATIVE |
| 12/10/2020 17:59:50 | reshma@deccancollege.ac.i | Ms. | Reshma Begum | Assistant professor | Deccan College of Engineeri | 8309855681 | All sessions were very good |
| 12/10/2020 17:59:58 | naidud@kncet.edu | Mrs. | Devishree Rohit Naidu | Assistant Professor | Sri Ramdeobaba College o | 9622939590 | Good |
| 12/10/2020 18:02:19 | sreedhar.lolla@raghuenggco.com | Ms. | Sreedhar Lolla | Assoc. Prof | RAGHU ENGINEERING CO | 90966194798 | Very informative session. If p |
| 12/10/2020 18:02:20 | ashashingh@gmail.com | Dr. | Priti Singh | Assistant professor | VIT Chennai | 8285340125 | If you have any queries - kindly provide solutions for c |
| 12/10/2020 18:07:48 | ripty.e8896@gmail.com | Ms. | Riply Singla | Assistant professor | Chandigarh University | 7589285596 | Kindly provide solutions for c |
| 12/10/2020 18:12:13 | srihari.harikrishnan@gmail.co | Mr. | Harikrishnan MP | Assistant Professor | AL-ZAHAR COLLEGE OF E | 9895912185 | Good |
| 12/10/2020 18:13:16 | s4sabya@gmail.com | Mr. | SABYASACHI MUKHERJEE | LECTURER | SANTINI KETAN INSTITUTE | 7980641038 | Very informative sessions. Q |
| 12/10/2020 18:16:05 | kabeer786india@gmail.com | Dr. | Kabeer M | Associate professor | B S Abdur Rahman Crescen | 9600145307 | Very valuable and informative for IoT by Prof. G.C. Nandi, I |
| 12/10/2020 18:19:24 | ashutoshchoudhary23@gmail.Mr | Dr. | Ashutosh Choudhary | Assistant professor | Malta Reddy College of Engin | 9550930878 | Challenges - & opportunities |
| 12/10/2020 18:20:15 | singharma29@gmail.com | Mr. | Garima Singh | Assistant Professor | Dr Akhilesh Gupta Instit | 9873406716 | Sometime network issue |
| 12/10/2020 18:20:31 | maulik.trivedi@darshan.ac.in | Prof. | Maulik Trivedi | Assistant Professor | Mallaredi College of enginee | 9998265805 | Practical sessions really sup |
| 12/10/2020 18:20:32 | naidu497@gmail.com | Mr. | T RAGHAVENDRANADIA | Lecturer | KIET Group of Institutions, D | 9030047914 | Good |
| 12/10/2020 18:23:24 | yaminirataval26@gmail.com | Ms. | B. Jagannatha Pandian | Associate Professor | VIT, Vellore | 09840571695 | Very informative session |
| 12/10/2020 18: | | | | | | | |

Technical Session 13 (Lecture 9) - This was a lecture session on **IoT Security** delivered by Prof. **Indranil Sengupta**, Dept. Of CSE, IIT Kharagpur (<http://www.facweb.iitkgp.ac.in/~isg/>)

Security Challenges

- Design of lightweight identity, trust and key management protocols.
- Define end-to-end security strategies for IoT devices.
- Design of vulnerability and anomaly scanning/detection system.
- Analysis of energy consumption and memory footprint for running cryptographic algorithms.

Limitation of IoT System

- Limited Computing & Storage Power
- High Number Of Interconnected Devices
- Heterogeneous Network
- Different Standards & Communication stack
- Node Sleeping
- IoT Node acts as Network Node

Video Lecture Available at : <https://youtu.be/MayMxE-KIrg>

Technical Session 14 (Lecture 10) - This was a lecture session on **Research Directions in IoT** delivered by **Dr. Jagpreet Singh and Dr. Bibhas Ghoshal**, Dept. Of IT, IIIT Allahabad(
<https://scholar.google.co.in/citations?user=8qUKIE4AAAJ&hl=en>).

