



# Gyanav - Biotechnology - Newsletter

Volume 1, Issue 1  
July - Dec, 2020

Chief Patron

**Shri Ashok Kumar Mundhra**

Secretary

Patron

**Dr. S. Santhosh Baboo**

M.Sc., Ph.D.,

Principal

Convener & Editor

**Dr. M.D. BalaKumaran**

M.Sc., M.Phil., Ph.D., SET.,

Asst. Prof. & Head (i/c),

Department of Biotechnology

Sub Editor

**Ms. Kiran Sharma B**

M.Sc., M.Phil.,

Guest Lecturer,

Department of Biotechnology

## Dept. of Biotechnology

### VISION:

Our vision is to produce competent Biotechnologists with profound expertise, providing sustainable competitive edge to present society with entrepreneurial skills.

### MISSION

- To inculcate original and novel advanced methodologies in the field of biotechnology
- To generate opportunities for innovations in the field of biological research.
- To expand the scope of Industry - Academia interaction towards commercialization of bioproducts.

## INSIDE THIS ISSUE:

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## Message from Secretary

It gives me immense pleasure to write a message for the Newsletter to be published by the department of Biotechnology. As the years ahead, I can envisage the college growing in all areas, from academic to higher standards of excellence. I am sure it will continue to serve a significant role in the higher education of our country with greater heights and achievements.



**Shri. Ashok Kumar Mundhra, Secretary**

I extend my appreciations and best wishes for the Biotechnology team for their success and wide receptions towards the Newsletter.

## Message from Principal



**Dr. S. Santhosh Baboo, Principal**

Keeping in the mind of today's competitive life, it is necessary to nurture the students with values of integrity and knowledge which will enrich their human values. The college has a legacy of over 55 years which fosters professionalism among the students and exposes them to the real life situations to become self-reliant in this corporate world. I congratulate the faculty members of the Biotechnology department for their initiative which can be used as a platform where the students and staff can express new ideas.

## Editorial Message -

**Dr. M.D. BalaKumaran, Head (i/c), Dept. of Biotechnology**

"To accomplish great things, we must not only act, but also dream; not only plan, but also believe". I am glad to deliver the welcome message for our biannual newsletter that offers glimpses of the comprehensive efforts of the Department of Biotechnology directed by the honorable management and guided by our respected principal. This newsletter is an approach to communicate information related to the department encompassing the initiatives taken by the faculty members and students. It will also serve as a medium to provide suitable acknowledgement and respect for all the efforts taken by my colleagues to help the department develop at a consistent phase. I look forward for your generous patronage to our newsletter.

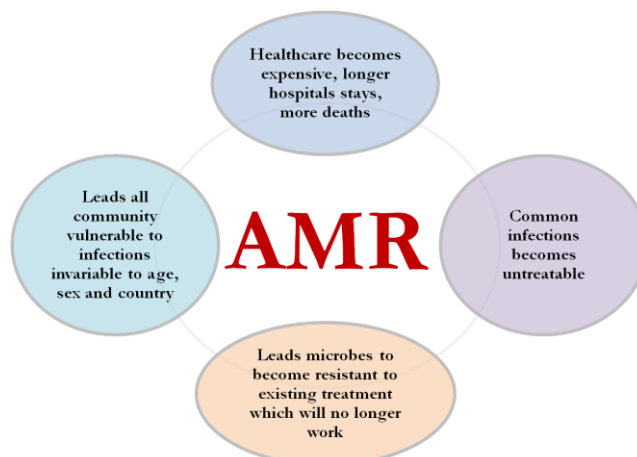
# Science and Development

## Antimicrobial Resistance (AMR)

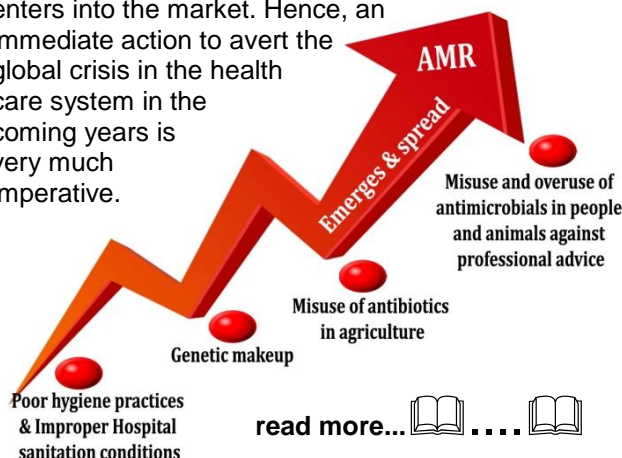
- Dr. M. D. BalaKumaran, Asst. Prof., Dept. of Biotechnology, DGVC

**A**ntimicrobial resistance (AMR) is the ability of a microorganisms, such as bacteria, fungi, viruses, and parasites to develop resistant against the antimicrobial medication which happens when the microbes are exposed to antimicrobial drugs (antibiotics, antifungals, antivirals, antimalarials, and anthelmintics). This form of antimicrobial resistance developed by the microbes are sometimes referred as "superbugs". As a consequence, the medicines used for the treatment of various infections becomes ineffective and the infections persist in the body thus increasing the risk of spreading to others.

