



**COMMERCE
EXPLORER
(2021-2022, ISSUE: IX)**



☺☺☺ **ACTIVITY TIME** ☺☺☺

- ❖ *Poster Making & Slogan Writing*
- ❖ *Debate*
- ❖ *Mock Interview Contest*
- ❖ *'NIVESH'- An Investment Awareness Exhibition*
- ❖ *Commerce Readers Club*

***D.S.P.M's K. V. PENDHARKAR COLLEGE OF ARTS, SCIENCE &
COMMERCE (AUTONOMOUS),
DOMBIVLI (E)***

COMMERCE EXPLORER

Students pursuing general B.Com degree of three years, studies curriculum of core subjects of Commerce Prescribed by the University & College, However Commerce Being a dynamic & vast field makes it Imperative to learner to always update with the recent changes taking place in and around the world of Commerce.

To provide a platform to students to study and explore new changes in the different areas of commerce, department of commerce has started departmental magazine “COMMERCE EXPLORER” wherein articles written by the students on current happening in the areas of Business, Automation, Marketing, Corporate Law & Management are incorporated.

It gives me a great pleasure to bring out the Ninth issue of the Magazine for the year 2021-22. In this issue students have tried to explore major events which took place in the year 2021-22 & made headlines of leading newspapers. Students have thrown lights on the topics related to Multisector Collaboration, Influencer Marketing, Recent Amendments, etc. Magazine also gives the glimpses and report of the activities conducted by the department through commerce association in academic year 2021-22.

Dr. Suryakant Lasune

Principal

COMMERCE EXPLORER 2021-22

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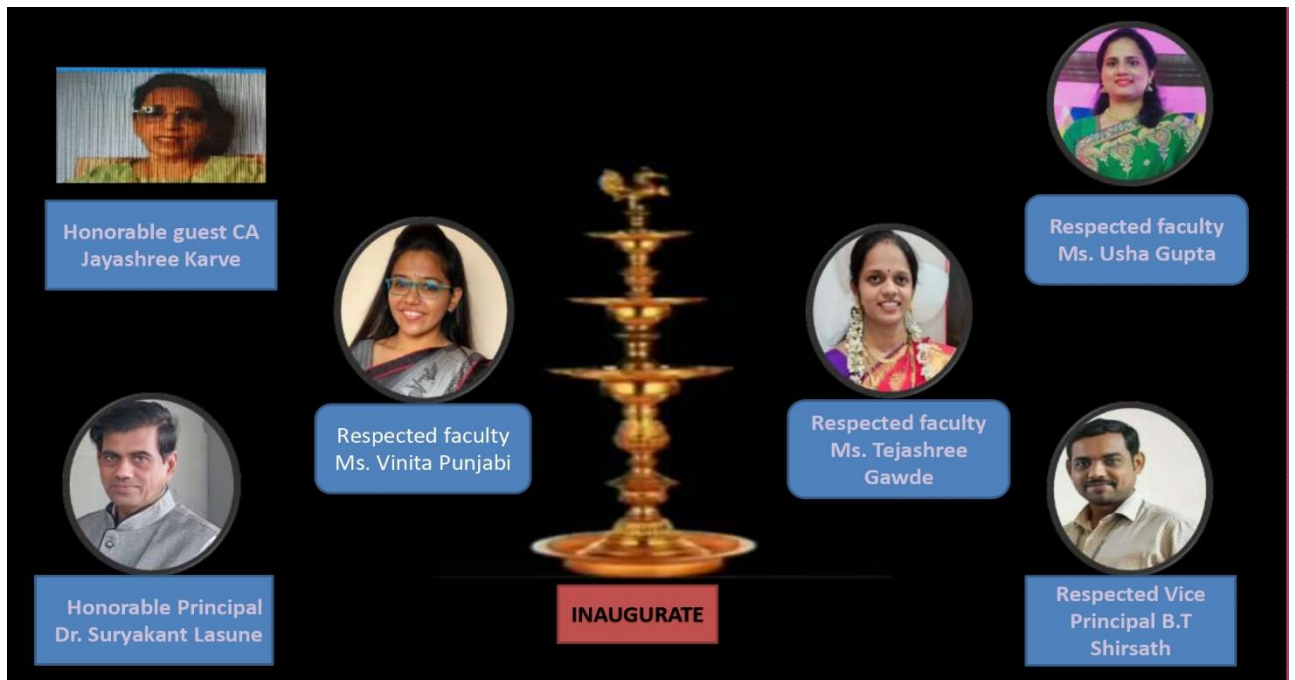
Commerce Association