Popular Survey Article 5000+ citations

Internet of Things: A Survey on Enabling Technologies, Protocols, and Applications

Ala Al-Fuqaha, Senior Member, IEEE, Mohamed Guizani, Fellow, IEEE, Mehdi Mohammadi, Student Member, IEEE, Mohammed Alsharif, Student Member, IEEE, and Moussa Ayyash, Senior Member, IEEE

Abstract: This paper provides an overview of the Internet of Things (IoT) and its enabling technologies, challenges, and application issues. The IoT is enabled by the latest developments in RFID, smart sensors, communication technologies, and Internet technologies. The IoT is a new paradigm that can collaborate directly without human involvement to deliver a new class of applications. The IoT is a network of objects that can interact machine-to-machine (M2M) technologies can be seen as the first phase of the IoT. The second phase of the IoT is to connect diverse technologies to enable new applications by connecting physical objects to the Internet. The third phase of the IoT is the Internet of Everything (IoE). This paper starts by providing a horizontal overview of the IoT. Then, we give an overview of some technical details that pertain to the IoT such as the basic components of the IoT. Compared to other survey papers in the field, our objective is to provide a more detailed technical overview of the IoT. We also discuss application issues to enable researchers and application developers to get up to date information about the IoT. Finally, we propose how to deliver desired functionalities without having to go through APIs and the standard specifications. We also provide an overview of the IoT and its future applications. Moreover, we explain the IoT and its applications in various fields, technologies including big data analytics and cloud and fog computing. We also present the IoT and its applications in various fields, IoT services. Finally, we present detailed service use-cases to illustrate the IoT and its applications. The main contribution of this paper is to deliver desired IoT services.

Video Lecture Available at : <https://youtu.be/NgCtAvUBFCY>

Valedictory Lecture Delivered by Prof. T.V.Prabhakar, Principal Research Scientist
Department of Electronic System Engineering, Indian Institute of Science, Bangalore

(<https://labs.dese.iisc.ac.in/zenlab/people/tv-prabhakar/>)
Lecture available at : <https://youtu.be/9xqFzNUCc8Q>

Construction of a Digital Twin (DT) Framework using Free and Open-Source Software Programs

GOAL:

- Construct a suitable DT framework using free and open-source software programs.
- Demonstrate the functioning of the system by comparing results from physical and digital systems.
- Perform predictive analysis in form of a "what-if" analysis for a particular application.

APPLICATION: We built a DT framework for a table-top sized, portable temperature-controlled chamber. Given a range of temperature, our system would maintain the chamber temperature between the given range.

EXPERIMENTAL SETUP:

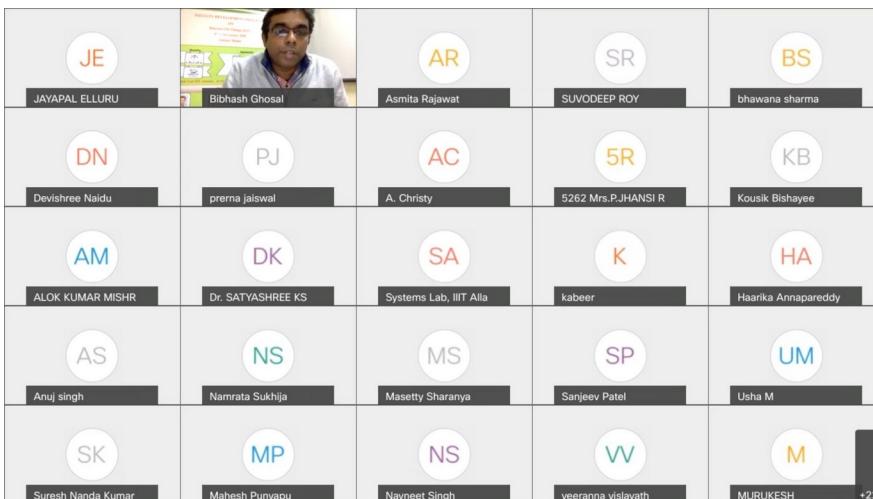
- Physical Model
- Simulation Model
- Automation Framework

SOFTWARE PROGRAMS USED:

