

**Workshops**  
**3day-online workshop**  
**on“Bioinformatics, Molecular modelling and Biostatistics”**  
**Under DBT Star College Scheme**  
**12<sup>th</sup> -14<sup>th</sup> August, 2020**

**Report of the workshop**

A 3-day online workshop on “Bioinformatics, Molecular modelling and Biostatistics” was organised for students and faculty of life sciences by Department of Biochemistry under DBT-Star college scheme. A total of 220 participants including students and faculty members from various academic institutions all over India have attended and benefitted from the programme.

The program started on 12<sup>th</sup> August, 2020 with a formal inauguration by Principal Prof. Y. Ashok, and Dr. A. Sai Padma, Head, Department of Biochemistry. The inaugural lecture was delivered by Dr. Manjari Kiran, Assistant Professor, Department of Systems and Computational Biology, School of Life Sciences, University of Hyderabad. The topic of her lecture was “Bioinformatics: From Sequence Analysis to Prognostic Markers”, in which she explained various bioinformatics approaches and the significance of Long Non-coding RNAs (lncRNAs) based prognostic signatures in gliomas. The practical session was conducted by Dr. S. Padma, Asst Prof, Department of Biochemistry, BVC. The participants were given hands on training in few bioinformatics practicals including retrieving nucleotide sequences from databases using online resources, finding exons using GENSCAN, using BLAST for sequence alignments and primer design, CLUSTAL alignment of sequences and Protein structure prediction. The participants were also demonstrated the use of biopython and next generation sequencing data analysis.

The second day programme was started with technical session by Ms. S. Vanitha, Asst Prof, Department of Biochemistry, BVC. She gave a virtual demonstration of ligand design using Chem sketch tool and also demonstrated Protein-ligand docking using Autodock tool. The second session was conducted by Mr. V. A. Ramesh, SRF, CDFD, Hyderabad on Study of Protein Protein Interaction Networks. He explained various bioinformatics tools to study the process of protein-protein interactions.

The third day of the workshop was started with a lecture by Dr.N.Balakrishna, HOD, Department of Statistics, Apollo Institute of Medical Sciences and Research, Hyderabad

on “Applications of statistics in Medical and Health”. The technical session on “Applications of SPSS software” by Dr.N.Balakrishna gave an overview of the various statistical methods and their applications in data analysis.

The participants were provided with e-manuals and practice material for all three days, for further practice at their convenience. The 3-day workshop has received very good feedback and appreciation from participants for having chosen the topics relevant to the modern science. The programme was concluded with valedictory session and e-certificates were distributed to the participants.

## 12-August,2020(DAY 1: BIOINFORMATICS)

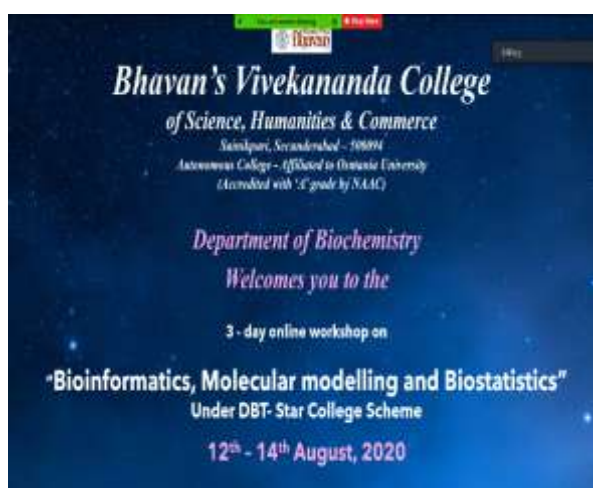


Figure 1 Dr. Manjari Kiran explaining the importance of bioinformatics 12<sup>th</sup> August,2020



Figure 2 Dr. Manjari Kiran explaining the importance of bioinformatics 12<sup>th</sup> August,2020