A platform for Student centric activities

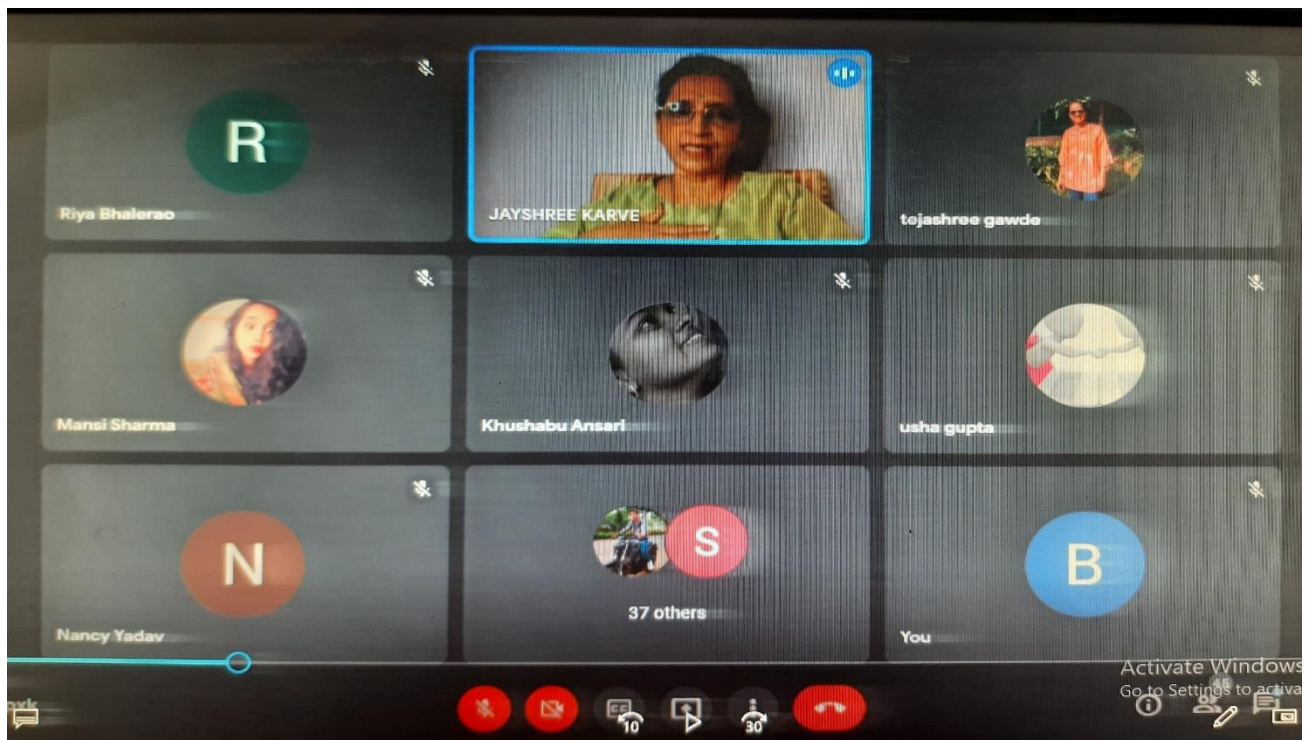
About Association: Commerce Association is an association of commerce students, formed by department of commerce in the year 2005. Association arranges various activities concerned with development of students. All activities of association are managed by student members only, departmental staff act as a guiding force for the smooth functioning of the association.

