VPM'S B.N BANDODKAR COLLEGE OF SCIENCE (AUTONOMOUS) THANE

The following Capacity Development and Skill Enhancement activities are organized for improving students' capabilities:

AWARWNESS OF TRENDS IN TECHNOLOGY

Sr. No.	Topic
01	Online Certificate Course on "Basics of R Software"
02	Session on "Tricks and Gimmicks for MS Powerpoint "
03	Session on "Introduction to Google Docs " under the Motivational Lecture Series
04	Session on "Netiquettes (Internet Etiquettes) " under the Motivational Lecture Series
05	Webinar on Basic Understanding and applications of Drawing Softwares
06	Webinar on National Digital Library of India (NDLI) : A useful Source of Information
07	Webinar on Understanding Journal Indexing and Citation Database
08	Session on "Google Classroom " under the Motivational Lecture Series
09	Webinar on A new way to search in Web of Science

V.P.M's B. N. Bandodkar College of Science(Autonomous), Thane.
Department Of Statistics

Report of Online Certificate Course on
"BASICS OF R SOFTWARE"

A Basics of R Software Course is introduced as a certificate course conducted by Department of Statistics, V.P.M's B.N. Bandodkar College of Science, Thane. Due to Pandemic, this year certificate course is conducted using online mode. In choice based credit system the course is of 45 hrs duration. The course was held during 08th to 20th March, 2021 using **Google Meet Online Platform** in between 1pm to 4.30pm.

Any scientific task without the knowledge of software is difficult to imagine and complete in the current scenario. Different software packages are available to analyze the data. It is felt that there is need to well equip the students, teachers and others who are using Statistics and related topics. R is free software that is capable of handling Mathematical and Statistical manipulations. R is an **open-source software environment for Statistical Computing** that is rapidly becoming the tool of choice for data analysis. We intend to give the basics of R software in this course.

Total 10 participants were registered for this online course, one F.Y.B.Sc. student, one S.Y.B.Sc student and four T.Y.B.Sc students of our college and remaining one student was from SYBSc of K.J Somaiya College, one MSc student from NMIMS, one teaching faculty from Pillai HOC College, Rasayani and one administrative staff from St.Xaviers College, Tamil Nadu. Due to online mode of publicity, the responses were also received from states.

The objective of the course were,

1. To familiarize them with basic regular expressions in R.
2. To impart knowledge about creating charts, plots and vectors.
3. To impart knowledge about basic data analysis procedures.
4. To understand the multiple regression models.
5. To understand the procedure to perform all conventional statistical models and analysis tests.
6. To develop hands-on experience on solving problems related to real-life data.
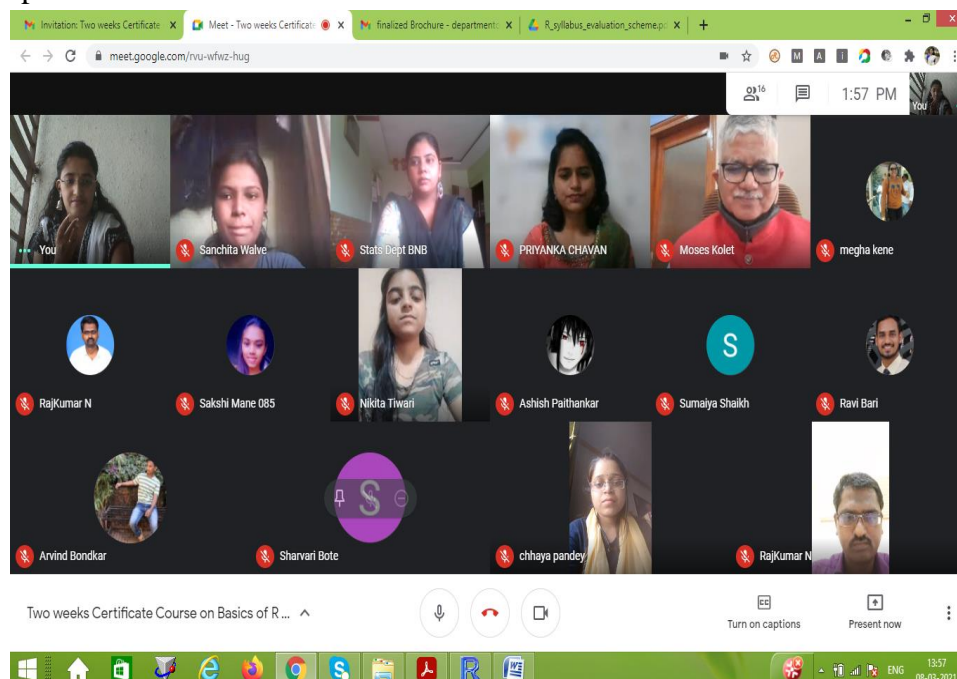
There are 4 units in the course,