The antimicrobial resistance has emerged as one of the most serious issues in the public health system of the 21st century. Especially in the process of prevention and treatment of various infections caused by different microbes which found to be less or not susceptible to common medicines available to treat them. Over several decades,



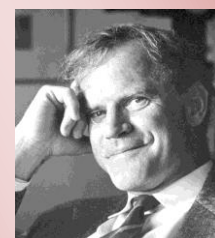
the extent of antimicrobial resistance developed by microbes, varies considerably when a new drug enters into the market. Hence, an immediate action to avert the global crisis in the health care system in the coming years is very much imperative.



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*Creativity is seeing  
the same thing  
but thinking  
differently*

- Dr. APJ Abdul  
Kalam



**Kary B. Mullis**

American biochemist,  
co-winner of the 1993  
Nobel Prize for  
Chemistry for his  
invention of the  
**Polymerase chain  
reaction (PCR)**

## UNLOCK CHALLENGES



by Ms. K. Keerthana, III B.Sc., Biotechnology, Roll No. 18E1511..

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**DEPARTMENT**

**OF**

**BIOTECHNOLOGY**





## Nobel Prize - Chemistry 2020

# Department Activities

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*Reform must begin  
today;  
tomorrow could be  
too late*

- Sushma Swaraj

## National Level Virtual Webinar on "Emerging Water Contaminants & the Treatment Technologies for Providing Safe Drinking Water", 9<sup>th</sup> November 2020

Mr. G. Subramani, Technical Executive, Eureka Forbes Limited, delivered a valuable talk on the types of drinking water contaminants and the various methods available to get pure and safe drinking water.



Mr. G. Subramani

## National Level Virtual Webinar on "COVID 19 associated innovations in Medical Biotechnology", 12<sup>th</sup> November 2020

Dr. D. Prabhu, Senior Assistant Professor, Department of Biotechnology, Dr. ALM PG Institute of Basic Medical Science, University of Madras, elucidated the complex process of vaccine development and stressed upon the role of CRISPR technology and edible plant metabolites for diagnosing and treatment methods respectively



Dr. D. Prabhu

## National Level Virtual Webinar on "Phytomedicine- A New Look"- 24<sup>th</sup> November, 2020

Dr. A. Vijaya Anand, Professor, Department of Human Genetics & Molecular Biology, Bharathiar University, Coimbatore, delivered a talk on the applications of phytomedicine as a new approach for various treatments.



Dr. A. Vijaya Anand

## National Level Virtual Workshop on "Food Safety & Good Clinical Practice" (FSGCP-2020), 27<sup>th</sup> November, 2020

The workshop began with a session by Ms. Pavithra K, Food Safety Consultant, Food Safety Genie, who in her talk discussed the opportunities in food industry & emphasized on the importance of safe food, also opportunities existing in the food industries.



Ms. K. Pavithra

In the second session, Dr. B. Senthil Kumar, Head- Central Research Laboratory for Biomedical Research, VMKV Medical College & Hospital, Salem, TN educated the participants about the International Council for Harmonization and basic principles of Good Clinical Practice.



Dr. B. Senthil Kumar

## Virtual Webinar on "Emerging Technologies on Coral Reef Conservation", 29<sup>th</sup> December 2020

The resource person, Dr. J. Jerald Wilson, Assistant Professor, Department of Marine and Coastal Studies School of Energy Sciences, Madurai Kamaraj University, shared his insights on coral reefs and their significance in marine ecosystem. He also apprised the participants about the various threats to coral reef and the novel methods to preserve them from extinction.



Dr. J. Jerald Wilson

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*Imagination is more  
Important than  
Knowledge*

- Albert Einstein

## Disseminating Young Minds.....

### Guest Lecture on "Job Readiness in Biotech Market", 17<sup>th</sup> December 2020

The tone for the lecture was set by the guest speaker, Ms. Sandhya Sathiamoorthy, Senior Associate Lead, Infosys, who shared her views on job readiness in the market from the recruiter point of view. She spoke about the existing opportunities for biotechnology students and career choices for studies & research in India and abroad.



**Ms. S. Sandhya**

### Guest Lecture on "A Journey from India to Hungary to work with Stem Cells", 30<sup>th</sup> December, 2020

The session commenced with a talk by Mr. Surya Henry, PhD fellow, Department of Induced & Pluripotent Stem Cells, Institute of Genetics, Biological Research Centre, Szeged, Hungary, shared the information on the different schemes for research positions, various research facilities, and private companies.

The session followed by an interaction with Ms. Amanda Grace Vaz, PhD fellow, Dept of Microbiology, University of Szeged, Hungary. Both the guest speakers shared comprehensive knowledge on potential scholarships, funding options, research opportunities and technical training programs in India and other countries.