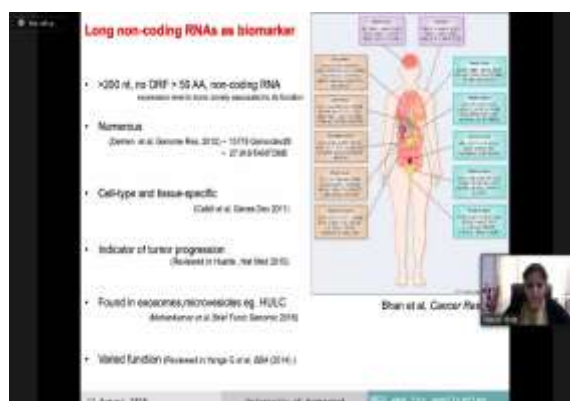


Figure 3 Dr. Manjari Kiran talking about the sequences 12<sup>th</sup> August,2020



Figure 4 Dr. Manjari Kiran discussing her alignment of research work 12<sup>th</sup> August,2020



Figure 5 Dr. S. Padma explaining the PROTPARAM tool For protein window

Figure 6 Dr. S. Padma talking about the results of NGS analysis using GALAXY

### 13-August,2020 (DAY 2: MOLECULAR MODELLING)

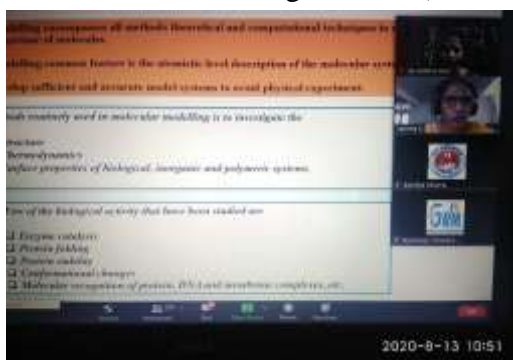


Figure 7 Mrs. S. Vanitha describing the importance of molecular modeling 13<sup>th</sup> August,2020



Figure 8 Demonstration of design of ligand 13<sup>th</sup> August,2020



Figure 9 Mrs. S. Vanitha explaining the protein ligand docking, 13<sup>th</sup> August,2020

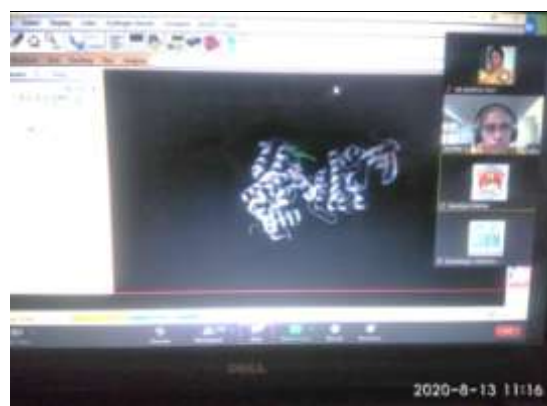


Figure 10 Mrs. S. Vanitha explaining the protein ligand docking, 13<sup>th</sup> August,2020



Figure 11 Mr. V. A. Ramesh explaining the Rosetta Stone, 13<sup>th</sup> August, 2020



Figure 12 List of databases for protein –protein interactions for analyzing protein protein interactions, 13<sup>th</sup> August, 2020

14-August, 2020 (DAY 3:BIOSTATISTICS)

**Bhavan's Vivekananda College**  
of Science, Humanities & Commerce  
Sainikpuri, Secunderabad – 500094  
Autonomous College - Affiliated to Osmania University  
(Accredited with 'A' grade by NAAC)


**Department of Biochemistry**  
*Welcomes you to the*

3 - day online workshop on  
**"Bioinformatics, Molecular modelling and Biostatistics"**

