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Mehdipatnam, Hyderabad.

CRITERION V
STUDENT SUPPORT AND PROGRESSION
5.1.3
Capacity development and Skills enhancement activities
Soft Skills, Language & Communication Skills and Life Skills

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AWARENESS OF TRENDS IN TECHNOLOGY

2021-2022

S.No	Name Of The Capability Enhancement Programm	Date Of Implementation	Number of Students enrolled	Name Of The Agencies/Experts Involved With Details If Any
1	NPTEL-Awareness Program	21.05.2021 To 06.06.2022	745	Dr. Sarala Head Department Of Physics & Electronics. Ph.No:7032393763
2	Awareness Cum Training Program Using Virtual labs	21.05.2021 To 06.06.2022	800	Dr. Sarala Head Department Of Physics & Electronics. Ph.No:7032393763
3	Workshop On Data Analytics	09.09.2021	50	Dr. Vinay Chaganti, VP, Byndr Inc (Contact No: 9052415913)
4	Post Graduate Diploma in Data Analytics Trends & Career Prospects	09.09.2021	90	Ms. Aparna Bulusu Asst Prof, Department of Computer science Contact :9618324127
5	Workshop On "The Art Of Computational Biology"	11.11.2021 &12.11.2021	90	Dr. Mohan Reddy K., Dr.Jyothsna
6	Extension Lecture On "Mongodb"	28.11.2021	55	Mr. Rahul, DGM-IT, Hero (Insurance Broking), New Delhi. [Contact No: 8586984034]

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7	3-Day "Hands-On Workshop On Machine Learning	28.03.2022 To 30.03.2022	60	Ms. V. Shrisha, Head Of B.Sc. Computer Science And Data Analytics Engg.- Loyola Academy, Certified Data Scientist From IABAC(International Association Of Business Analytics) [Contact No:9032614478]
8	Two-day hands-on training molecular tecniques	30th – 31st .03. 2022	28	Dr. V. Venugopal Rao, Head, Dept. Of Genetics. Mrs. A. M. Sylaj and Mrs. Ch. Jyothi Dr. M.C. Vanaja. Dr. Swapna Dept. Of Genetics
9	Webinar on Basics of Data Manipulation using R	10.06.2021	50	Dr. Pani Gopaluni, Ph.D from Cambridge University, Nephrologist and general physician Citizen Hospital Hyd Contact No: 7729077295

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Awareness Program on NPTEL and Virtual Labs

Report

Name of the Department	ICT Centre
Title of the event	NPTEL Awareness
Date	May21 -June 22
Venue	Online
Target group	All students
No of Student/ No. of Faculty participants	745

List of Participants
https://docs.google.com/spreadsheets/d/1OW3xAbmIeh-NALAo1IMAdd_D_ngG912E/edit?usp=sharing&ouid=111357543805304331298&rtpof=true&sd=true

Name of the Department	ICT Centre
Title of the event	Virtual labs
Date	Online from May 2021 to June 2022
Venue	Online
Target group	All Science students
No of Student/ No. of Faculty participants	800

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https://drive.google.com/file/d/1t-j0-uK2EU_4ypGZ9Z5WrIolCUGSBMd-
/view?usp=share_link

To
The Program Manager,
Virtual Labs , IIIT Hyderabad

Sir/Madam,

Sub: Virtual Lab workshops conducted in our college.

This is to inform you that the institution has conducted laboratory experiments using virtual labs during the period from May 2021 to May 2022. The experiments and the laboratory experiments were extremely useful and user friendly especially during the online methodology adopted. The labs have given an overview of the experiments and enhanced the comprehensive understanding of the experiments for the learners. The experiments conducted during the physical mode were better understood as the students were exposed to the same during online teaching.

S. No	Dates	Workshops done	Sessions Conducted	Departments/ Labs Covered	Number of Students Participated
1	05/08/2021	4	8	Physics	50
2	12/08/2021	4	8	Physics	50
3	19/08/2021	4	8	Physics	50
4	26/09/2021	4	8	Physics	50
5	02/09/2021	4	8	Physics	50
6	09/09/2021	4	8	Physics	50
7	16/09/2021	4	6	Electronics	50
8	07/10/2021	4	6	Electronics	50
9	14/10/2021	4	6	Electronics	50
10	21/10/2021	4	6	Electronics	50
11	28/10/2021	4	6	Electronics	50
12	04/11/2021	4	6	Electronics	50
13	18/01/2022	4	2	Physics	50
14	19/01/2022	4	2	Electronics	50

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15	30/1/2022	4	2	Physics	50
16	31/01/2022	4	2	Electronics	50
total no.of sessions			92		800
total no.of logins					73600

Head, Department of Physics & Electronics
St.Ann's college for Women
Hyderabad-500028.

Sr.Sr.P Amrutha
Principal
St. Ann's College for Women

Head of the Department
Physics & Electronics
St. Ann's College for Women
Mehdipatnam, Hyd-2

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Workshop on "Data Analytics "

Circular

Dated: 7th August 2021

Subject: Workshop on Data Analytics for PGDDA/Data Science Students

Date: 9th August 2021

Resource Person: Dr. Vinay Chaganti, VP, Byndr Inc (Contact No: 9052415913)

Venue: Online Mode - Webinar

Target Group: Students

The Departments of Computer Science and Statistics are delighted to announce a Workshop on Data Analytics tailored for PGDDA/Data Science students scheduled for 9th August 2021. This workshop will be conducted online via webinar.

Objective:

The primary objective of this workshop is to provide PGDDA/Data Science students with valuable insights and practical knowledge in the field of data analytics. Participants will have the opportunity to learn from esteemed industry expert Dr. Vinay Chaganti, Vice President at Byndr Inc., who will share his expertise and experiences in this domain.