**Mr. Surya Henry**



**Ms. Amanda Grace**

## Memorandum of Understanding



A MOU was signed between the Department of Biotechnology, D.G. Vaishnav College and Indian Health Care BPO, Perungudi, Chennai on 28<sup>th</sup> Dec, 2020 to enhance the exchange of knowledge, expertise and

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*Science knows no country,  
because knowledge belongs to humanity,  
and is the torch which illuminates the world*

- Louis Pasteur

## The Dreamers and Doers.....

**Alumni Talk 1 -**  
19<sup>th</sup> December, 2020

The department alumni talk series themed “The Dreamers and Doers” began with a session by our alumni, Ms. S. Kokila, Scientist-Analyst, Quality Control Department, Nuray Chemicals discussed in detail about her job profile and opportunities in pharmaceutical industries. Mr. S. Saran Raj, Marketing Executive at Macleods Pharmaceuticals Ltd, shared the recruiter expectation in terms of subject knowledge and their application in marketing the products. He also gave insight on carrier options to the students regarding jobs in marketing.



**Mr. S. Saran Raj**



**Ms. S. Kokila**



## Higher Studies - My path....

**Ms. Eniya. M. L.**

Post Graduation was my second step towards becoming a successful researcher. I'm currently pursuing my masters in Madurai Kamaraj University. During my UG, I was desperate to join masters with a scholarship. Thus, I looked for all the possible options. JNU CEEB is a national level Combined Entrance Examination for Biotechnology organized by the Jawaharlal Nehru University. Syllabus for this examination includes: Physics & Mathematics (10+2 level), Chemistry & Biology (10+2+3 level). I successfully cleared the examination held in 2019 with AIR 119 (under the OBC category) after which I got several offers from the major Universities (both central & state). I chose Madurai Kamaraj University, since my PG course is supported by DBT (Department of Biotechnology, India) and recognized as DBT-M.Sc Biotechnology. This adds extra credits to my post graduation. I receive a stipend of Rs. 5000/- per month, lab fee concession and funding for my dissertation project. Also, I get a lot of opportunities to interact with eminent scientists across the world which aids in development of my perspective and knowledge in the field of research.

**Ms. Eniya. M. L.** completed her Bachelor's degree (2016-2019) in Dept. of Biotechnology, DGVC. Currently she is pursuing her Master's degree in Biotechnology, Madurai Kamaraj University, Madurai, Tamil Nadu, India.

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*The highest education is that which does not merely give us information but makes our life in harmony with all existence.*

- Rabindranath Tagore

## The Dreamers and Doers.....

### Alumni Talk Series 2 -

29<sup>th</sup> December, 2020

The second lecture of the series, "The Dreamers and Doers" was delivered by our alumnus, G. Balaji Prasanna Kumar, Project Associate – 2, CCMB, Hyderabad, Telangana. He updated the students on the different research institutes in India and shared useful tips on cracking competitive exams, research opportunities and also discussed about interview patterns for research fellow ships in IIT and IISC.



Mr. G. Balaji Prasanna



### Once a DGVian always a DGVian.....

Mr. N. S. Raja Gopalan

When I look back few years from now, my days at DGVC as a student (Biotechnology) brings to my mind a lot of fond memories. The first day to last day at the college as a DGVian taught me a lot of things that helps me in my PhD as a student at BITS- Pilani, Hyderabad campus. I would like to thank all my teachers for their tireless efforts and the knowledge that they have shared with us.

I would like to thank the administration for providing us with a proper learning and laboratory infrastructure. The exposure I had gotten in DGVC helps me while conducting independent research. Coming back to now, I am currently doing my research in the area of plant microbial interactions and studying the biological mechanisms of how beneficial soil microbes give drought tolerance traits to plants and increase the crop productivity under drought conditions. I began my research journey at DGVC as a student and I am continuing it at BITS. I will always recall my days at DGVC with a lot of fondness and take along with me the good things that I've learnt here. Once a DGVian always a DGVian.

Mr. N. S. Raja Gopalan completed his Bachelor's (2012-2015) and Master's degree (2015-2017) from Biotechnology, DGVC. He is currently pursuing his PhD under the guidance of Dr. Sridev Mohapatra, Plant biotechnology Lab, BITS- Pilani, Hyderabad campus, India.