- OpenPLC
- Eclipse Ditto
- FreeCAD
- SimFlow
- OpenFOAM
- ParaView
- UI Path Studio (community version)

Annotations in red highlight 'Context !!' and 'heat cool relation'

Valedictory Session :



Feedback of Participants (Overall) :

| | | | |
|--|---|---|---|
| Abhinav Singh | Assistant Professor | KIET Group of Institutions | Nice session |
| Dr. Sindhu Hak Gupta | Associate Professor | Amity University | Thanks!!!!!! WONDERFULL FDP. Would like to attend another FDP on the focussed application of IoT i.e. IIoT. Congrats to Dr. Biphas for conducting such an informative and useful FDP. |
| Dr. Mohd Asif Hasan Vrushali Ramesh Deore | Associate Professor lecturer | University Polytechnic, AMU Pimpri Chinchwad Polytechnic | Thanks nice FDP |
| Kavita Khooni GOTTAPU ARUNA KUMARI | Hardware and Networking Assistant Asst. Professor | HKE Society PDA College of Engineering kalaburagi MALLA REDDY ENGINEERING COLLEGE FOR WOMEN | Good Nice session Entire sessions of FDP were very well planned and conducted beautifully, Time management was there, and We had Lot of take aways from this FDP with fruitful learning. |
| Devishree Rohit Naidu Nishant Anand Syed Zaheeruddin | Assistant Professor Assistant Professor Assistant | Shri Ramdeobaba College of Engineering and Management SRM IST Kakatiya Institute of Technology and | All ok informative sessions |

| | | | |
|----------------------|---------------------|--|---|
| | Professor | Science, Warangal | |
| S Manimekalai | Head | Theivanai Ammal College for | Excellent. |
| Ghanshyam Mishra | Assistant professor | Buddha Institute of Technology,GIDA, Gorakhpur | Very informative |
| Deepak Garg | Assistant Professor | ABES Engineering College Ghaziabad | Excellent session |
| Shiv Narain Gupta | Assistant Professor | Greater Noida Institute of Technology, Greater Noida | Very nice |
| Annapareddy Haarika | Assistant Professor | AIMS Institutes | All the sessions are good. |
| Prabhjot Kaur | Associate Professor | Maharaja Surajmal Institute of Technology | Todays session was really wonderful. We learnt about IOT security. Most importantly, the research areas discussed by sir were really useful for us. |
| Usha M | Asst.professor | BIT | Sessions are good, but explanatory answers are time consuming to answer |
| Manish Gupta | Associate Professor | Inderprastha Engineering College, Ghaziabad | All the Session are very good and very informative. |
| Nishant Jain | Assistant Professor | Jaypee University of Information Technology | Nice |
| VISLAVATH | Assistant Professor | Talla Padmavathi College of | Very Good |
| VEERANNA | Professor | Engineering | Excellent |
| Mahesh Punyapu | CEO | Mucons | Everything is well |
| Siddharth Gupta | Assistant Professor | Graphic Era Deemed to be University managed. | |
| K SureshKumar | Assistant Professor | Koneru Lakshmaiah Education Foundation | Very much Informative |
| Bhalani NirmalKumar | Professor | | |
| Rasiklal | Associate Professor | VVP Engineering College, Rajkot | Excellent |
| Usha Devi Yalavarthi | Professor | KLEF | Interesting |
| Vivek Rathod | Lecturer | Institute of Diploma In Pharmacy, BORGAON MEGHE, WARDHA AL-AZHAR COLLEGE OF ENGINEERING AND TECHNOLOGY | Sessions were excellent |
| Harikrishnan MP | Assistant Professor | Klef | Good |
| Paritala jhansi rani | Asst.professor | BAPATLA ENGINEERING COLLEGE | Good |
| P.P.M.PRASAD | ASSISTANT PROFESSOR | Sahyadri college of engineering and management | VERY NICE SESSION |
| Kanmani | Assistant professor | Greater Noida Institute of Technology, Greater Noida | Good |
| Dhiraj Gupta | Professor | | Very good |