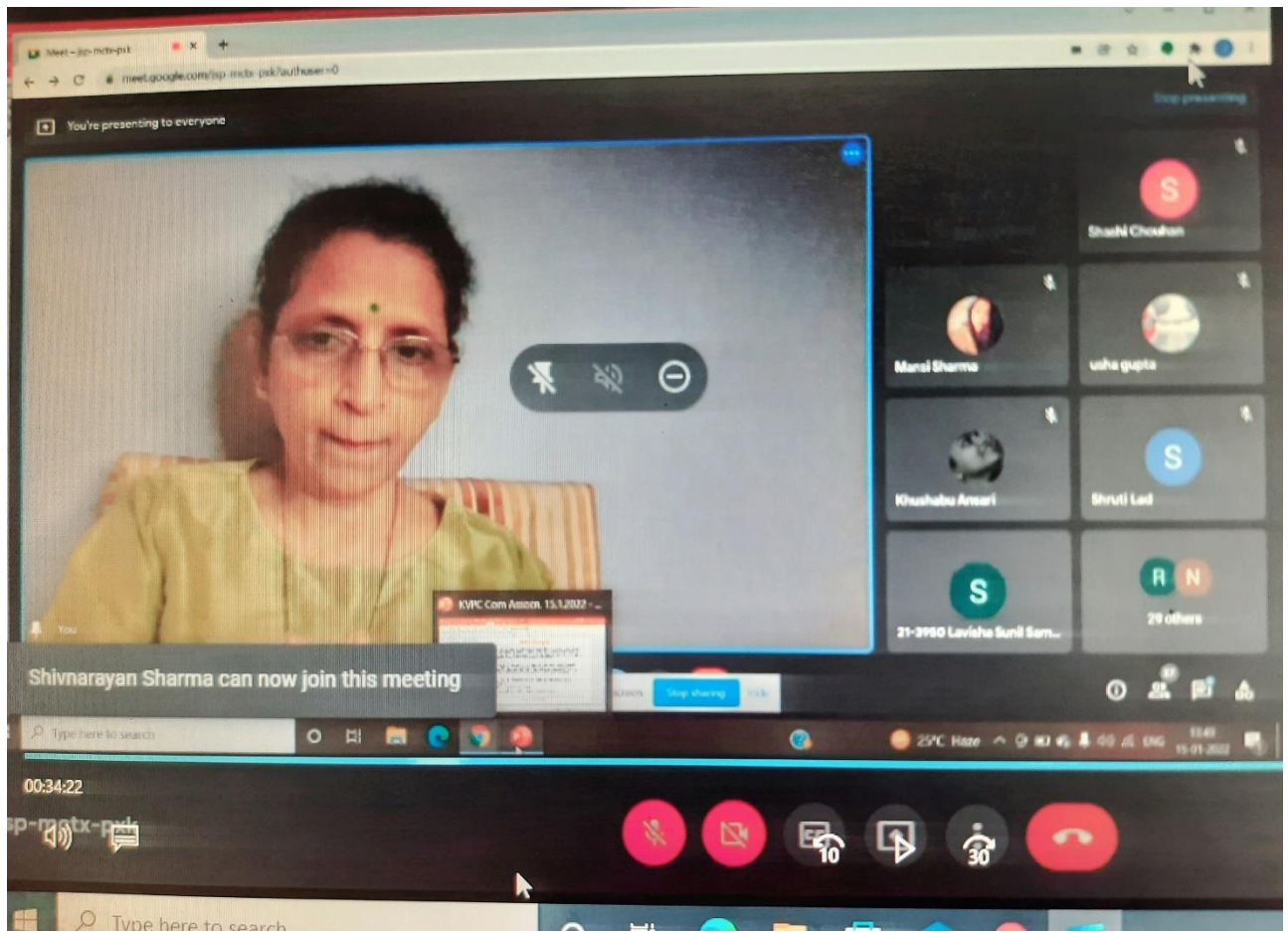


**DIGITAL LAMP LIGHTING CEREMONY
A SPIRITUAL AND AUSPICIOUS MOMENT
ON THE INAUGURATION OF COMMERCE ASSOCIATION**



**HEARTIEST WELCOME EXTENDED TO OUR DEAR GUEST MS. JAYSHREE
KARVE AND AUDIENCE BY CONVENER OF COMMERCE ASSOCIATION
MS. USHA GUPTA**