Unit 1: Fundamental of R

Unit 2: Descriptive Statistics

Unit 3: Probability and probability distribution

Unit 4: Correlation analysis, Linear Regression analysis and Curve Fitting.

On 08th March 2021 around 1.45 pm, the inauguration of Online Certificate Course was done by our Incharge Principal Capt Dr. Moses Kolet by giving valuable suggestions and motivational speech.

Unit 1 session was scheduled on 08th March 2021 from 2pm onwards and the Resource Person was **Sumaiya A. Shaikh**. In Unit 1 the following techniques on Fundamentals of R were learned:

- What is R? How to install R and to input R syntax?
- To import and export data from excel files, text files to R.
- Function to be applied in R.
- Data frames which displays the data in matrix form.
- The command to access and analyse with the existing data sets.

Unit 3 session was scheduled on 10th March,2021 and 12th March 2021 and the Resource Person was **Chhaya P. Panday** and **Divya V Nair** respectively. In Unit 3 the following techniques on Probability and Probability Distributions and Testing Of Hypothesis were learned:

- Application of Probability using R syntax.
- The syntax **"choose"** which gives the value of number of combination of n objects taken r at a time(order is unimportant) and the syntax **"factorial"** which gives the value of number of n objects taken r at a time (order is important)
- Commonly used distributions with their R name.
- Functions in connections with different distributions like p , d , q and r.
- Plotting and its interpretation of Discrete and Continuous Distributions.
- In order to take decisions a statistical technique known as hypothesis testing which is useful in research work.

- The concept of **"P value"** to test the hypothesis i.e. either to reject or not to reject the hypothesis.
- Testing hypothesis concerning means, proportion and variance.
- Testing hypothesis on association between two variables.
- To test the significant difference on means of two or more population groups using ANOVA technique.

Unit 2 session was scheduled on 15th March, 2021 and the resource was **Priyanka M Chavan**. In Unit 2 the following techniques on Descriptive Statistics were learned:
- Scale of Measurement.
- Types of variables.
- Absolute and Relative frequencies which creates the sample frequency of the data of the data set.
- Codes to denote categorical variables.
- The use of syntax "**table**" which creates a bivariate distribution table.
- Representation of data by using suitable Graphs and Diagrams.
- The basic idea about averages , median and modal values using R syntax.
- Measures of Central Tendency using R language.
- Measures of Dispersion using R language.
- Measures of Skewness and Kurtosis using R language.
- Dealing with missing observation.
- A box plot which gives graphical technique showing summary of Univariate distribution.