Under DBT- Star College Scheme

**12<sup>th</sup> - 14<sup>th</sup> August, 2020**

Day 3 Resource person



**Dr. N. Balakrishna**  
HOD, Dept of Statistics  
Apollo Institute of Medical Sciences & Research  
Hyderabad  
Former Scientist E (Dy. Director)  
National Institute of Nutrition, Hyderabad

Figure 13 Lecture by Dr. N Balakrishna, HOD, Dept of Statistics, Apollo institute, 14th August, 2020

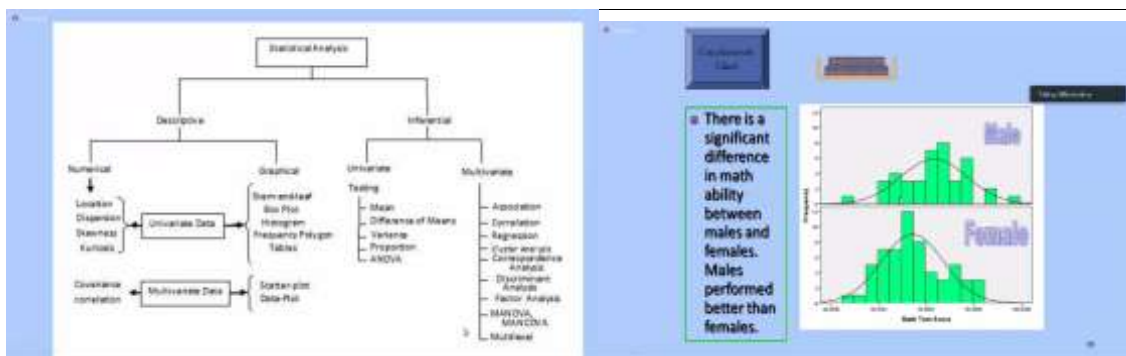


Figure 14 Dr N Balakrishna explaining about the use of statistic tools, 14th August, 2020

Figure 15 Dr Balakrishna explaining about use of statistic tools, 14th August, 2020

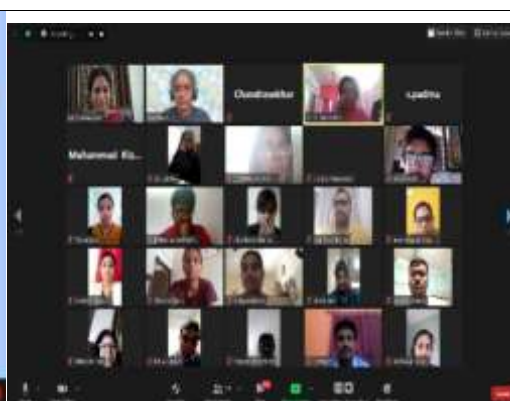


Figure 16 Sir explaining about the use of Annova, 14th August, 2020

Figure 17 Group photo with the organizers and participants, 14th August, 2020

## 1. Report on Joint online workshop on Intellectual Property Rights(IPR) and Patent Process 21st January, 2021

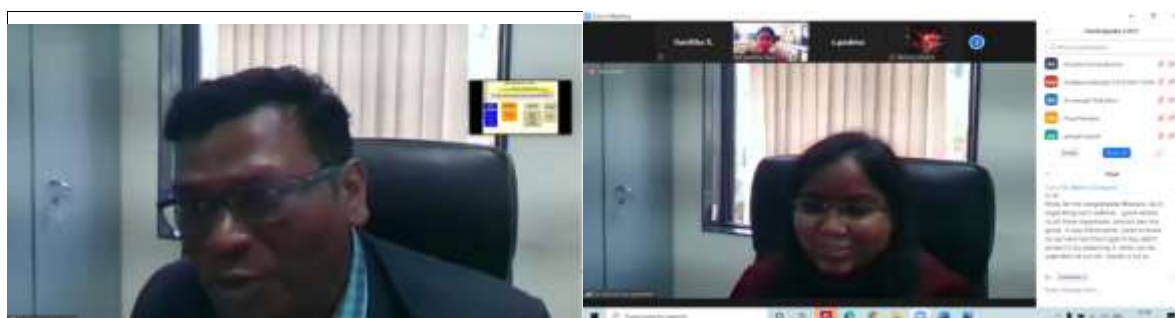
A Joint online workshop on Intellectual Property Rights(IPR) and Patent Process was organized by the Dept of Biochemistry (under DBT Star College Scheme), and IPRcell, BVC in collaboration with Rajiv Gandhi National Institute of Intellectual Property Management (RGNIIPM), Nagpur on 21<sup>st</sup> January, 2021.