STUDENTS ENLIGHTENED WITH KNOWLEDGE ON “PRACTICAL ASPECTS OF MANAGEMENT ACCOUNTING” BY OUR EMINENT SPEAKER CA JAYSHREE KARVE.



INFLUENCER MARKETING

❖ INTRODUCTION

MARKETING INFLUENCER (also known as **influence marketing**) is a form social media marketing involving endorsements and product placement from influencers, people and organizations who have a purported expert level of knowledge or social influence in their field.

Influencers are someone (or something) with the power to affect the buying habits or quantifiable actions of others by uploading some form of original, often sponsored, content to social media platforms like Instagram, YouTube, Snapchat or other online channels.

❖ FACTORS THAT MARKETING INFLUENCE

This article throws light upon the ten factors influencing the marketing concept of a firm. The factors are:

- | | |
|------------------------------|------------------------------|
| 1. Population Growth | 2. Increasing Households |
| 3. Disposal of Income | 4. Surplus Income |
| 5. Technological Development | 6. Mass Communication Media |
| 7. Credit Purchases | 8. Changing Social Behaviour |
| 9. Transport Facilities | 10. Increase Competition. |

❖ **Factor # 1. Population Growth:**

The increase in population naturally increases the demand too. Increase in population causes increasing the markets, increasing the consumers, who have increased demand for goods, in kinds, varieties, preferences etc. Thus the producers have to meet the changing demands of people.

❖ **Factor # 2. Increasing Households:**

The growth of demand for household products is more than it is to the total population at any time. Joint family system has become unpopular because of many reason. **For Example:** Automobiles, Refrigerators, Electrical Appliances, Television Sets etc.

❖ **Factor # 3. Disposal of Income:**

Automation in industries, births of many new firms etc. When the income continues to increase, the purchasing power also increases.

❖ **Factor # 4. Surplus Income (discretionary income):**

The people have surplus income left after meeting the expenses on essential items. This surplus amount will be spent on non-necessary products or luxury goods. Such items are selected by people, if they can give satisfaction to their needs and desires.

❖ **Factor # 5. Technological Development:**

Science and technology improves day by day. New inventions of products take place often. People always prefer to have the latest model. A number of new products, in the place of old ones, are being introduced into the market often. Therefore, consumer-oriented marketing system is essential.

❖ **Factor # 6. Mass Communication Media:**

The growth of mass communication media-Newspapers, magazines, radio, television etc. facilitates the buyers to learn about the new products available for sale. The buyer gets information about the new products, faster and more effectively before the products come to the market.

❖ **Factor # 7. Credit Purchases:**

Credit purchases through hire-purchase schemes and instalment schemes are common today. Credit purchase pushes sales. The customers can enjoy the facilities and this widens the market.

❖ **Factor # 8. Changing Social Behaviour:**

The social pattern is changing. It is essential for any product or service to keep pace with the change in order to survive in the market. The demand for electronic entertainment items and consumer products have changed tremendously in the last 20 years.

❖ **Factor # 9. Transport Facilities:**

The fast and easier transport facilities have resulted in urban-rural interaction regularly and also global tours are becoming very common. The demand for frost free refrigerators, high quality soaps, moisturizing creams, fuel-efficient cars, battery operated machines; are increasing everywhere.

❖ **Factor # 10. Increase Competition:**

With rapid industrialization, the manufacturing base gone up and a large number of organisations are manufacturing consumer products and giving rise to competition.

All the factors mentioned above changed the traditional thinking of business managers and have dragged the producers to change their idea of marketing to the modern concept of marketing.