Unit 4 session was scheduled 17th March, 2021 and the resource person was **Priyanka M. Chavan**. In Unit 4 the following techniques of Correlation Analysis and Linear Regression were learned:
- Correlation is concerned with the relationship between the two variables.
- It describes the strength of relationship between two variables.
- Scatter plot to explain how much one variable is affected by another.
- Regression analysis is a statistical process which is used to estimate the relationship among variables.
- Fitting of Regression Analysis in order to get the desired output.
- Application of Multiple Regression model which predicts dependent variable using independent variable.
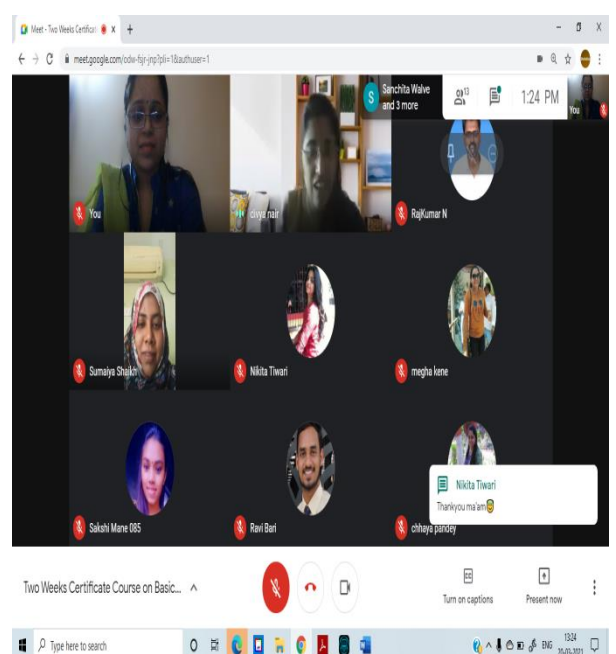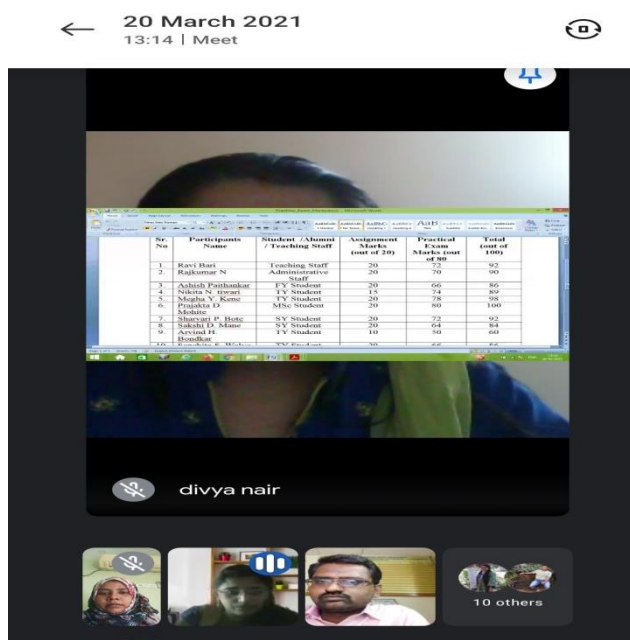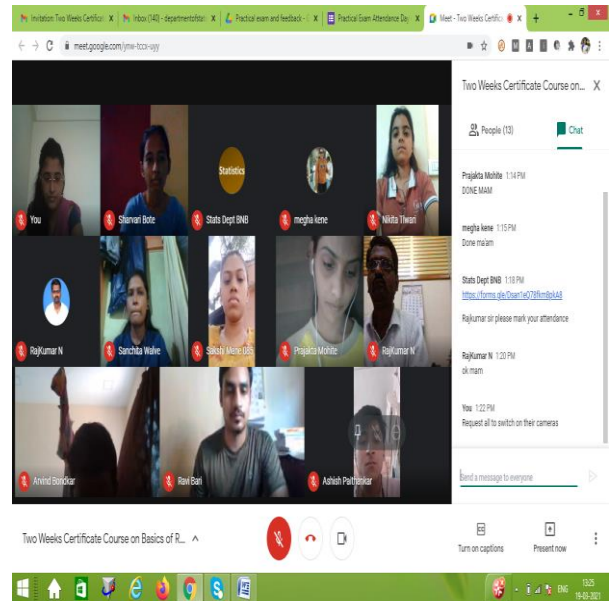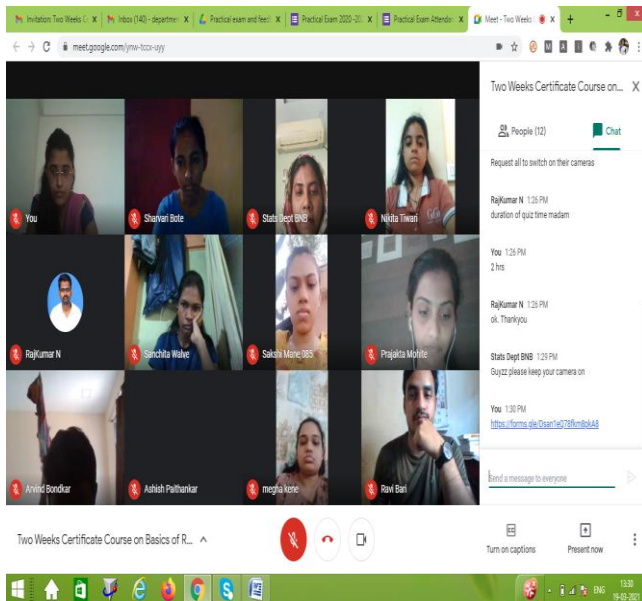
On 18th March, 2021 assignments on all units of 20 marks were submitted by sending those pdfs to our department Email ID which also cleared their difficulties regarding R syntax.
On 19th March, 2021 a practical examination was conducted of 80 marks from 1.30 pm to 4 pm as part of the course which consists of 40 multiple choice questions of all units and each question with 2 marks using Google Forms Quiz. All students were present and attended and qualified the practical examination.