The half day programme started in the morning with a webinar by Dr.BharatSuryavamshi Assistant controller, Patents and Designs, RGNIIPM, Nagpur on **“Introduction to Intellectual Property”**. Dr.Bharat’s lecture began with an introduction to Intellectual property including the different types of Intellectual property rights like exclusive rights, Territorial Rights and Licensable rights. He also explained the significance of Intellectual Property Rights with respect to avoiding duplication of research and the creation of a wide variety of intellectual goods. Dr.Bharat outlined the importance of copyrights and explained that a single product can be protected by more than one IPR. He also gave awareness on the various job prospects available after pursuing a course in IPR.



This session was followed by a webinar on “**Patent processing**” by Ms. Pooja Maulikar, Examiner of Patents and Designs, RGNIIPM, Nagpur. She explained the process and the various stages in the patent application. Ms. Pooja clearly explained the different categories of applicants, where to file a patent application, and the necessity for the jurisdiction of the patent office. Further, she also discussed the difference between physical filing of the patent and the electronic filing and listed the documents required for filing a patent application. Her talk also explained other relevant information including the size of the documents, specification of the patent, the source of biological material that are needed while filing patents.

Ms. Pooja also gave an overview of the workflow of examination procedures for patent application and the various formats that need to be completed while submitting for a patent. The resource persons also answered the questions from the participants. This programme was attended by 225 participants including students and faculty from BVC as well as other colleges in Hyderabad.



Dr. Bharat speaking on Intellectual property rights process

Ms. Pooja Maulikar speaking on Patent



## 2. Report

### Value Added Course on “Clinical, Molecular Diagnostic methods and Genetic Counselling” Institute of Genetics & Hospital for Genetic Diseases, Osmania University, Begumpet, Hyderabad 2020-21 15<sup>th</sup> – 19<sup>th</sup> March, 2021

The Department of Biochemistry has organized a five-day Value-added course on “Clinical, Molecular Diagnostic methods and Genetic Counselling” for the second and final year students of B. Sc (MBBCC) in collaboration with Institute of Genetics and Hospital for Genetic Diseases from 15<sup>th</sup> to 19<sup>th</sup> March, 2021. This course was organized under DBT- Star College Scheme for the benefit of undergraduate students. Students were grouped into five teams, with each team comprising of four or five. The areas covered during the course was Clinical Genetics, Cytogenetics, Environmental Toxicology, Molecular Biology, Clinical Biochemistry and Genetic counselling.

In the Clinical Genetics division, students were made to be aware about the various prenatal diagnostic methods, importance of pedigree analysis for the purpose of Genetic counselling to the patients who may have a prehistory of genetic diseases.

Students were explained on the significance of biochemical investigations and their relation to genetic diseases. Glucose profiling, Lipid profiling, Thyroid profiling were experimented with the patient’s samples. Students were also trained on the analysis of the obtained results and correlate the clinical significance in terms of predisposition to genetic disorders. Determination of serum and urine copper was performed for Wilson disease profiling.

In the Molecular Biology division, isolation of DNA was done with blood sample of students and the isolated DNA was separated using Agarose gel electrophoresis in the toxicology division. In the cytogenetics division, students were made to understand about the methodology and the importance of karyotyping, FISH and Spectral karyotyping in detecting chromosomal abnormalities.