| | | | |
|--|--|---|---|
| Hemlata Pant | Associate professor | BBDITM | Informative session. All of the sessions were quite informative and the event was very well managed and also the course content was designed very perfectly. |
| Gaurav Jain T RAGHAVENDRANA IDU | Assistant professor(guest) Lecturer | Dr hari singh gour university, sagar SV GOVT POLYTECHNIC TIRUPATHI | Satisfied completely Informative Session..Best part was that it starts from basics to specific one Excellent FDP with hands-on features. |
| Richa | Asst. Professor | VIT Chennai | Very informative session |
| Kousik Bishayee | Assistant Professor | Ram Krishna Mahato Govt. Engg. College, Purulia, West Bengal, India | Overall FDP was good and valuable |
| NEHA SHARMA | Assistant Professor | Bhilai Institute of Technology ,Raipur | |
| ASMITA RAJAWAT | ASSISTANT PROFESSOR | AMITY UNIVERSITY | |
| PADAVALA SAI PRASAD | Associate Professor | SRI VENKATESWARA COLLEGE OF ENGINEERING AND TECHNOLOGY (AUTONOMOUS), CHITTOOR | Going nice |
| Rajat Tiwari | Assistant professor | Chandigarh university | Informative |
| SAKSHI maya diwakar | Professor | KIET Group of Institutions, Ghaziabad | Informative session |
| M PRAVEEN KUMAR | research scholor | HBTU KANPUR | informative session |
| ASSOCIATE PROFESSOR | ASSOCIATE PROFESSOR | SREE VENKATESWARA ENGINEERING COLLEGE | GOOD |
| Seema Nagaraj | Assistant professor | Bangalore Institute of Technology | Good |
| Suresh Nanda Kumar | Senior Assistant Professor | Xavier Institute of Management & Entrepreneurship | Very useful sessions |
| RAHUL MONDOL | LECTURER | RKMS | BEST SESSION |
| ALOK KUMAR MISHRA | STA-A | NIC | Good experience VERY INFORMATIVE. |
| SABYASACHI MUKHERJEE | LECTURER | SANTINIKETAN INSTITUTE OF POLYTECHNIC | Thanks for such FDP. |
| ANIL KUMAR CHAUDHARY | HoD Assistant Professor | BUDDHA INSTITUTE OF TECHNOLOGY GORAKHPUR | Very informative |
| UTHSYAB MUKHAR MANDAL | Student | NIT mizoram | Good |
| Poonam Verma | Assistant Professor | Thapar Institute of Engineering & Technology, Patiala | Informative Sessions |
| SUVODEEP ROY Ashutosh kumar | Lecturer Assistant | BIRLA INSTITUTE OF TECHNOLOGY Amity University,Chhattisgarah | Overall good. Few sessions were very good Session were nice and |

| | | | |
|---------------------------------------|---------------------------------|--|---|
| Choudhary | Professor | Anna University MIT Campus | informative. |
| Chandra Priya J | Research Scholar | Chennai | I learnt maximum of insights of IoT. Ty |
| MUTHYALA ARUNA JYOTHI | Assistant professor | MALLA REDDY ENGINEERING COLLEGE FOR WOMEN | Nice session |
| Himanshu Sharma | Asst. Professor | KIET Ghaziabad | Time Limits should be atleast one day till 12:00 in night so that all faculty can submit as per their convince time after college work hours. |
| M Naresh Kumar | Asst.Prof. | GITAM (Deemed to be University), Hyderabad Campus | We learn excellent stuff in IoT |
| G. Surya Narayana | Professor | Sreyas Institute of Engineering and Technology | Too Good all the session's |
| SREEJA RAJESH | ASSISTANT PROFESSOR | SCMS School of Engineering & Technology | Very informative session. |
| Ramesh Ragala | Associate Professor | VIT Chennai | The sessions are informative |
| Manish D Sawale | HOD ASSOCIATE | Oriental Institute of Science and Technology, Bhopal | Very Informative |
| P.SENTHIL KUMAR | PROFESSOR | AG ARTS AND SCIENCE COLLEGE | VERY GOOD |
| N.Saranya Deepthi | Assistant Professor | Sri Shakthi Institute of Engineering and Technology | Interactive session |
| | Asst prof sr scale | MIT Manipal | Very good. |
| Chanchal Ahlawat ANUJ SINGH | Research Scholar Asst.Professor | Jaypee Institute of information and technology GEU | Informative sessions |
| Saiveena kondaparthys deekshith chary | Asst prof PG student | Talla padmavathi college of engineering | GOOD |
| Gurcharan Singh | Research scholar | Vaageswari engineering college | Gained valuable information |
| | | | Good |
| Sumit Gupta | Assistant Professor | SRMS CET, BAREILLY | It was really amazing to attend this |
| Maulik Trivedi | Assistant Professor | Darshan institute of engineering and technology Rajkot | Excellent FDP. WELL ORGANIZED. |
| MANJULA KUMARI | Research Fellow | NIT Durgapur | PLEASE ORGANISE 80% HANDS ON |
| Saurabh Sharma | Research Scholar | Panjab University, Chandigarh | EXPERIENCE AND 20% THEORY OR |
| Ajith Bosco Raj | Professor | PSN college of engineering and technology | CAN CHANGE SOME PROPORTION. |
| Md abdul muqueem | Asst professor | Kitsw | All over good FDP. |
| | | | Learn a lot |
| | | | good |
| | | | excellent |
| | | | nice |
| | | | Excellent |