On 20th March, 2021 at 1.00pm certificates where distributed for successfully completing the course. All students actively participated and provided valuable feedback for the entire course.

After completion of this course participant would be able to

1. Edit and save changes in existing data.
2. Summarise and graphically display data.
3. Perform all conventional statistical analysis tests.
4. Read existing datasets into R or create new ones.
5. Handle any form of data.

VPM's B.N.Bandodkar College of Science (Autonomous), Thane

Report of

Motivational lecture series 2020 - 21

Topic - Tricks & gimmicks for MS PowerPoint

Date: 10th August, 2020; 13th August, 2020

Name of the department conducting event: Department of Botany, VPM's B. N. Bandodkar College of Science (Autonomous), Thane

Class – S. Y. B. Sc (30) + T. Y. B. Sc. (16) = Total 46
Number of participants – 46
Number of teachers - Nil

Resource person: Mr. Aditya Mhatre, Asst. Professor, Department of Botany, VPM's B. N. Bandodkar College of Science (Autonomous), Thane

Platform: Google meet

Microsoft (MS) PowerPoint is a program included in the Microsoft Office suite. It is a powerful presentation program which uses slides to convey information rich in multimedia. As a part of the Motivational Lecture Series, a lecture on the topic of **Tricks & gimmicks for MS PowerPoint** was taken. The lecture served as an introduction to the basic working of MS PowerPoint and how it can be used to convey specific information. It emphasized on commonly found errors in a presentation and how to rectify them. Following the lecture, a short demonstration was also provided to help the participants better understand about the basic dos and don'ts in PowerPoint. Following the session, the students were asked to practice by sharing short PowerPoint presentations, on the basis of which, they were guided by the resource person.

Session Outcomes

- The lecture served as an introduction to PowerPoint for most students which is a very crucial tool w.r.t. computer skill.
- The students came to know about the basic dos and don'ts and important points to remember while preparing as well as delivering a presentation.
- The students were also encouraged to try MS PowerPoint by themselves, using assignments, which further clarified their doubts regarding the same.

VPM's B.N.Bandodkar College of Science (Autonomous), Thane

Report of

Motivational Lecture Series 2020-2021

Topic: Introduction to Google docs

Date: 08th August, 2020

Name of the department conducting event: Department of Botany, VPM's B. N. Bandodkar

College of Science (Autonomous), Thane

Class: S. Y. B. Sc   **Number of participants – 31**
Number of teachers - Nil

Resource person: Dr. Snehal Bhangale, Asst. Professor, Department of Botany, VPM's B. N. Bandodkar College of Science (Autonomous), Thane

Platform: Google meet

Google Docs is online word processing software where all the documents and files can be saved on the Google Drive for free. With Google Docs, all the files are saved on the Google cloud and have access to the documents from any place. The collaborative feature of Google Docs allows students to learn to work as a team. With this program every student has an opportunity to contribute and include their ideas by working on the same document from different places or times. Hence Dept. of Botany organized a Workshop on 'Introduction to google doc'. It was conducted by Dr. Snehal Bhangale using online mode. It involved demonstration of how to use google doc and how many people works simultaneously was shown practically and also with the help of MS-PowerPoint Presentation. Students learn how to prepare google doc, how to edit simultaneously when doing in groups, downloading the file and sharing with others. All the students appreciated the theme and the overall feedback of this session was excellent.

Outcomes: The session was useful in improving typing skills using online platform.