❖ **CONCLUSION**

In conclusion, influencer marketing provides brands with an efficient and focused approach to reach their target audience through multiple social media platforms. Effective and business-driven influencer marketing strategy can influence opinions, increase brand loyalty, and generate sales. Overall, influencer marketing is one of the fastest growing forms of marketing in the current industry.

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CLASS: SYBCOM D

ROLL NO. : 21-5577



THE BALANCE BETWEEN HUMAN WORKERS & ARTIFICIAL INTELLIGENCE

Nowadays, technology has become an indispensable part of our lives. It has influenced our every activity may it be business or day to day activities. One revolution in the world of technology is Artificial Intelligence (AI). The past decade saw Artificial Intelligence (AI) advance by leaps & bounds. From the birth of Alexa to its application in medical science, AI has radically altered our personal & professional lives.

AI is the intelligence possessed by the machines under which they can perform various functions. It imitates the human intelligence & senses. With the help of AI, machines will be able to think, learn, solve problems, plan things etc. We can see high profile example of AI in autonomous vehicle such as drones & self-driving cars, medical diagnosis, games such as chess, online assistants etc. Everyone have heard of Mars Orbiter Mission or the movie Mission Mangal. How are they reaching to such great heights? The first reason being the human brain & the second being AI.

Is AI really needed in human society? It depends. If humans opt for a faster & effective way to complete their work & to work constantly without taking a break, then yes, it is good. However, if humankind is satisfied with a natural way of living or doing things without excessive desires to conquer the order of nature, it is not good. As the age- old saying goes- 'Necessity is the mother of all innovations', so the pressure for further development motivates humankind to look for a new & better way of doing things.

Now, I would like to ask one brain tickling question. To err is human, so why not use AI? Human error at workplace is inevitable & often costly, the greater the level of fatigue higher is the risk of errors occurring. But, there is no room for errors with AI. It does not suffer from any fatigue or emotional distraction. It saves errors & can accomplish the duty

faster & more accurately. AI has become so general that we don't realize we use it all the time. For instance, have u ever wondered how google makes such accurate search results or how your facebook feed always gives you content based on your interest? The answer to these questions is AI.

One of the reasons why human workers think that AI will be bad for us is because it will create unemployment. Also many professionals like CA, Doctor etc feel that AI can make a highly qualified professional like CA, Lawyer, Doctor etc obsolete in the coming times. For these people, I would like to say one thing- 'CONSTANT EVOLUTION IS THE KEY TO SUCCESS'. Earlier, before introduction of computers, all books of accounts were prepared manually. So, the introduction of computers was welcomed by a big resistance from jobholders as their jobs were in danger due to automation by computers. But, those people who choosed an option to get evolved with introduction of computers by learning new computer skills became successful as the computers had enhanced or made their jobs more advanced. Computers only aided these people to maintain accountselectronically. On the other hand, those who were adamant to prepare accounts manually,became jobless forever. So, if we see, till the time we are open to accept change in technology & not resisting to evolve, this change in technology is good. Also, people should understand that 'MAIN COMPETITION IS WITH OTHER PEOPLE NOT MACHINES'. Resources are scarce & limited. So, there is cut-throat competition between people for consumption of scarce resources. End result is satisfying one's need & wants by competing with other people for ownership of scarce resources. AI is only a means to improve standard of living of people & in no way AI can consume scarce resources. Even after introduction of AI, resources are distributed among humans only.

Last but not the least, everything in excess is dangerous & so is the case with AI. Everything we love about civilization is a product of intelligence, so adding our human intelligence with AI has the potential of helping civilization flourish like never before as long as we manage to keep the technology beneficial. So, hold your breath. Mega advancements have begun!

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Roll No- 216825



ABRIDGED ANNUAL RETURN FOR ONE PERSON COMPANY AND SMALL COMPANY.

The annual return is the return that an investment provides over a period of time, expressed as a time weighted annual percentage. Sources of returns can include dividends, returns of capital and capital appreciation.

The one person company means one individual who maybe a resident or NRI can incorporate his/her business that has the features of a company and the benefits of a sole proprietorship.