We encourage all PGDDA/Data Science students to actively participate in this enriching workshop.

We look forward to your enthusiastic participation and a successful workshop.

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REPORT

Date: 9/8/2021

Resource Person: Dr. Vinay Chaganti, VP, Byndr Inc (Contact No: 9052415913)

Venue: Online mode -webinar

Target group: Students

No of Student participants: 50

Objective, Summary and Outcome:

Departments of Computer Science and Statistics conducted a Workshop on Data Analytics for PGDDA/ Data Science students. The resource person has shared some of his valuable knowledge related to data. The information was very useful. For people who are in this field, Data is the first and foremost thing. Without data there is no Data scientist or no analyst. He shared information like 1) Where to get Data from? 2) How to look at data? 3) which analysis should be done on that chosen data 4) How to choose the analysis 5) How to connect to data etc. And also finding data through datasets, Integrations and web scrapping which requires higher intelligence and effort.
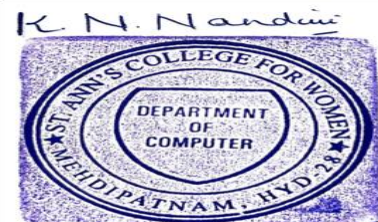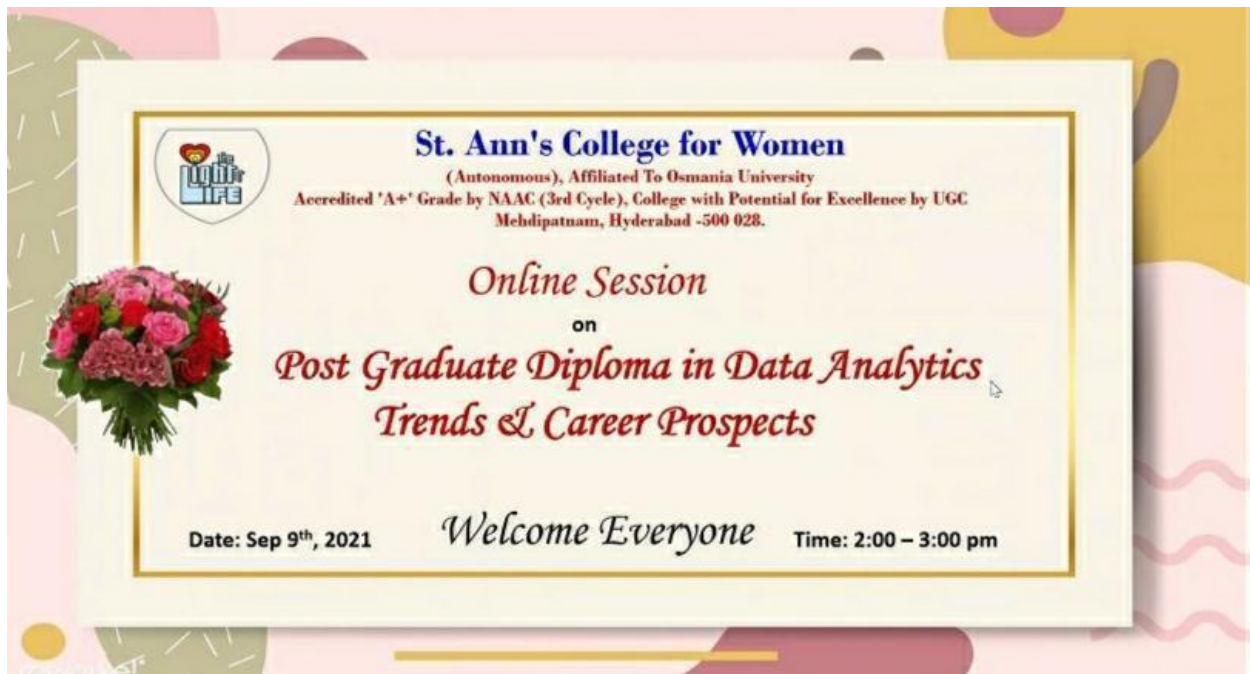
Snapshots:
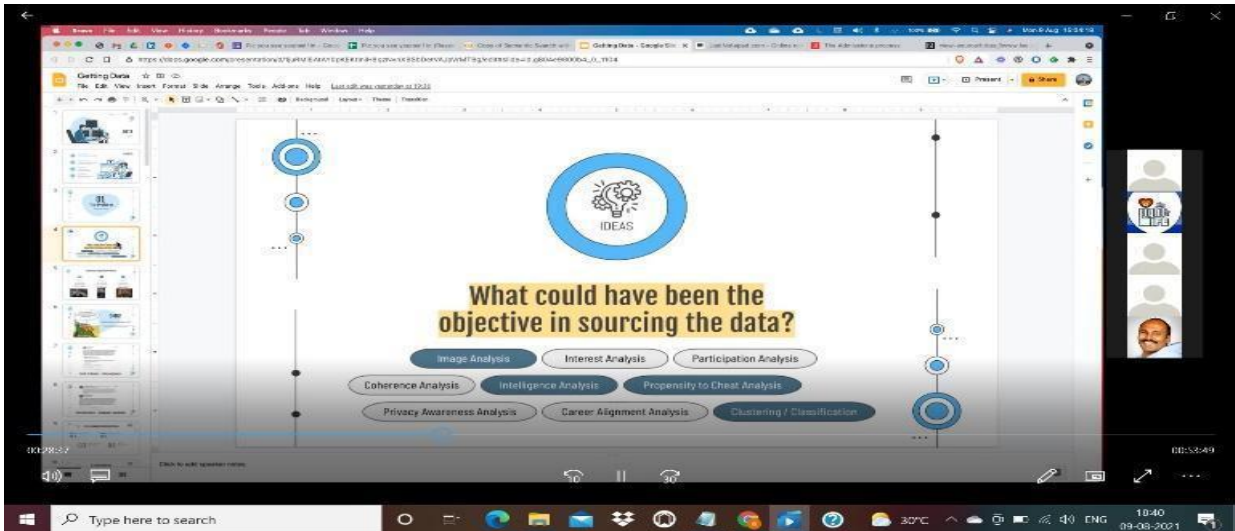
Figure 1Orienting students on Data Analytics session on 9th August 2021