VPM's B.N.Bandodkar College of Science (Autonomous), Thane

Report of

Motivational Lecture Series 2020-2021

Topic - Netiquettes (Internet etiquette)

Date: 4th August, 2020

Name of the department conducting event: Department of Botany, VPM's B. N. Bandodkar College of Science (Autonomous), Thane

Class & Number of participants – S. Y. B. Sc (31) + T. Y. B. Sc. (16) = Total 47

 Number of teachers - Nil

Resource person: MS. Chetana Shetty, Asst. Professor, Department of Botany, VPM's B. N. Bandodkar College of Science (Autonomous), Thane

Platform: Google meet

As a part of the Motivational Lecture Series, a lecture on the topic "**Netiquettes (Internet etiquette)" was** taken. Netiquette is another term for Internet etiquette. It emphasises the significance of proper online etiquette and behaviour for users. Students recognized and appreciated various norms that must be followed when communicating online. Students learnt about basic rules like being courteous and precise, avoiding cyber bullying such as abuse and harassment, abiding by copyright laws, maintaining the same level of respect for others online and offline, understanding and recognising other users' mindsets, appreciating privacy, and remaining transparent. They also understood the formal way of responding to a chat, email, post or discussion while being online. Though many students were already practicing it, for some the entire concept was new and interesting. They shared their own views and experience as online users. As education is going online; for students, the session proved meaningful and useful.

Outcomes:

- Students learnt about online code of conduct.

- The session had a positive impact on the students, as they understood their responsibilities as internet users.

- It will encourage them to have better communication when collaborating online.

Research Committee and Department of Library
Webinar Series

INQUISITIVE MIND

Webinar 7: " Basic Understanding and Applications of Drawing Softwares "

Date: June 26, 2020.
Time: 3.00 pm to 4.30 pm

The seventh Webinar of the series was arranged on 26th June 2020 from 3.00 p.m. to 4.30 p.m. on the topic **" Basic Understanding and applications of Drawing Softwares "** by Dr. Sandeep Kahandal, Asst Professor, Dept of Chemistry, VPM's B.N. Bandodkar College of Science, Thane.

Webinar series **"Inquisitive mind"** is a creative effort of the Research Committee and Department of Library of VPM's B.N. Bandodkar College of Science, Thane. Inquisitive mind is an effort to quench the thirst for knowledge. A path to acquire new knowledge in these unprecedented times when the pandemic is playing havoc. The webinar series caters to such inquisitive minds who join us in these trying times and we keep them engrossed with a new topic every week.

Dr. Sandeep began his session with a general introduction about various drawing softwares. Then further he explored ACD/Chemsketch free software for drawing of structures.
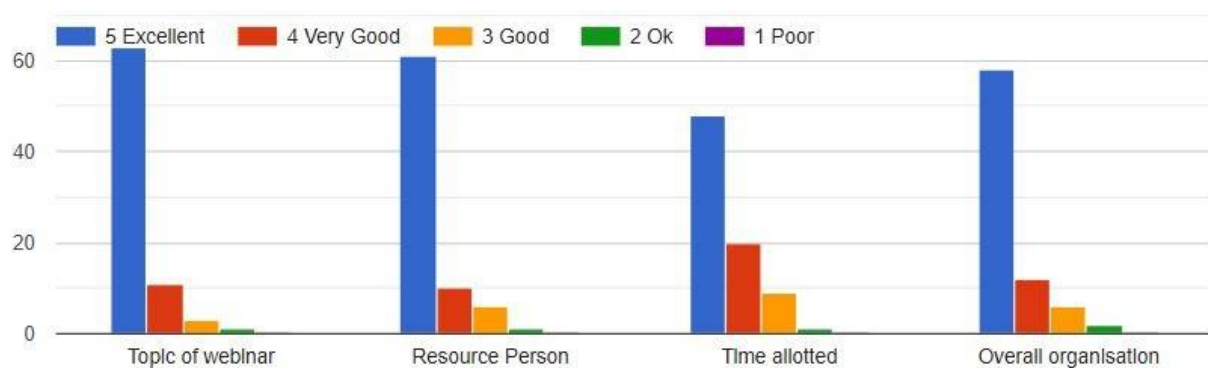
He practically showed the drawing of various chemical structures using tools available in the software. Participants also gain the knowledge of how to present the scheme of the chemical reactions and their mechanism using curly arrows and how to insert alphabet, color, bold etc. in the structures.