| | | | |
|---|--|--|--|
| Ritesh Kumar | Assistant Professor | School of Engineering and Technology | Very Good FDP |
| Sudharani Chidurala PARAMATI CHANDINI TAYAGAR MALLAPPA DIWAKAR | Assistant professor ASST.PROFESS OR Asst. prof. Assistant professor ASSISTANT PROFESSOR Teaching | SR University MALLA REDDY COLLEGE OF ENGINEERING FOR WOMEN | Good NO Good session |
| Praveena nuthakki NAROJU SRAVANTHI | assistant professor ASSISTANT PROFESSOR Teaching | V r Siddhartha engineering college MALLAREDDY ENGINEERING COLLEGE FOR WOMEN | Excellent Good |
| Neha Mishra | Assistant Assistant professor | SVNIT Surat | Nice |
| M.Subathra Arati Popat Deshmukh Shekharjyoti Talukdar | professor lecturer service | Panimalar Engineering college MM Polytechnic service | Very informative nice session nice session |

Participants who successfully attended the FDP and were awarded certificates :

| Name | Email- address | Mobile No. | Marks obtained | Total Marks |
|---|---|--|----------------------|----------------------|
| ANIL KUMAR CHAUDHARY | anil.viet@gmail.com | 9838991317 | 18 | 20 |
| Sreedhar Lolla MUTHYALA | sreedhar.lolla@raghuenggcollege.in | 9949158306 | 14 | 20 |
| ARUNA JYOTHI Manimegalai | arunajyothi.muthyala@gmail.com manimegalaip@karunya.edu | 6304632258 | 17 | 20 |
| Vairavan RAHUL MONDAL | m.007.rahal@gmail.com om | 9994291601 9432510666 | 14 17 | 20 20 |
| Sreeja Rajesh Sonali Ridhorkar Naresh Kumar M Deeksha Rathore | sreejarajesh@scmsgroup.org sonali.ridhorkar@raisi.oni.net mn.mn.kumar@gmail.com .com | 9995000062 9881713143 9618016622 9911618630 | 19 18 19 19 | 20 20 20 20 |