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Post Graduate Diploma in Data Analytics Trends & Career Prospects

REPORT

- **Date:** 9th Sep 2021
- **Venue:** Online
- **Target group:** PG students
- **No of Student/ No. of Faculty participant: 90**

Objective, Summary and Outcome

Post Graduate Diploma in Data Analytics Trends & Career Prospects was organized by department of Statistics for the students of UG and PG on 9th Sep 2021.

Flyer

Flyer on PG diploma in Data Analytics Trends and Career Prospects on 9th September 2021

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Objective:

The main objective of this webinar is to make students of Post Graduate Diploma understand about data analytics trends & career prospects in real life.
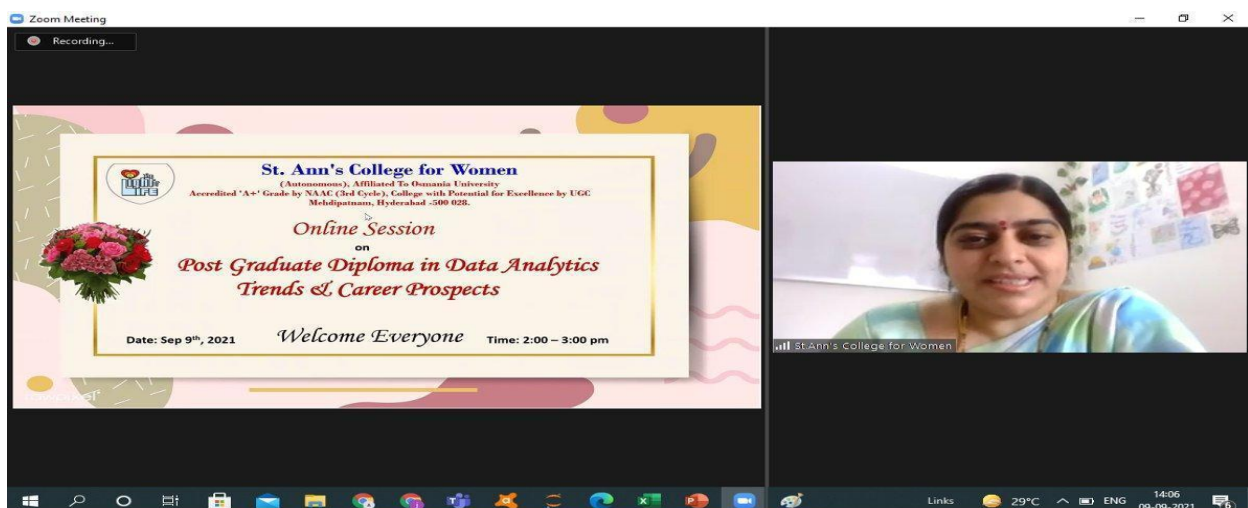
Summary:

Workshop contents –

- Sir has discussed on why data analytics, benefits of PG Diploma course and what are the trends.
- Career in Data Analytics.

Outcomes:

- At the end of the session students able to know the benefits of the PG diploma course.
- Helps to develop a student's soft skills that will help them gain an advantage in the work space.

  Snap Shots

Mrs. Aparna , Asst prof Dept of Computer Science orienting about diploma in Data analytic on sept 9ᵗʰ , 2021
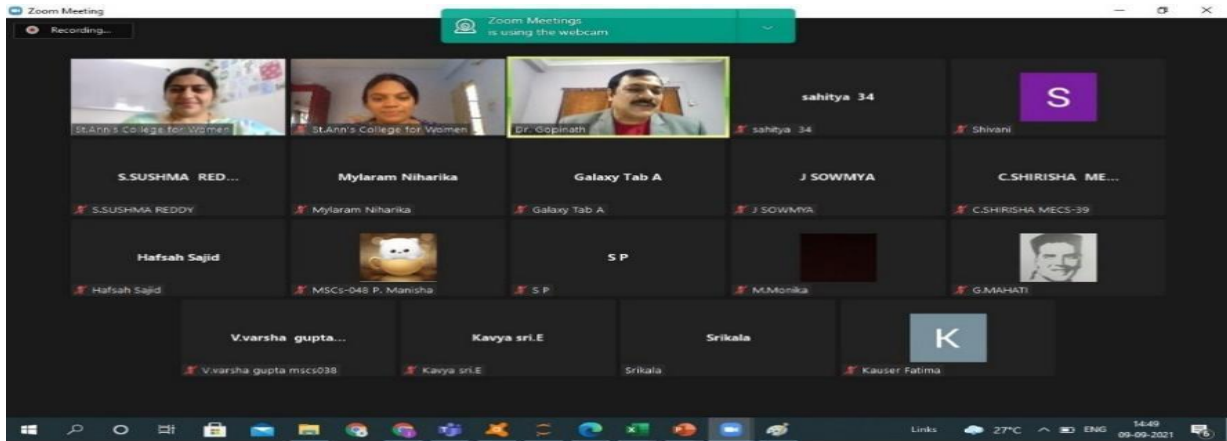
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Resource Person delivering on Data Analytics Trends & Career Prospects on 21st sept 2021

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Workshop on "2-day workshop on –The Art of Computational Biology"

Circular
Dated 6ᵗʰ November 2021

Subject: Workshop on "The Art of Computational Biology"

Date: 11th - 12th November 2021
Venue: Online
Time: 3:00 PM - 4:30 PM
Dear Students,
We are pleased to announce a two-day workshop on "The Art of Computational Biology," scheduled to be held online on 11th and 12th November 2021. This workshop is designed for students pursuing the BBC combination across all years (I, II, and III) and is organized jointly by the Departments of Biochemistry, Biotechnology, and Genetics.