The software is also useful for creating IUPAC nomenclature of the compounds.
Following structures and points were discussed in the presentation:

1)   Basic understanding of the software
2)   Amino acids (Uracil, and Thymine)
3)   Polymeric compounds
4)   Markush bonds and delocalization of charge
5)   Stereochemistry and use for Sterodiscriptions
6)   Generation of Inchi and Smiles
7)   Bicyclo compounds
8)   Generation of Fullerenes
9)   Use of Template

Registration for the webinar was free. A total of 123 participants registered and 77 participants actually attended the webinar. The webinar was held using Cisco Webex.

FEEDBACK ANALYSIS:

Mrs. Kadambari H. Manjrekar   Dr. Moitreyee Saha
Librarian   Coordinator
                                                                                     Research Committee

Research Committee and Department of Library
Webinar Series

INQUISITIVE MIND

Webinar 6: " National Digital Library of India (NDLI) : A Useful Source of Information "

Date: June 20, 2020.

Time: 3.00 pm to 4.30 pm

The sixth Webinar of the series was arranged on 20th June 2020 from 3.00 p.m. to 4.30 p.m. on the topic **" National Digital Library of India (NDLI) : A useful Source of Information "** by Mrs Kadambari Manjrekar, Librarian, VPM's B.N. Bandodkar College of Science, Thane.

Research Committee and Department of Library of VPM's B.N. Bandodkar College of Science, Thane arranged the sixth Webinar of the series under the aegis of webinar series **"Inquisitive mind"**. An inquisitive mind has questions, there are answers which we need to search for. The webinar series caters to such inquisitive minds with topics that will keep them engrossed.
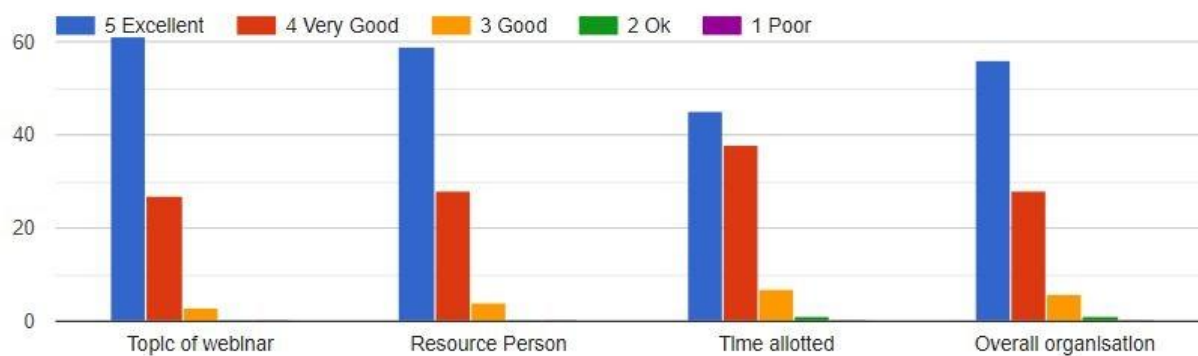
Mrs. Kadambari started the session by explaining how to become the member of NDLI. She demonstrated all the search features by type, by subject, by resource and by source organization. She elaborated every aspect of how to limit the search, how to save, how to record metadata etc. She illustrated different access types available in NDLI.

She further explained the features like NDLI Covid 19 repository, in which she explained in details about various indexes, Journals articles, journals publishers, datasets, ideas and fundings etc. She threw a light on a featured collection of NDLI in which a special collection on Satyajit Ray, person of the week, topic of the week etc.

In all NDLI is a knowledge reservoir and Mrs Kadambari elucidates about NDLI and how it is useful to a small kid to senior citizens for improving their knowledge.

Registration for the webinar was free. A total of 117 participants registered and 79 participants actually attended the webinar. The webinar was held using Cisco Webex.