| | | | | |
|---------------------------------------|--|--------------------------|----------|----------|
| Jeelan basha N Siva | jeelan79@gmail.com | 9866264940 | 13 | 20 |
| Mallikarjuna Rao | mnandana@gitam.edu | 9885392196 | 19 | 20 |
| Shiv Narain Gupta | shivgnit@gmail.com | 9999717946 | 14 | 20 |
| Sumit Kumar Gupta | sumikg@gmail.com | 9759008001 | 15 | 20 |
| G.Aruna Kumari | arunakumari39549@mail.com | 8428922231 | 19 | 20 |
| Swarup Chandra Giri | swarupgiriju@gmail.com | 9831295671 | 14 | 20 |
| BIPLAB CHOWDHUR Y | biplab0105@gmail.com | 7044485849 | 16 | 20 |
| Manish D Sawale | manish.sawale@gmail.com | 9893095600 | 19 | 20 |
| NAMRATA SUKHIJA | namratasukhija@gmail.com | 7206906490 | 16 | 20 |
| Sabyasachi Mukherjee | s4sabya@gmail.com poonam.verma@thapar.edu | 7980641038 9810981014 | 19 15 | 20 20 |
| Poonam Verma | sabitha_v@vaagdevi.edu.in | 9908418571 | 16 | 20 |
| V.SABITHA ALOK KUMAR MISHRA | mishra.alok@nic.in | 9889903205 | 15 | 20 |
| Vipin Kumar Pandey | vipinworld007@gmail.com | 8707340564 | 18 | 20 |
| vrushali ramesh deore | vrushalideore15@gmail.com | 8308350755 | 17 | 20 |
| P.P.M.PRASA D | manohar.padyala@mail.com | 9000900392 | 17 | 20 |
| Saurabh sharma | saurabh.subi@gmail.com | 9416151618 | 15 | 20 |
| Garima Singh | singh.garima529@gmail.com | 9873406716 | 19 | 20 |
| Paritala Jhansi rani | jhansi.infoarea@gmail.com | 9966194798 | 16 | 20 |
| Ramesh Ragala | ramesh.ragala@vit.ac.in | 9087277270 | 16 | 20 |
| Gunjan Devishree | gunjanbeniwal@msit.in | 9582026552 | 19 | 20 |
| Rohit Naidu manish kumar maurya | naidud@rk nec.edu pwc2017002@iiita.ac.in | 9822939590 9389111089 | 18 13 | 20 20 |
| DEIVAMANI MALLAYYA KUNAL | deivamani@auist.net kunalkumar1987@gm | 9443732823 9934347907 | 17 17 | 20 20 |

| | | | | |
|--|--|--|----------------|----------------|
| MAHTO | ail.com | | | |
| TAHNIYATH SHAHEEN | tahniyath@deccancoll ege.ac.in srinihas1974@gmail. | 8978547382 | 17 | 20 |
| S.Srinivasan | com seemanagaraj12@gm | 7708880375 | 15 | 20 |
| Seema Nagaraj | ail.com | 9972378822 | 16 | 20 |
| YAMINI RATAWAL | yaminiratawal26@gm ail.com | 9718188123 | 15 | 20 |
| TANVEER SULTANA | tanveer@deccancolle ge.ac.in riteshchandel@gmail. | 9959681956 | 17 | 20 |
| Ritesh Kumar | com itejaswinikar@gmail. | 8295711166 | 19 | 20 |
| Tejaswini Kar SASWATA MAITI | com saswata.maiti@gmail. com | 9338814427 9679956350 | 16 15 | 20 20 |
| SHETTY SRAVANTHI RESHMA BEGUM | shettsravanthi18@g mail.com reshma@deccancolle ge.ac.in | 9550303400 8309855681 | 19 17 | 20 20 |
| Mahesh Kumar Singh | mahesh.singh257@g mail.com hemlatapnt3@bbdnit m.ac.in | 9450529806 9935627643 | 13 16 | 20 20 |
| Hemlata Pant Sushma Jaiswal | Jaiswal1302@gmail.c om | 6260651220 | 19 | 20 |
| Neha Arora Masetty Sharanya RITESH KUMAR | narora2@amity.edu masettysharanya@gm ail.com pwc2016002@iiita.ac .in | 9899346489 8897822817 8175031900 | 19 16 19 | 20 20 20 |
| Willson Joseph C | willsonjoseph@gmail .com | 9600374739 | 18 | 20 |
| SAKSHI | sakshi@kiet.edu | 8923049510 | 18 | 20 |
| USHA | husha88@gmail.com ac.christy@gmail.co m | 8098053157 | 19 | 20 |
| A.Christy | | 9381157310 | 19 | 20 |
| Chanchal Ahlawat Smt. Kavita Khooni | chanchalchaudhary82 7@gmail.com kavitasm255@gmail. com | 8938811827 9008336850 | 17 13 | 20 20 |
| Minaj Rasulsab Attar Bhalani | Minajrattar20@gmail .com | 8867418567 | 15 | 20 |
| Nirmal Kumar Rasiklal | nirmal.bhalani.ec@vv pedulink.ac.in | 9723363697 | 13 | 20 |