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## Winners:

### First Prize

**Ms. S. Aishwarya**

I B.Sc. Biotechnology

### Second Prize

**Ms. S. Paarkavi**

I B.Sc. Biotechnology

### Third Prize

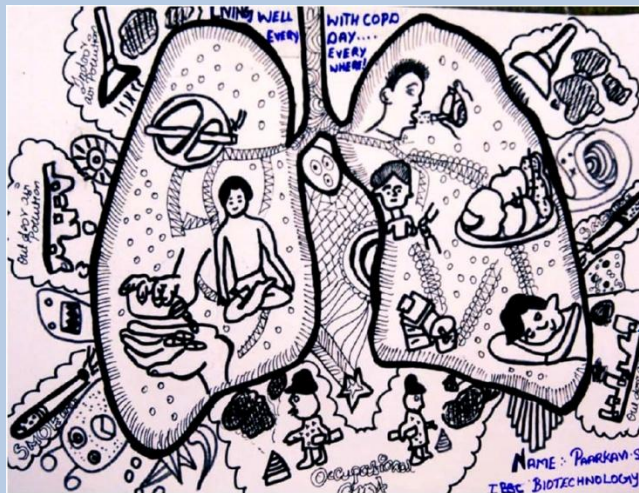
**Ms. S. Swetha**

II B.Sc. Biotechnology

**Congratulations.....**

## “Magnum Opus Doodle Competition”, 18th November 2020

In view of the *World Chronic Obstructive Pulmonary Disease Day*, an intra-departmental doodle competition on the theme “Living well with COPD – Everyday...Everywhere” was conducted. The participants presented and explained their doodles with great enthusiasm and three best doodles were selected for prizes.



**Ms. S. Aishwarya**

I B.Sc. Biotechnology

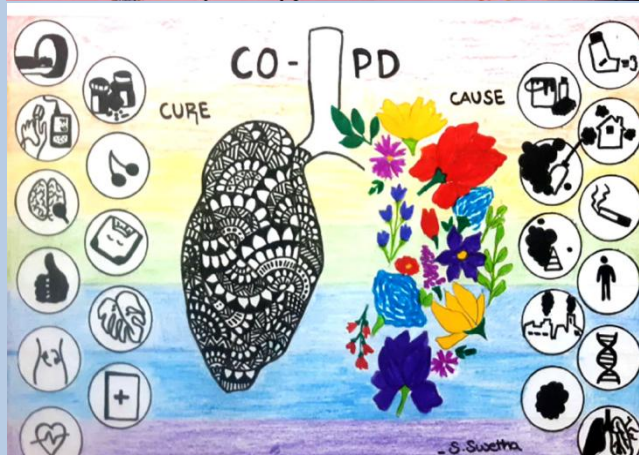
Lifestyle changes  
for COPD



**Ms. S. Paarkavi**

I B.Sc. Biotechnology

Do's & Don'ts  
with COPD



**Ms. S. Swetha**

II B.Sc. Biotechnology

COPD – Causes  
and Curse

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### First Prize

Ms. S. Aishwarya

I B.Sc. Biotechnology

### Second Prize

Ms. S. Paarkavi

I B.Sc. Biotechnology

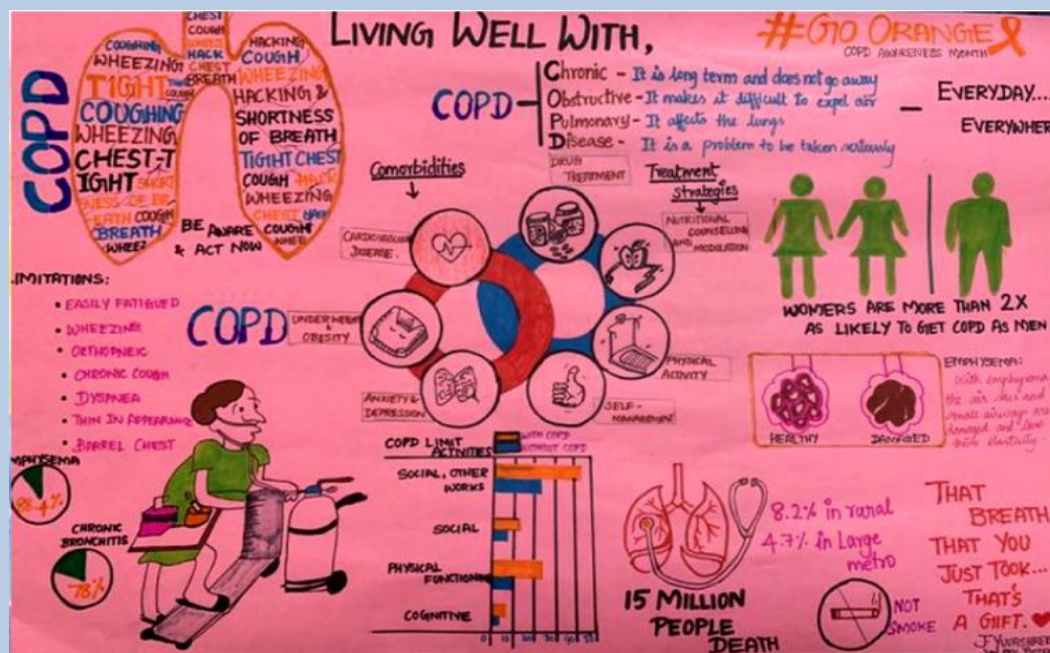
### Third Prize

Ms. S. Swetha

II B.Sc. Biotechnology

Congratulations.....