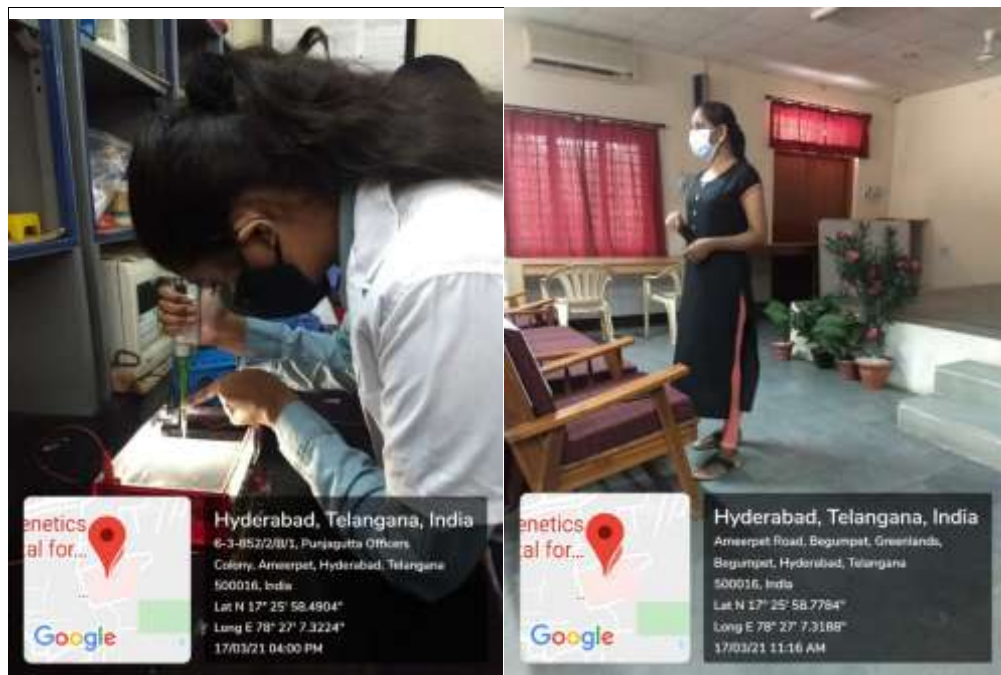
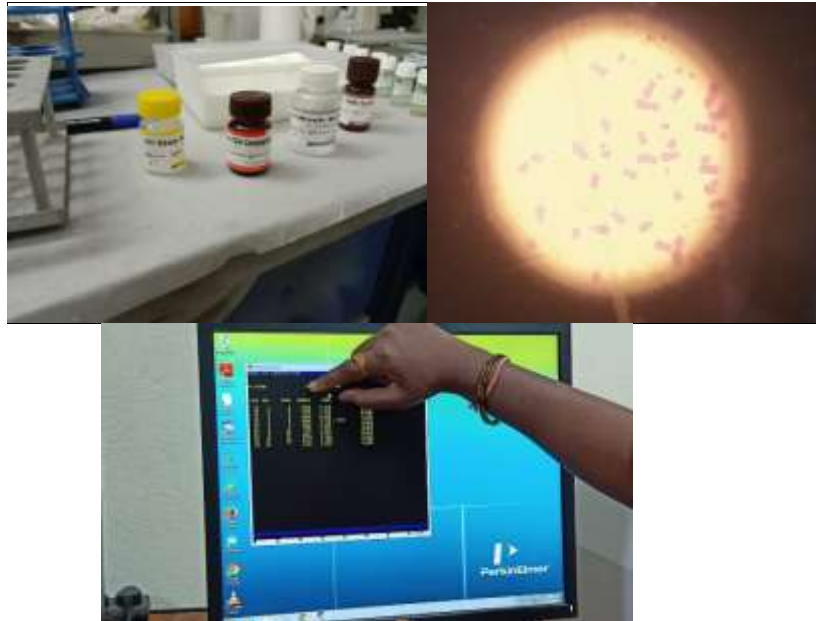
Students also had the opportunity to visualize the working of HPLC, Fluorescent Microscope, Gel Documentation unit, Thermocycler. The course was informative and educative.