The main objective of this workshop is to introduce students to the principles, techniques, and applications of computational biology. Through interactive sessions and hands-on activities, participants will gain a deeper understanding of how computational methods are utilized in biological research and analysis.

We encourage all BBC combination students to actively participate in this workshop to enhance their knowledge and skills in computational biology.

We look forward to your enthusiastic participation and a successful workshop.

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Report

Date   : 11th —12th November 2021
Venue   : Online
Time   : 3.00pm-4.30pm
Resource Person 1.   : Dr. Mohan Reddy K
Research Scientist
Dr. Remedies Lab Pvt. Ltd. Hyderabad.
Resource Person 2.   : Dr.JyothsnaG
Sr. Research Associate,Bioaxis DNA Research Centre Pvt. Ltd.

Target group   : BBC combination students of I, II and III yr
Departments involved: Biochemistry, Biotechnology and Genetics.
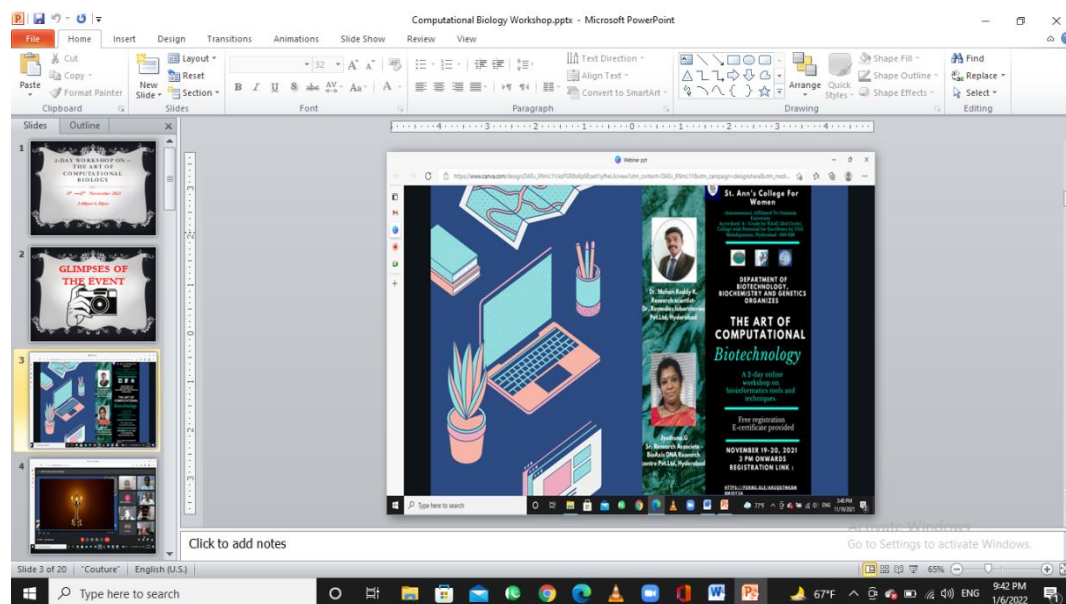
Resource Person 1: Dr. Mohan Reddy delivered an enlightening talk on The Art of Computational Biology. It was an online event. The interactive session was very fruitful as students interacted with him individually.

He then guided the students through theterm computational biology which involves the development and application of data-analytical and theoretical methods, mathematical modelling and computational simulation techniques to the study of biological, ecological, behavioural, and social systems. The field is broadly defined and includes foundations in biology, applied mathematics, statistics, biochemistry, chemistry, biophysics, molecular

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biology, genetics, genomics, computer science, ecology, and evolution. One part of the lecture was dedicated to the science of computational biology and second part to it's applications in Biosciences. Discussions were incredible with something new to learn. He explained Computational biology, which includes many aspects of bioinformatics and much more, is the science of using biological data to develop algorithms or models in order to understand biological systems and relationships. Until recently, biologists did not have access to very large amounts of data. This data has now become commonplace, particularly in molecular biology and genomics. Researchers were able to develop analytical methods for interpreting biological information, but were unable to share them quickly among colleagues. He used bioinformatics tools/softwares which helped the students understand the concept in a clear and easy way. His explanation was exceptionally clear and thorough. In the end the students engaged in an interactive session discussing the various career opportunities available for science graduates.