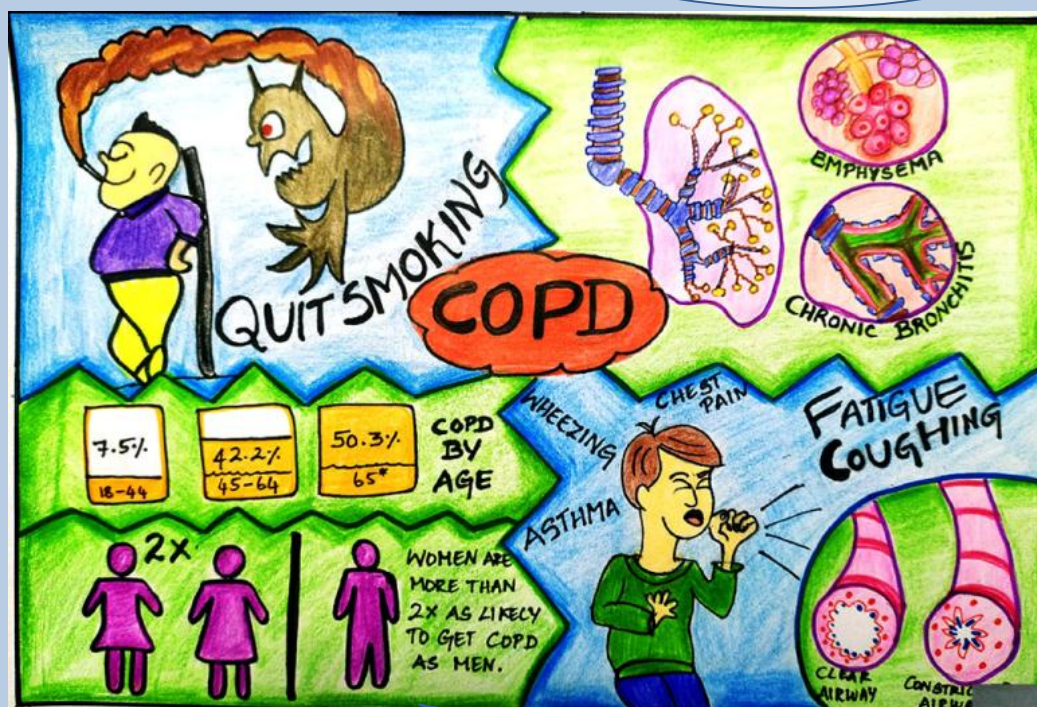
## "Magnum Opus Doodle Competition", 18th November 2020



Ms. J. Yuvasree

II B.Sc. Biotechnology

How to promote Way of Life with COPD



Ms. V. Divyaa Gomathi

II B.Sc. Biotechnology

Chronic Obstructive Lung Disease - An Overview

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# Technosaviour - Biotechnology Club

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## "Magnum Opus Doodle Competition", 18th November 2020