FEEDBACK ANALYSIS:

Mrs. Kadambari H. Manjrekar   Dr. Moitreyee Saha
Librarian   Coordinator
Research Committee

INQUISITIVE MIND

Webinar 5: "Understanding Journal Indexing and Citation Database"
Date: June 13, 2020.
Time: 3.00 pm to 4.30 pm

Research Committee and Department of Library of VPM's B.N. Bandodkar College of Science, Thane started this webinar series **"Inquisitive mind"** to help research scholars to learn from academicians and active researchers. Inquisitive mind was an effort to make them question and seek answers.
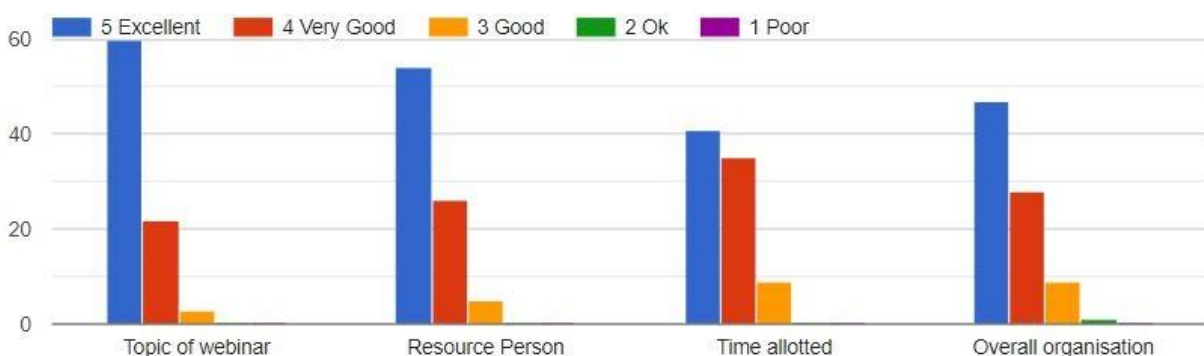
The fifth Webinar of the series was arranged on 13th June 2020 from 3.00 p.m. to 4.30 p.m. on the topic **"Understanding Journal Indexing and Citation Database"** by Dr. Rohini Mandhare, Asst Professor, Dept of Chemistry, VPM's B.N. Bandodkar College of Science, Thane.

Dr. Rohini gave in-depth knowledge of Scopus and its hands on. She started the session by explaining which tools are available with Scopus with and without subscription to it. She demonstrated all available facilities with and without subscription such as document search, author search, affiliation search and journal search. She elaborated every aspect of it right from 'how to register?'How to save, set alert and export documents?' How to edit author profiles and connect to other standard profiles of database indexing such as ORCiD and Mendeley, etc.

Some new aspects such as patent search on particular topics, analyzing results which help for collaboration, finding lists of journals, books and proceedings included in Scopus database, journal ranking, country ranking, etc. were demonstrated in a very interactive way.

Registration for the webinar was free. A total of 157 participants registered and 85 participants actually attended the webinar. The webinar was held using Cisco Webex.

FEEDBACK ANALYSIS:

Mrs. Kadambari H. Manjrekar   Dr. Moitreyee Saha
Librarian   Coordinator
                                                                              Research Committee

Report of

Motivational Lecture Series 2020-2021

Topic - 'Google Classroom'

Date: 22nd August, 2020

Name of the department conducting event: Department of Botany, VPM's B. N. Bandodkar College of Science (Autonomous), Thane

Class – S. Y. B. Sc   **Number of participants** – 13
Number of teachers - Nil

Resource person: Dr. Urmila Kumavat, Asst. Professor, Department of Botany, VPM's B. N. Bandodkar College of Science (Autonomous), Thane

Platform: Google meet

During COVID-19 lockdown periods, the online learning process started unexpectedly. At that time almost all students were ignorant about handling Google Applications. Therefore the Dept. of Botany took initiative to train these students. As a part of the Motivational Lecture Series, a lecture-cm-Demonstration was conducted on **'Google Classroom'**. This lecture was intended to train students w.r.t. usage of Google Classroom which served as the best option for storing all study material in the form of MS-PPT, Notes-PDF, You-Tube links, etc. Students were given detailed online demonstrations about joining classroom/s, accessing study materials and giving class tests using links of 'Google Form' or 'Quizzes'. It was completely a new experience for them but they understood all applications and appreciated the session content.

Outcomes:

- The session was useful in understanding 'How to operate Google Classroom?'
- They got to know about other applications such as 'Google Meet', 'Google Form' and 'Quizzes'
- The overall lecture-cm-demonstration effectively had bridged the gap between offline to online Teaching-Learning process.