2Ms Sushma ,HoD, Bio Technology, Briefing the profile of the resource person on 11th Nov 2021

Figure 3Mr.Mohan Reddy Deliverind a session on 11th Nov 2021

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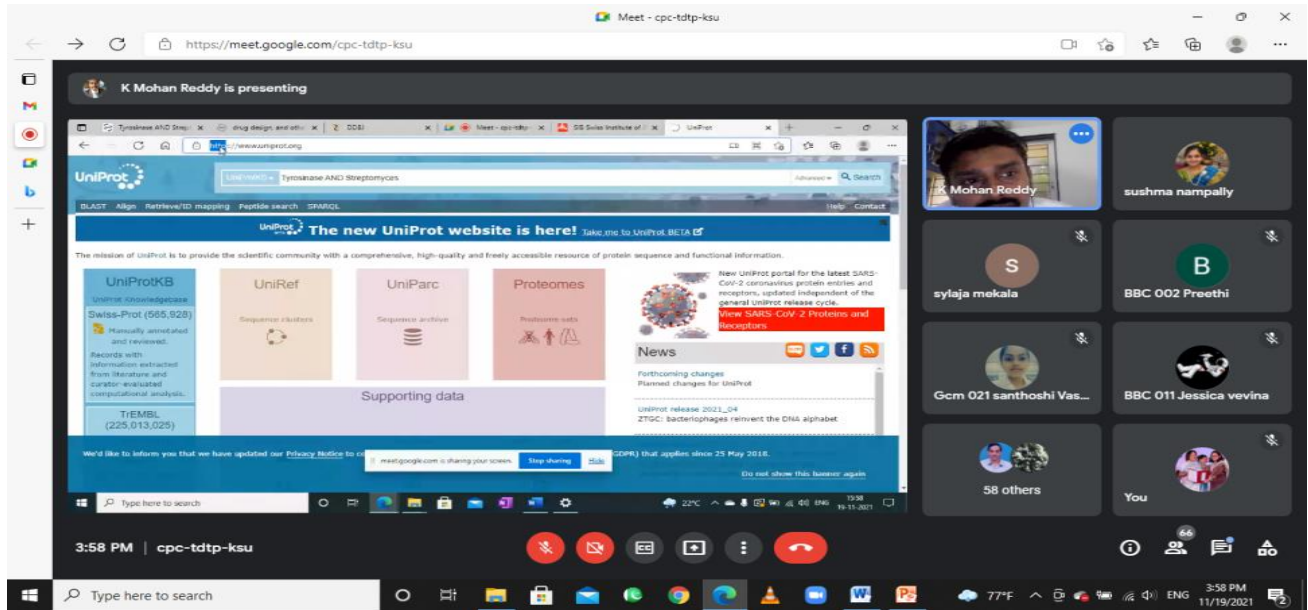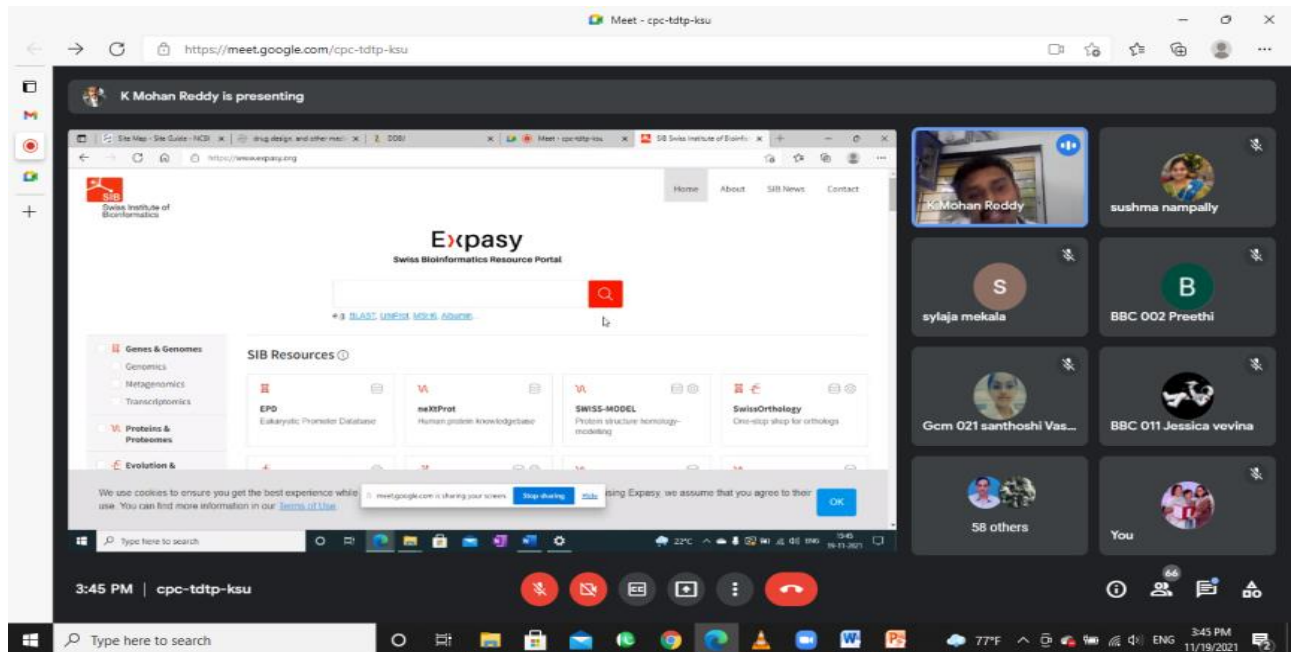Santoshnagar colony, Mehdipatnam, Hyderabad - 500 028.

Day2

Resource Person 2: Dr.Jyothsna G.

Dr. Jyothsna G commenced her talk with an introduction to Bioinformatics which is an interdisciplinary field that develops and improves on methods for storing, retrieving, organizing and analyzing biological data. Major focus was on the role of a bioinformatician which is to create a framework that can support the needs of information based R&D for biological research. A major activity in bioinformatics is to develop software tools to generate useful biological knowledge. She highlighted the areas covered in this enchanting field with special emphasis on databases, tool designing and data analysis, explained the role of Bioinformatics in Drug Discovery, how Bioinformatic analysis can not only accelerate drug target identification and drug candidate screening and refinement, but also facilitate characterization of side effects and predict drug resistance.