### Winners:

#### First Prize

**Ms. S. Aishwarya**

I B.Sc. Biotechnology

#### Second Prize

**Ms. S. Paarkavi**

I B.Sc. Biotechnology

#### Third Prize

**Ms. S. Swetha**

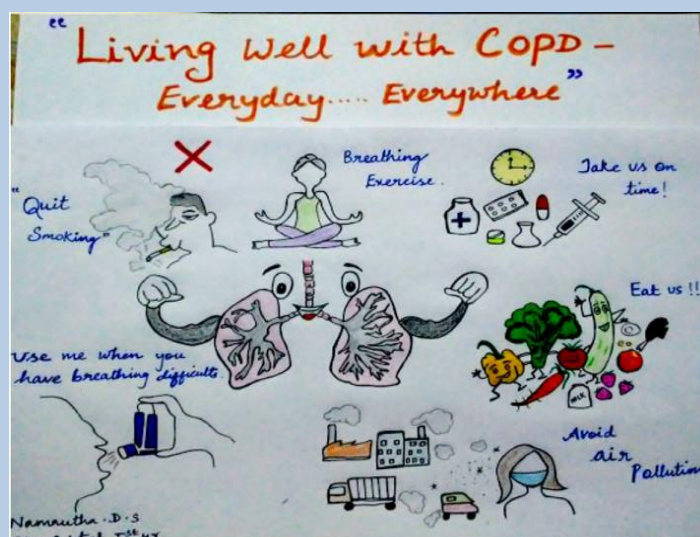
II B.Sc. Biotechnology

**Congratulations.....**



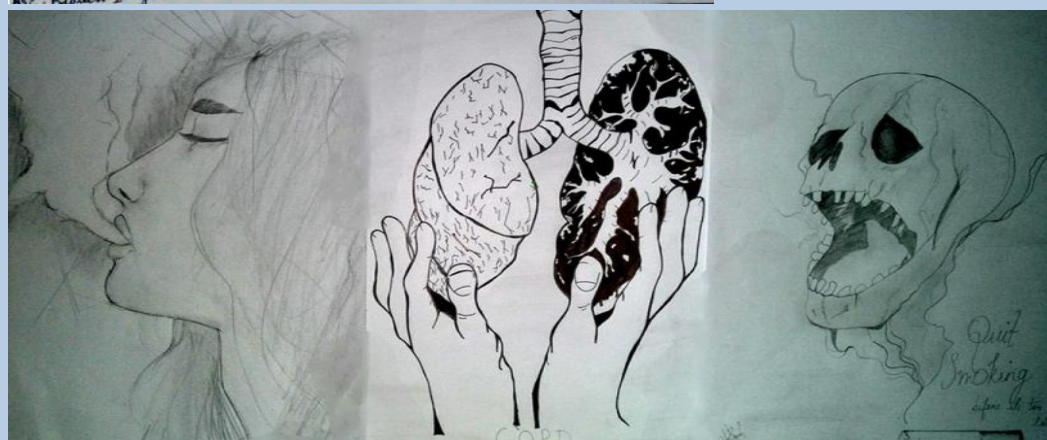
**Ms. Khushi Jha**  
I B.Sc. Biotechnology

Living Well with  
COPD - Change  
of Habits



**Ms. D. S. Namrutha**  
I B.Sc. Biotechnology

Add Greens &  
Avoid Smoke for  
better life with  
COPD



**Ms. Durga Ramesh**  
II B.Sc. Biotechnology

Smoking - A Curse to  
COPD

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# Technosaviour - Biotechnology Club

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## Versus-The poem

### Winner

**Ms. B.Yagashree**

II B.Sc. Biotechnology

### Runners

**Ms. Raviya Gani**

II M.Sc. Biotechnology

## Bizzabo-The blog

### Winner

**Ms. M.Harsha**

I B.Sc. Biotechnology

### Runners

**Ms. G.Bhavadharini**

III B.Sc. Biotechnology

## Ink attack-The poster

### Winner

**Ms. B.Yagashree**

II B.Sc. Biotechnology

### Runners

**Mr. R.Eashwar Ram**

&

II B.Sc. Biotechnology

**Ms. S.Aishwarya**

I B.Sc. Biotechnology

**Congratulations.....**

## “End Violence against Women Contest”, 25th November 2020

The second club activity for the academic year 2020-2021 was observed in order to raise awareness on the violence against women and to accentuate gender quality. An offline contest was conducted with three events including “Versus – The poem, Bizabbo – The blog and Ink Attack – The poster. Based on the presentation and posters created, winners & runners-up were declared.



**Ms. B. Yagashree**

II B.Sc. Biotechnology

To Suppress or Support Women is in the hands of the society. Pull her up in need rather than crushing her soul.



**Mr.R. Eashwar Ram**

II B.Sc. Biotechnology

**Women - Untold  
Words and Emotions**

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# Technosaviour - Biotechnology Club

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“End Violence against Women Contest”, 25th November 2020