| | | | | |
|--|---|--|----------------------------|----------------------------|
| MOHD ASIF HASAN | hasan_in@hotmail.com deepak.garg@abes.ac.in | 9897148434 | 16 | 20 |
| Deepak Garg Sanjana M Nagaraj Sumalatha Aradhya JAYAPAL ELLURU Kanmani | sanjanamnagaraj@gmail.com sumalatha@sit.ac.in jaijirfscholar@gmail.com kanmani.ec@sahyadri.edu.in usha@bit-bangalore.edu.in | 9811380918 6360874134 9900609254 7780544503 9900187874 | 16 15 19 19 17 | 20 20 20 20 20 |
| Usha M Ashutosh Kumar Choudhary Ghanshyam mishra | ashutoshchoudhary23@gmail.com mishragm1@gmail.com | 9945655545 7007462524 | 16 19 | 20 20 |
| S Manimekalai Richa | roeverc7@gmail.com richasingh.bv@vit.ac.in | 7904439710 8285340125 | 18 18 | 20 20 |
| Harikrishnan MP RAGHAVEND RANAIDU TAMMINENI | srihari.harikrishnan@gmail.com | 9895912185 | 13 | 20 |
| Rana Gill Vivek Rathod | rana.cse@cumail.in vivekhrathod@gmail.com | 9030047914 8275399731 | 17 17 | 20 20 |
| Abdul Gaffar H Bhanu Priyanka. Valluri | abdulgaffar@vit.ac.in bhanu.priyanka1904@gmail.com | 9942261259 8500392638 | 17 19 | 20 20 |
| P. Shanthi RAJAT TIWARI | shanthisaravanan09@gmail.com er.rajattiwari@gmail.com | 8939649324 7503300002 | 19 13 | 20 20 |
| Brij Bhushan RIPTY SINGLA C.MOHANAD EVI | bsharmavik@gmail.com ripty.e8896@cumail.in 7589285596 devibalacm@gmail.com | 9816260108 7010390902 | 19 13 | 20 20 |
| K SureshKumar | m.k.sureshkumar@kluniversity.in | 9894237318 | 18 | 20 |
| Usha Devi Yalavarthi | ushadevi.yalavarthi@kluniversity.in | 9133241111 | 18 | 20 |

| | | | | | |
|---|--|--|----------------------|----------------------|----|
| kabeer.M | kabeer786india@gmai l.com kanikasharma80@yah oo.com shubham@tulas.edu.i n | 9600145397 9988877421 9761944312 | 19 19 13 | 20 20 20 | |
| Kanika Sharma | TAYAGAR MALLAPPA DIWAKAR | tayagardiwakar@gma il.com | 7892237292 | 14 | 20 |
| A.KAYALVIZ HI Jaganatha Pandian | Jaganathapandian@vit .ac.in priyesht81@gmail.co m | 9940326363 9840571695 9868483013 | 14 18 17 | 20 20 20 | |
| Priyesh Tiwari Bhawana Sharma | bhawana2104@gmail .com | 9460101333 | 17 | 20 | |
| Anuj singh siddharth Gupta | anujsinghrawat72@g mail.com sgupta12392@gmail. com | 9634248273 6398991732 | 18 19 | 20 20 | |
| SUVODEEP ROY | Suvodeep_roy_705@r ediffmail.com | 9433135098 | 19 | 20 | |
| Kiran V Asmita Rajawat Sindhu Hak Gupta NEHA SHARMA Bhargeshkumar Bhatatbhai Patel | Kiranv@rvce.edu.in asmitabhadauria@gm ail.com shak@amity.edu neha.sharma@bitraip ur.ac.in bhargeshpatel@gcet.a c.in | 9880090877 9971868302 9811872731 9039366135 9408045249 | 16 19 19 16 | 20 20 20 20 | |
| Annaparedy Haarika Deepthi S | annaparedyhaarika@g mail.com deepthi.s@manipal.ed u | 9391505301 9902518837 | 19 15 | 20 20 | |
| Manoj Kumar Mishra Prabhjot Kaur Sidhu | manojk.mishra2@bhu .ac.in prabhjot.kaur@msit.i n | 8971384204 9810665064 | 15 17 | 20 20 | |
| Aravindhan K KAMAL KUMAR GAUR Suresh Nanda Kumar | aravindhan.cse.snsce @gmail.com kamalgaur91@gmail. com snkumar27@gmail.co m | 9003367038 9716405220 7904080206 | 16 18 18 | 20 20 20 | |