Highlights of the talk-

- In silico drug design represents computational methods and resources that are used to facilitate the opportunities for future drug lead discovery.

- The explosion of bioinformatics, cheminformatics, genomics, proteomics, and structural information has provided hundreds of new targets as well as new ligands.

- ioinformatic techniques hold a lot of prospective in target identification (generally proteins/enzymes), target validation, understanding the protein, evolution and phylogeny and protein modeling.

- Bioinformatic analysis can not only accelerate drug target identification and drug candidate screening and refinement, but also facilitate characterization of side effects and predict drug resistance.

- One of the major thrusts of current bioinformatics approaches is the prediction and identification of biologically active candidates, and mining and storage of related information.

- It also provides strategies and algorithm to predict new drug targets and to store and manage available drug target information.

- In molecular docking:

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- Docking is an automated computer algorithm that attempts to find the best matching between two molecules which is a computational determination of binding affinity between molecules.

- This includes determining the orientation of the compound, its conformational geometry, and the scoring. The scoring may be a binding energy, free energy, or a qualitative numerical measure.

- In some way, every docking algorithm automatically tries to put the compound in many different orientations and conformations in the active site, and then computes a score for each.

- Some bioinformatics programs store the data for all of the tested orientations, but most only keep a number of those with the best scores.

- Docking can be done using bioinformatics tools which are able to search a database containing molecular structures and retrieve the molecules that can interact with the query structure.

- It also aids in the building up chemical and biological information databases about ligands and targets/proteins to identify and optimize novel drugs.

- It is involved in devising in silico filters to calculate drug likeness or pharmacokinetic properties for the chemical compounds prior to screening to enable early detection of the compounds which are more likely to fail in clinical stages and further to enhance detection of promising entities.

- Bioinformatics tools help in the identification of homologs of functional proteins such as motif, protein families or domains.

- It helps in the identification of targets by cross species examination by the use of pairwise or multiple alignments.

- The tools help in the visualization of molecular models.

- It allows identifying drug candidates from a large collection of compound libraries by means of virtual high-throughput screening (VHTS).

- Homology modeling is extensively used for active site prediction of candidate drugs.

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Ms Jyotsna delivering Session on Bio Informatics on 12th November 2021

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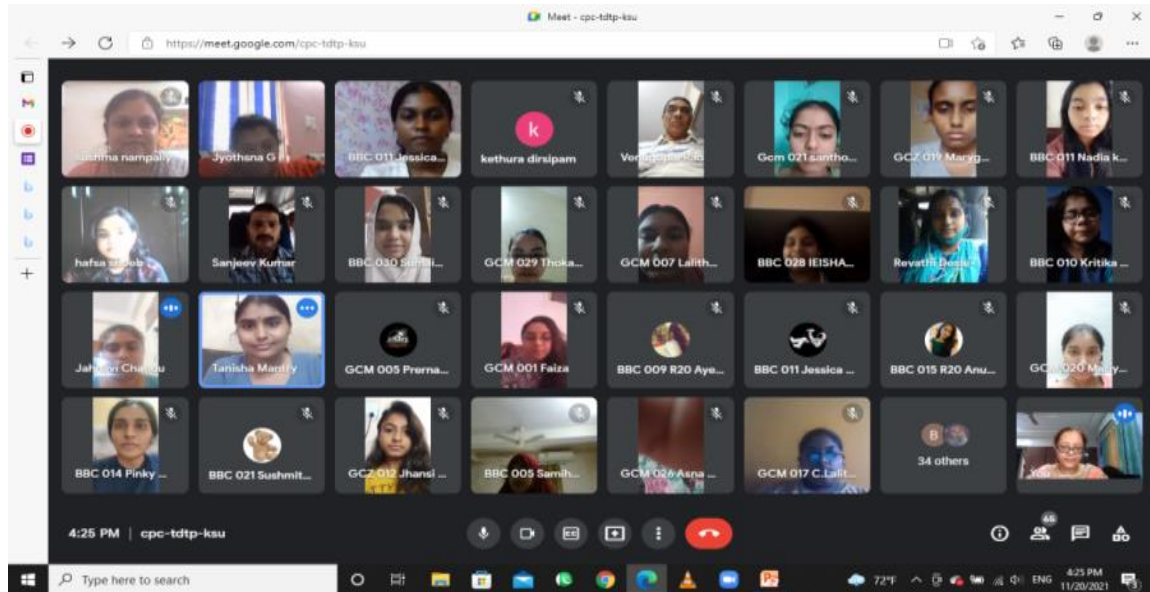
Mrs. Sushma ,HoD Bio Tech , Rendering Vote of Thanks

Webinar on MongoDB

REPORT

Date: 28th of November, 2021 from 6:00pm to 8:00pm
Resource Person: Mr. Rahul, DGM-IT, Hero (Insurance Broking), New Delhi.