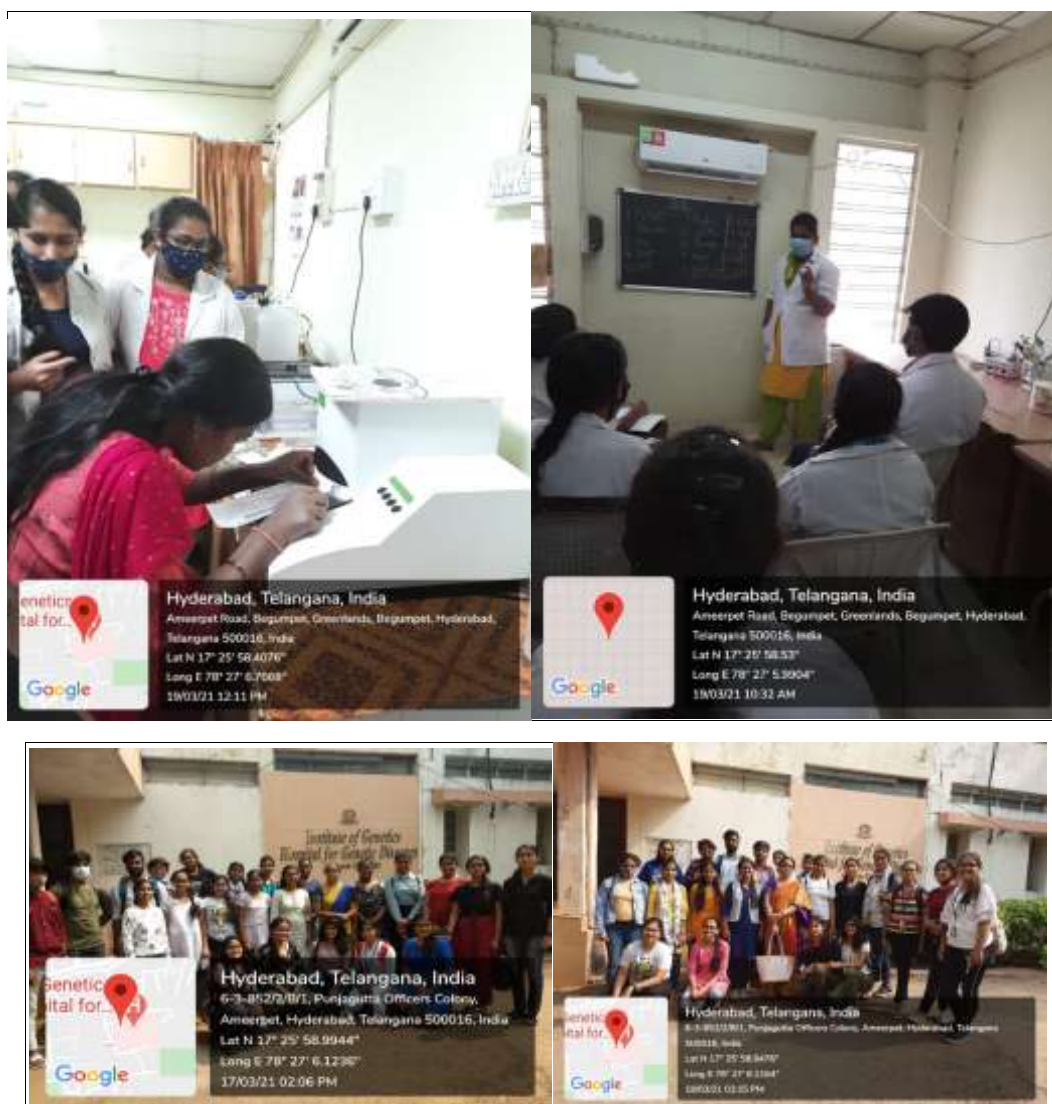
**No of Students: 23 (BSc II and III-year MBBCC)**