| | | | | |
|-----------------------|------------------------------|------------|----|----|
| Sanjeev Patel | sanjeev0405@gmail.com | 8618337553 | 19 | 20 |
| Navneet Singh Kousik | navsinghnitd@gmail.com | 9900216483 | 19 | 20 |
| Bishayee | kousikbishayee@gmail.com | 9477169986 | 18 | 20 |
| Md Abdul Muqueem | mq.ece@kitsw.ac.in | 9573333305 | 15 | 20 |
| gaurav jain | gjain.guest@dhsgsu.edu.in | 8770531471 | 16 | 20 |
| Syed Zaheeruddin | sdzaheeruddin@gmail.com | 9908984169 | 18 | 20 |
| P.Deekshith Chary | deekshithchry@gmail.com | 9700217327 | 18 | 20 |
| RISHITA DAS | rishita.das02@gmail.com | 7602903470 | 18 | 20 |
| Himanshu Sharma | himanshu.sharma@kiit.edu | 9999618675 | 13 | 20 |
| Anupam Kumar Saini | anupamsaini123@gmail.com | 7599070771 | 15 | 20 |
| N.SARANYA | nsaranya@siet.ac.in | 8870800500 | 15 | 20 |
| Dr. Satyashree KS | kssatyashree@gmail.com | 9886721084 | 15 | 20 |
| MAULIK | | | | |
| DEVENDRAB HAI TRIVEDI | maulik.trivedi@darshan.ac.in | 9998265805 | 15 | 20 |
| Naimish R Vadodariya | naimishp49@gmail.com | 8866215253 | 15 | 20 |
| VISLAVATH VEERANNA | vislavathveeranna@mail.com | 8790530016 | 13 | 20 |
| G.Surya Naraya na | hayansurya@gmail.com | 9014273742 | 14 | 20 |
| Chandra Priya J | jchandrapriya@gmail.com | 8903865883 | 14 | 20 |
| MURUKESH | crdmurukesh@gmail.com | 9345629899 | 16 | 20 |
| P U Mahesh | mahesh.mucons@gmail.com | 9346938649 | 13 | 20 |
| NAROJU SRAVANTHI | naroju.sravanthi1@gmail.com | 7989650247 | 13 | 20 |
| Madapati saisuneetha | saisuneetha410@gmail.com | 8074777853 | 14 | 20 |
| Dhiraj Gupta | dhirajgupta2502@gmail.com | 9811047040 | 16 | 20 |
| HAFIZUR RAHMAN | hafizjec@gmail.com | 7002949971 | 18 | 20 |
| Manish Gupta | mgipec2018@gmail.com | 9711669691 | 19 | 20 |

Acknowledgement :

As the Course Co-ordinator of the FDP on Internet of Things I thank **AICTE ATAL Academy** for giving us an opportunity to conduct the FDP. It was really satisfying to interact with faculties from different colleges across the entire country. The lecture sessions were very well delivered and so was the tutorials and hands-on sessions.

I would like to thank all the experts from different institutions who responded to our request, agreed to deliver the lectures and presented them wonderfully.

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Thanks to all and hope to conduct such a FDP in future as well.

With Good Wishes,

Bibhas Ghoshal
Coordinator, FDP on Internet of Things