[**Contact No:** 8586984034]

Venue: Day -1 A.V Room, Day 2 & 3 PGDDA Lab

Target group: Students
No of Student participants: 55
Objective, Summary and Outcome:
The department of Computer Science conducted an online extension lecture on the topic MongoDB and its procedure for the second-year data science students. Mr. Rahul enlightened participant with his overwhelming knowledge. The lecture was full of knowledge and interesting things. It gave deep insights into the topic

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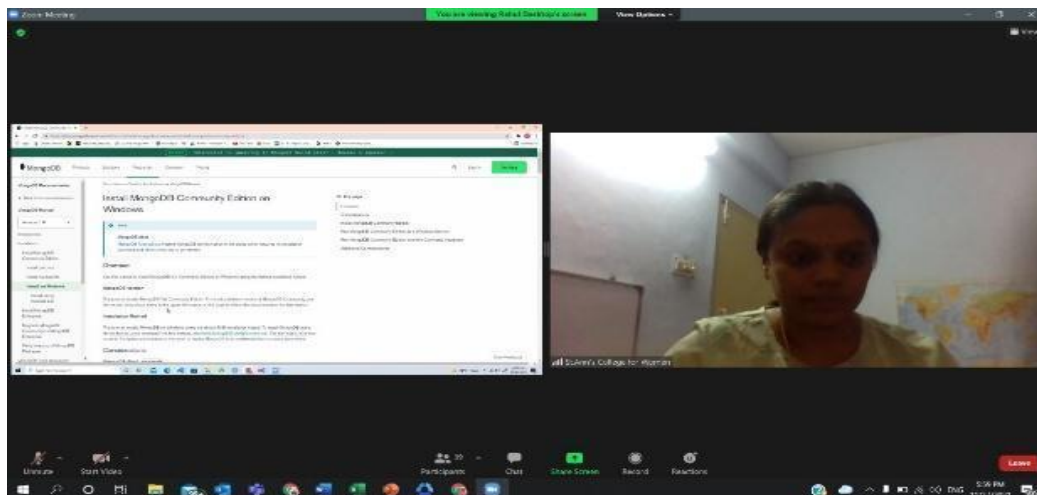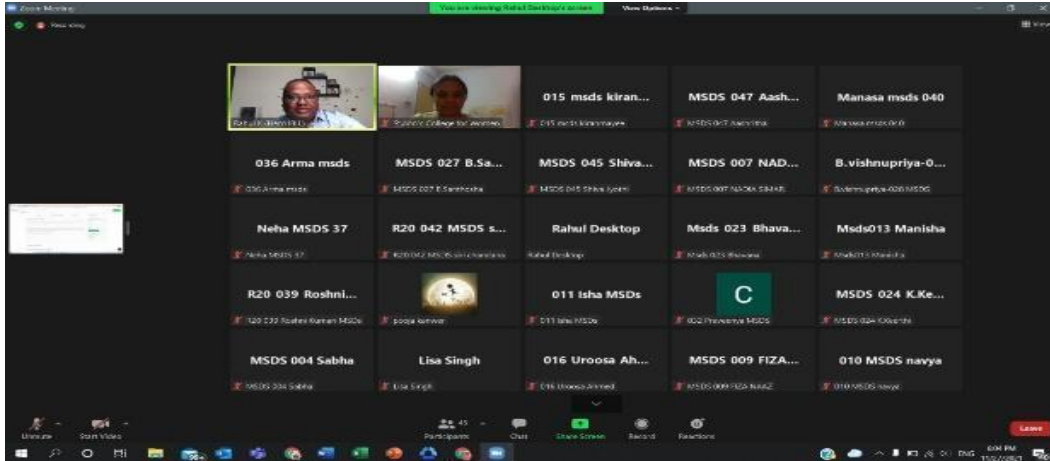# ST. ANN'S COLLEGE FOR WOMEN

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and also revealed some interesting facts. The topic was made enthusiastic through methods of using mind maps and examples programs in a very clear and informative manner.

The extension lecture was followed by Mr. Rahul knowledgeable insights on the course ad a vote of thanks. The event was successful with the gathering of more than 55 students along with the PG diploma students of the college. Mrs. Rajeswari along with her students organised the webinar in a disciplined and insightful manner.

Feedback: Students gave very good feedback saying that they were highly satisfied with the webinar and resource person.

Screenshots:

Mrs. Rajeshwari, Asst prof , Dept of Computer Science Introducing the session on Mongo DB on 28th Nov 2021
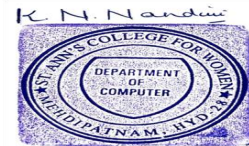
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Mr Rahul , The Resouce person delivering the session on 28th Nov 2021 on Mongo DB

3-day "Hands-on Workshop on Machine Learning"

REPORT

Date: 28th to 30th March, 2022 Time: 9:00 a.m. to 11:00am

Resource Person: Ms. V. Shrisha, Head of B.Sc. Computer Science and Data Analytics Engg.- Loyola Academy, Certified Data Scientist from IABAC(International Association of Business Analytics) [contact no:**9032614478**]

Venue: Day -1 A.V Room, Day 2 & 3 PGDDA Lab

Target group: Students

No of Student participants: 60

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Objective, Summary and Outcome:

The Machine Learning 3 Day Hands-on workshop was organized by the Department of Computer Science for II-year Data Science & PGDDA students. The workshop started with seeking blessing from god almighty and was followed by a brief introduction of the speaker by Ms. K. Rajeswari faculty Department of Computer Science. Around 60 students participated.

Day-1

Machine Learning is a field of computer science and artificial intelligence (AI) focused on developing algorithms and programs that can learn from data, identify and analyze patterns, and make decisions and predictions. It is an important part of AI, as it enables machines to learn from data and make decisions that humans might not be able to. The Resource Person Ms. V. Shrisha covered a variety of topics related to Machine Learning, including supervised and unsupervised learning, deep learning, and reinforcement learning and she also discussed the various types of algorithms used in Machine Learning, such as decision trees, support vector machines, and neural networks with real-time examples. The seminar also discussed the many applications of Machine Learning, such as natural language processing, computer vision, and robotics.

Day-2

She explained Probabilistic Modeling techniques such as Density Estimation, Statistical Estimation, and Navie Bayes Models with real-time examples. She demonstrated the various algorithms.