**No of Faculty members: 05**





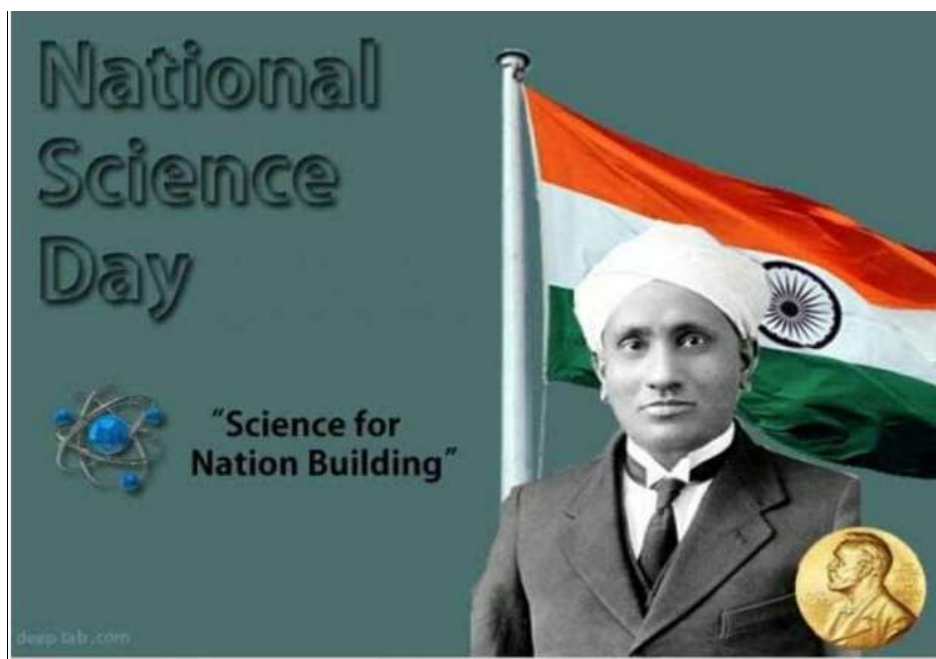




## National Science Day 2021

**27<sup>th</sup> February, 2021**

The Departments of Life Sciences organized National Science Day celebrations on 27th February 2021, with a huge participation of 208 students. The chief guest for the session was Dr.Appa Rao Podile, Vice Chancellor University of Hyderabad. He gave an insight on Therapeutic Bio manufacturing, Bio synthetic Organisms and Plant Tissue Engineering. Dr.RamjeePallela, COO, Atal Incubation Center, CCMB gave an excellent talk and threw light on funding processes involved in research. The department of Biochemistry conducted a student activity, e-Quiz on “Covid - 19 Pandemic”. The other student activity in the program was e-Poster competition on “Recent Innovations in Medical Diagnostics”. There were 456 participants for e-quiz from various states like Telangana, Andhra Pradesh, Kerala, Tamil Nadu, West Bengal, Gujarat, Chattisgarh, Pondicherry and Uttarakhand. The e-posters were judged by Dr.VSrihran, GMERF (Retd). The National Science Day 2021 celebration was an enriching and successful event during the pandemic time.