Research Committee and Department of Library
Webinar Series

INQUISITIVE MIND

Webinar 8: "A new way to search in Web of Science"

Date: July 4, 2020.
Time: 3.00 pm to 4.30 pm

The eighth Webinar of the series **"Inquisitive mind"** was arranged on 4th July 2020 from 3.00 p.m. to 4.30 p.m. on the topic " A new way to search in the Web of Science " by Dr. Rohini Mandhare, Asst Professor, Dept of Chemistry, VPM's B.N. Bandodkar College of Science, Thane.

The webinar series is the joint efforts of the Research Committee and Department of Library of VPM's B.N. Bandodkar College of Science, Thane. Every week a new topic helpful for research scholars is picked up and discussed in detail by active researchers. Research scholars with an inquisitive mind often have questions, for which they seek answers. This webinar series caters to such inquisitive minds answering their queries and doubts.

In order to cater the needs of researchers and to find free, user friendly and at the same time authenticate websites for publishing research and getting citation databases, the webinar on 'New ways to search in Web of Science' was organized. In this webinar Dr. RohiniMandhare, the resource person for the session explained different products of the web of science. She gave emphasis on products which are freely available by the web of science and are very much useful for research. To name some of these are *Master Journal List (MJL), Kopernio, and Publons*. To get benefited from these products she explained how to create accounts for free in the web of science and then started demonstrating all three freely available tools.

Firstly she explained the master journal list product where a researcher can not only see list of all journals available but also can see details of journals like impact factor, time taken for reviewing articles, editors, etc. The most important part she explained here is refining the search for journals and one can easily refine by subject area, open access type or frequency of publication which sometimes helps for quick publication. She also explained about downloads where a list of all journals covered in Web of Science along with additional web of science indices. The tool 'Manuscript matcher' which enlists no. of journals available to researchers just by putting title and abstract of research topic was demonstrated with one of her abstract and title of research work done. Secondly she explained about Publons products.
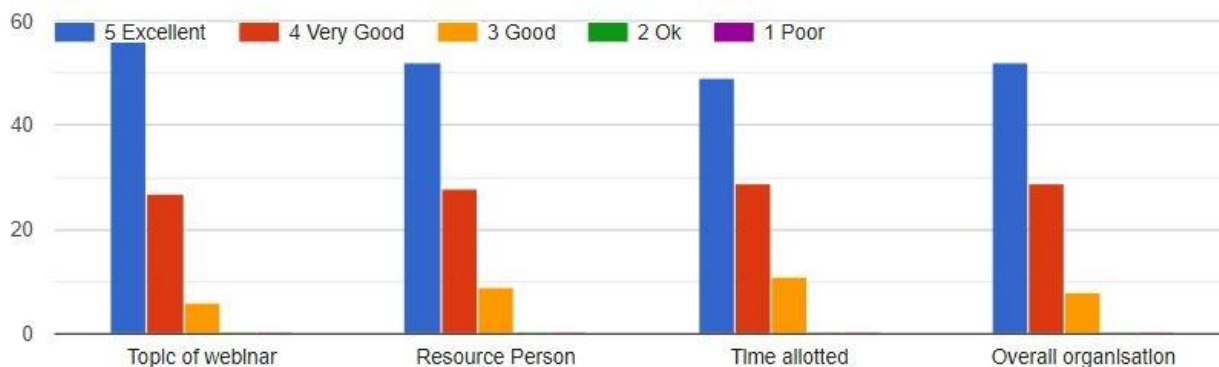
She detailed how to create an author profile(which gives you a unique researcher ID for Web of Science), what are the benefits of it in research society and how to link publon author profile to an ORCiD account. Further she explained different browse options on publons such as author search, publication search, journal search, institution search, country search and COVID 19 index. She demonstrated each search option in detail and also explained about the facility of publon to approach editors of journals covered in Web of Science for availability/willingness to work as reviewer.

Lastly she explained about the third free product of Web of Science i.e. Kopernio which helps to download full text of research articles in just one click. She explained how to download this plugin and how to install it. Dr. Rohini ended her talk giving a comparative account of Web of Science, Scopus and Google Scholar citation databases.

Registration for the webinar was free. A total of 122 participants registered and 71 participants actually attended the webinar. The webinar was held using Cisco Webex.

FEEDBACK ANALYSIS:

Mrs. Kadambari H. Manjrekar   Dr. Moitreyee Saha
Librarian   Coordinator
                                                                                     Research Committee