## Versus-The poem

Winner

**Ms. B.Yagashree**

II B.Sc. Biotechnology

Runners

**Ms. Raviya Gani**

II M.Sc. Biotechnology

## Bizzabo-The blog

Winner

**Ms. M.Harsha**

I B.Sc. Biotechnology

Runners

**Ms. G.Bhavadharini**

III B.Sc. Biotechnology

## Ink attack-The poster

Winner

**Ms. B.Yagashree**

II B.Sc. Biotechnology

Runners

**Mr. R.Eashwar Ram**

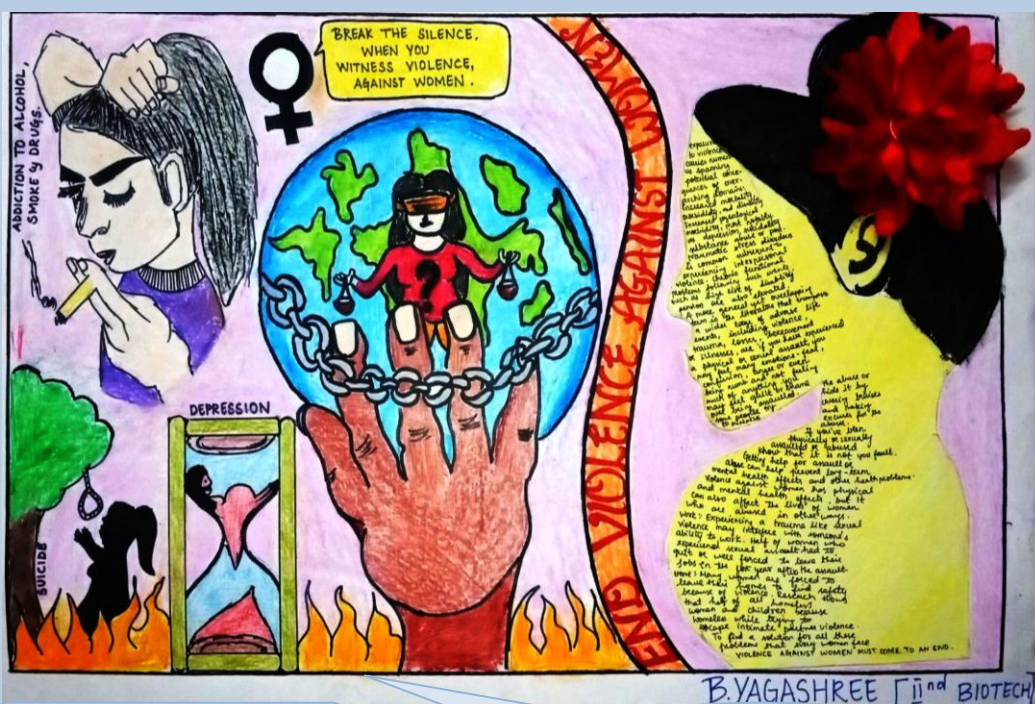
&

II B.Sc. Biotechnology

**Ms. S.Aishwarya**

I B.Sc. Biotechnology

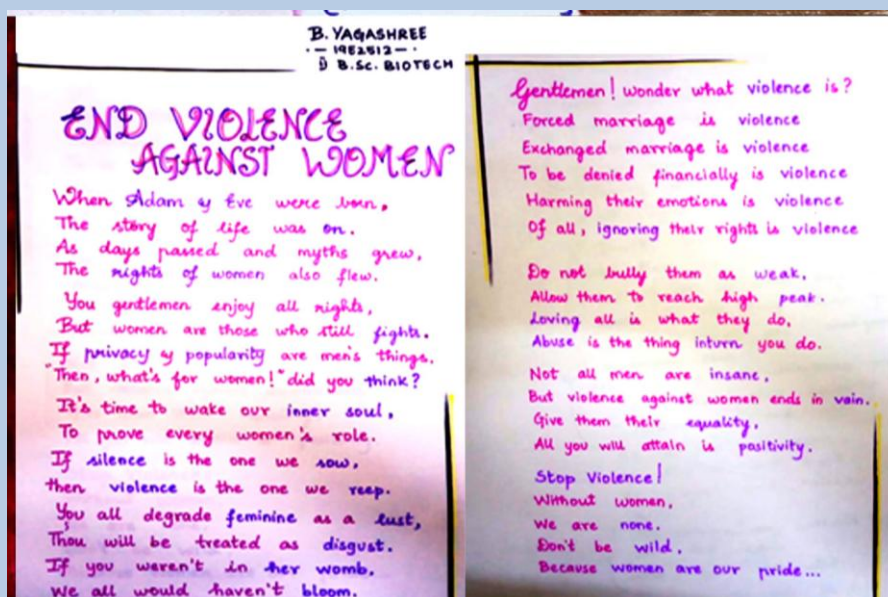
**Congratulations.....**



**Ms. B. Yagashree**

II B.Sc. Biotechnology

Psychological & behavioural changes of Women facing violence



**Ms. B. Yagashree**

II B.Sc. Biotechnology

Women is not a weaker sex to be abused she is an angel to be celebrated.. More than that, to be understood.

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# Achievements

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Our world is built on biology and once we begin to understand it, it then becomes a technology.

-Ryan Bethencourt

## Publications...

### Dr.M.D.BalaKumaran

Onunga, D.O., Bellam, R., Mutua, G.K., Sitati, M., **BalaKumaran, M.D.**, Jaganyi, D. and Mambanda, A., 2020. Controlling the reactivity of [Pd (II)(N<sup>^</sup> N<sup>^</sup> N) Cl]<sup>+</sup> complexes using 2, 6-bis (pyrazol-2-yl) pyridine ligands for biological application: Substitution reactivity, CT-DNA interactions and in vitro cytotoxicity study. *Journal of Inorganic Biochemistry*, 213, p.111261. [10.1016/j.jinorgbio.2020.111261](https://doi.org/10.1016/j.jinorgbio.2020.111261) [Impact factor 3.348]

**M.D. BalaKumaran**, R. Ramachandran, P. Balashanmugam, S. Jagadeeswari & P.T. Kalaichelvan (2020) Comparative analysis of antifungal, antioxidant and cytotoxic activities of mycosynthesized silver nanoparticles and gold nanoparticles, *Materials Technology*, <https://doi.org/10.1080/10667857.2020.1854518> [Impact factor 1.738]

### Ms. G. Shoba

Jaisankar, A.I., Girija, A.S., **Shoba, G.** and Priyadharsini, J.V., 2020. Molecular characterisation of csgA gene among ESBL strains of *A. baumannii* and targeting with essential oil compounds from *Azadirachta indica*. *Journal of King Saud University-Science*, 32(8), pp.3380-3387. <https://doi.org/10.1016/j.jksus.2020.09.025> [Impact factor 3.819]

## Conference, Seminars, ....

**Ms. G. Shoba**, Guest Lecturer, Dept. of Biotechnology, presented a paper entitled "Molecular interactions analysis of Lanosterol derivatives from *Laetiporus versisporus* as potential inhibitor of BCL-2" in International E-Conference on Biotechnology, Bioinformatics & Biomedicine on August 24th - 26th, 2020, organized by AIMST University, Malaysia and won best oral presentation - Gold Award.