Day-3

She covered the basic Backpropagationorks such as Single Layer, Multi-Layworks, and Backpropagation Algorithms. At last, she discussed about the applications of Machine Learning in various sectors such as healthcare, transportation, and other industries.

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Feedback:

Overall, students gave the feedback that the workshop was very informative, fruitful, and knowledgeable and that they learned a lot about the field of Machine Learning. Students stated that have now become more aware of the different types of Machine Learning techniques and how they can be applied in real-time applications.

Brochure

TWO-DAY HANDS-ON –TRAINING –MOLECULAR TECHNIQUES

Circular
Dated :27th March 2022
Subject: Two-Day Hands-On Training on "Molecular Techniques"

Dear Faculty and Students,

We are pleased to announce a two-day hands-on training program on "Molecular Techniques," organized jointly by Department II (Biochemistry, Genetics, and Microbiology) under the DBT Star College Scheme and Variant Genetics Pvt. Ltd., Hyderabad. The training will be held from 30th to 31st March 2022.

Objective:
The main objective of this training program is to provide participants with practical experience and expertise in various molecular techniques essential for modern biological research. The training will cover a wide range of molecular biology techniques, including DNA isolation, PCR, gel electrophoresis, cloning, and sequencing, among others.

We encourage faculty and students from the departments of Biochemistry, Genetics, and Microbiology to actively participate in this training program. This hands-on experience will enhance your practical skills and prepare you for future research endeavors in the field of molecular biology.

For registration and further details, please contact [Coordinator's Name] at [Coordinator's Contact Information].

We look forward to your enthusiastic participation and a successful training program**.**

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MEHDIPATNAM, HYDERABAD-28.

REPORT

A two-day hands-on-training on –"Molecular Techniques" was organized jointly by Department II (Biochemistry, Genetics and Microbiology) under DBT Star College Scheme in collaboration with Variant Genetics Pvt. Ltd., Hyderabad. From 30th – 31st March 2022. There The module included- Number of Days – 2

Number of Lectures – 4 hrs and Hands on Training – 8 hrs. The offline event commenced with an inaugural function presided by Principal Sister P. Amrutha and co-presided by IQAC Coordinator, Dr. Smitha Asthana. This was followed by a small introduction of the workshop by Dr. V. Venugopal Rao, Head, Dept. of Genetics. Mrs. A. M. Sylaj and Mrs. Ch. Jyothi introduced the resource persons followed by a small talk by Dr. M.C. Vanaja. Dr. Swapna from Dept. of Genetics propsed the vote of thanks at the end.

The program module commenced with a lecture on DNA isolation and pros and cons of using conventional method and kit method. This was followed by demonstration and hands-on-training for DNA isolation from blood sample by Dr. Anjana Nanda. Dr. Nanda also explained in detail the principle of SDS-PAGE and demonstrated the technique. Purity of DNA was checked by carrying out Agarose gel electrophoresis.

Second day of the workshop commenced with brief introduction of PCR technique followed by hands-on-training on PCR machine. Setting the program and running the PCR was explained by Dr. Nanda and Dr. M.C. Vanaja. Gene amplification by Polymerase chain reaction   was visually observed on agarose gel using ethidium bromide. This was followed by a lecture on -Primer design for PCR and Sanger Sequencing (basics) and Sequence analysis.

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Lighting of Lamp by the dignitaries for the workshop Two-Day Hands-On Training on "Molecular Techniques" on 30th March 2022

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Webinar on Basics of Data Manipulation using R

REPORT

- **Date:** 10 June 2021
- **Venue:** Online
- **Target group:** UG and PG students and faculty of any discipline
- **No of Student/ No. of Faculty participant: 50**

Objective, Summary and Outcome

Webinar on Basics of Data Manipulation using R was organized by department of Statistics for the students of UG and PG on 10 June 2021.
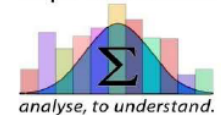
Flyer

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Dept. of Statistics

analyse, to understand.

Department of Statistics

Webinar on
Basics of Data Manipulation using R
10th June 2021; 5 pm

Free Registration

Resource Person
Dr. Pani Gopaluni,
Ph.D. from Cambridge University,
Nephrologist and General Physician, Citizens
Hospital, Hyderabad

For Whom?
UG, PG & Research
Students and Faculty
of any Discipline

Objective:

The main objective of this webinar is to make students understand the basics of R, how to use R and Apply various concepts to write programs in R.

Summary:

The webinar includes what is data, types of data, how data can be manipulated, basics of R, packages in R – how to install and run the syntax, how data can be manipulated & process the data using R and how R packages can be used. Sir also explained duplication of data and how to carry out with the missing data with examples. Sir has explained different functions in R like sort, order, apply.

Outcomes:

- Students will be able to run the syntax in R and to handle missing data.
- At the end of the session students can be able to install packages in R and can use different functions.

List of Participants

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Vangeti tejasree	Tswrdc jagadgirigutta	lksangeetha1903@gmail.com

Photographs with caption

Figure 4Resource Person Dr. Pani Gopaluni redering session on 10th June 2021 on the topic Basics of Data Manipulation Using R

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Feedback of the Participants

"Basics of Data Manipulation using R", 10ᵗʰ June, 2021

Dr Pani Gopaluni

There were 50 participants in the webinar.

- 40% participants gave the webinar as extremely informative and clear about ideas and concepts presented.
- 66% participants rated their level of satisfaction for the webinar as very satisfied and overall experience as excellent.
- 88% participants are interested in attending the series of talks on R.
- Overall, participants felt that the session was informative, encouraging, useful and very interesting.