## **Exhibition**

**e- poster presentation competition**

on

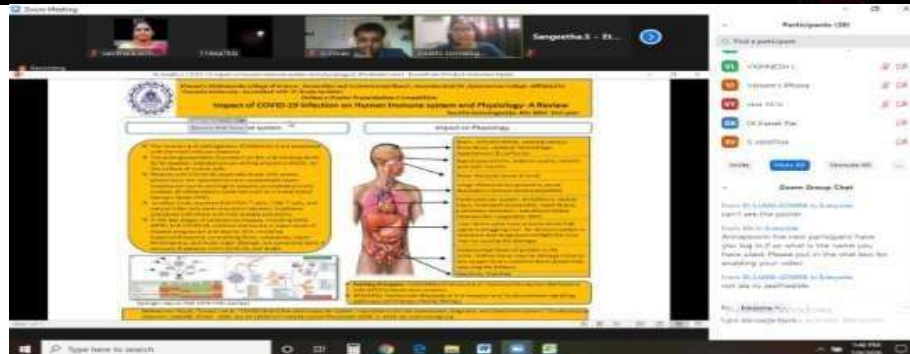
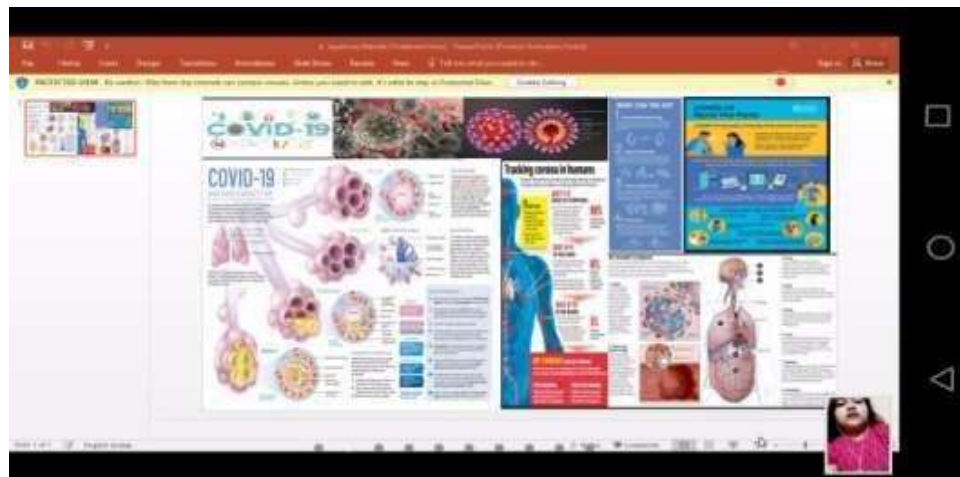
**“Impact of COVID-19 infection on human immune system and physiology”**

**9<sup>th</sup> July, 2020**

The department of Biochemistry organized an online e-poster presentation competition on 9-7-2020. The programme was organized on Zoom platform from 12.30 pm onwards. There was submission of posters from 36 candidates all over India that included Undergraduate, Postgraduate students and research scholars. Among them, 15 were shortlisted for online presentation based on the content and preparation of the slide. The e- posters were judged by eminent doctors, Dr.Devender Singh Negi, Prof & HOD of Physiology, Mediciti Hospitals, Ghanpur, Telangana state and Dr.S.Srinivas, Head, critical care, Virinchi Hospitals, Hyderabad. The selected 10 posters were given the order of merit and were given e-certificates.

The participants were applauded by the judges for their good efforts in understanding the biochemical processes underlying in how the COVID-19 impacts the human immunity and physiology of the body.









## Report on Training for Lab Assistant 17-02-2021 to 20-02-2021

Department of Biochemistry, Bhavan's Vivekananda College has conducted training to the lab assistant under DBT Star college scheme. The training was scheduled from 17-02-2021 to 20-02-2021. Mr. B. KishanBabu, Lab assistant, Department of Biochemistry has been trained under this program by faculty members of the department. He has been given training on various aspects of lab practices such as safe disposal of laboratory wastes, experiment based reagent preparation, regular update and maintenance of log book for all instruments, stock procurements, maintenance and regular servicing of equipments, standard operating procedures of various equipments, and preparation of stock statements in

excel/word document, acquiring quotations from vendors through e-mail. He has completed the training program sincerely and submitted all given assignments.