**Dr. M. Pavithra**, Assistant Professor, Dept. of Biotechnology won the Best Article Award in the contributed book "Advancements in Biological Sciences-ABS" (ISBN: 978-81-947361-1-0).

**Ms. G. Shoba**, Guest Lecturer, Dept. of Biotechnology won the Best Article Award in the contributed book "Advancements in Biological Sciences-ABS" (ISBN: 978-81-947361-1-0).

**Ms. Kiran Sharma B**, Guest Lecturer, Department of Biotechnology, completed the NPTEL-AICTE FDP course in Biomedical Nanotechnology.

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# Achievements

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## Online Courses...

20 Undergraduate and Postgraduate students from the Department of Biotechnology completed the NPTEL certification course.

## Faculty Participation....

Number of programmes attended by the faculty members			
Type of program	International level	National level	State level
Attended Seminars/ Workshops	27	37	8
Presented papers	5	1	-
Resource Persons	-	13	1
Faculty Development Programme		12	

## More than Words...

### MY THESIS...

Oh... *Escherichia coli*!  
You live in cattle, ruminant and human colon!  
Christen Gram says you are negative;  
But always show lactose use positive!  
In the name of a commensal...  
You are smart to convince all!  
Research in you is always progressive;  
Why you sometimes be aggressive!  
Burger, hot-dog, salad, meat roll;  
E'vry where you stay rock and roll!  
Butcher's hand or slaughter house load;  
My media catches your laughter aloud!  
Isolation, characterization, aggregation and agglutination;  
All I found was your evidential presentation!  
When I found you to be drug resistant;  
You became a pathogen at that instant!  
With the constant support of literatures;

I saw your virulent gene signatures!  
I saw your virulent gene signatures!  
Stunning results of polymerized chain reaction;  
Started tuning my saturated brain reaction!  
Is that really you a terror?  
Or the horizontal gene transfer made you a horror!  
What an identity of serotype!  
After showing your genotype!  
Your clusters in PFGE profiles...  
Blockbusters of clonal files!  
Changes seen in retentivity studies...  
Pity on you pathogenic buddies!  
You impose threat on public health;  
And grow more with filthy wealth!  
Let me design a primer for diagnosis;  
That will stop your troubling prognosis!  
So... put an end to open desiccation of faeces;  
And cut the ribbon for my thesis!

.... Dr. Pavithra M

Assistant Professor, Department of Biotechnology,

For suggestions and  
feedback

Drop a mail:

newsletterdgvcbiotech  
@gmail.com

## Editorial members

Dr. P. Amali, M.Sc., Ph.D., Asst. professor, Dept. of Biotechnology  
Ms. S. Uma, M.Sc., M.Phil., SLET., Asst. professor, Dept. of Biotechnology  
Dr. R. Ashwini, M.Sc., M.Phil., Ph.D., SET., Asst. professor, Dept. of Biotechnology  
Dr. A. Sivaranjini, M.Sc., M.Phil., Ph.D., Asst. professor, Dept. of Biotechnology  
Dr. Pavithra M, M.Sc., Ph.D., Asst. professor, Dept. of Biotechnology  
Dr. MRM. Sivasankaran, M.Sc., M.Phil., Ph.D., Asst. professor, Dept. of Biotechnology  
Ms. G. Shoba, M.Sc., M.Phil., Guest Lecturer, Dept. of Biotechnology  
Ms. K. Nithya, M.Sc., M.Phil., Guest Lecturer, Dept. of Biotechnology

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# Department Infrastructure

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The department is equipped with good infrastructure consisting of several instruments to support the current academic and research initiatives.

Department of Biotechnology



Cooling Centrifuge



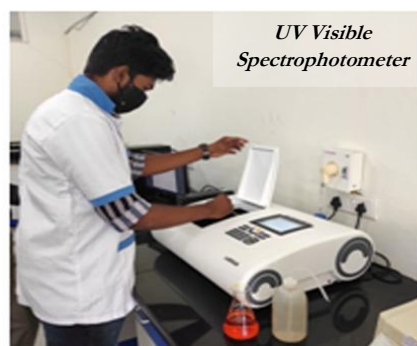
ELISA Reader



Thermal Cycler



Binocular microscopes



UV Visible Spectrophotometer



Digital Weighing balance



Lyophilizer



Microtome



Laminar Air Flow



Inverted Microscope



Distillation Unit



Gel Rocker