As per Section 2 (62) of companies Act, 2013,

"one person company" means a company which has only one person as member.

As per the new definition and threshold limits, companies with a paid-up capital of INR 2 crore or less, and turnover of INR 20 crore or less are defined as small companies.

According to Section 2(85) of the companies Act, 2013, "A public company shall not be considered as a "small company."

MGT-7 for Annual Return for companies other than One Person Company (OPC) and Small Companies. Notified Form No. MGT-7A for Abridged Annual Return for OPCs and Small companies.

Form MGT-7A is applicable from the financial year 2020-21 and onwards. It is the form for Annual Return for one person company and small company while filing. MGT-7A, the company has to select the applicability out of two -

- (a) OPC
- (b) Small company

One of the most important features of MGT-3A is that it does not need certification of company secretary. It can be filed with DSC of Directors only.

Form MGT-7A requires lesser information as compared to MGT-7.

Following information are not applicable in case of MGT-7A -

- 1) Date of AGM
- 2) Particulars of Associate companies like holding or subsidiary (including joint ventures)
- 3) Details of unclassified share capital.
- 4) Break-up of share capital
- 5) Details of shares of debenture transfer
- 6) Shareholding pattern (promoter / non-promoter)
- 7) Member/other meeting detail
- 8) Details of board meeting
- 9) Attendance of directors

Form MGT-7A is required to be filled within 90 days from the date of AGM of the company. Generally, the due date for AGM is on / before 30th September following the end of every financial year. Thus, we can say that last date for filing form MGT-7A is 29th November every year.

Prescribed fees for filing form MGT-7A are as below -

In case of company having share capital - Nominal share capital -

- i) Less than Rs. 1 lakh - Rs. 200
- ii) Rs. 1 lakh or above but less than Rs. 5 lakhs - Rs. 300
- iii) Rs. 5 lakhs or above but less than Rs. 25 lakhs - Rs. 400
- iv) Rs. 25 lakhs or above but less than Rs. 1 crore - Rs. 500
- v) Rs. 1 crore or above - Rs. 600

A penalty is imposed for not filing the e-form MGT-7A. The penalty for not filing the annual return by OPCs and small companies, i.e. E-form MGT-7A, is Rs.100 per day of default. Hence, the OPCs and small companies should ensure that the annual return is filed before the due date.

SANGITA SHENOY
TYBCOM D
ROLL NO – 216903

FORM NO. MGT-7A

[Pursuant to sub-section(1) of section 92 of the Companies Act, 2013 and sub-rule (1) of rule 11 of the Companies (Management and Administration) Rules, 2014]



Abridged Annual Return for OPCs and Small Companies

Form language ☒ English ☐ Hindi

Refer the instruction kit for filing the form.

I. REGISTRATION AND OTHER DETAILS

(i) * Corporate Identification Number (CIN) of the company

Pre-fill

Global Location Number (GLN) of the company

* Permanent Account Number (PAN) of the company

(ii) (a) Name of the company

(b) Registered office address

(c) *email-ID of the company

(d) *Telephone number with STD code

(e) Website

(iii) Date of Incorporation

(iv)	Type of the Company	Category of the Company	Sub-category of the Company
	<input type="text"/>	<input type="text"/>	<input type="text"/>

(v) Whether company is having share capital

☐ Yes ☐ No

(vi) Whether the form is filed for

☐ OPC ☐ Small Company

(vii) *Financial year From (DD/MM/YYYY) To (DD/MM/YYYY)

(viii) *Whether Annual General Meeting (AGM) held (not applicable in case of OPC)

☐ Yes ☐ No

(a) If yes, date of AGM

(b) Due date of AGM

(c) Whether any extension for AGM granted

☐ Yes ☐ No



MULTISECTOR COLLABORATION

- **Introduction:-**

Multi – sectoral means intentional collaboration between two or more sectors (i.e., utility, health, housing, community services, etc.) to accomplish goals and achieve outcomes in communities and regions.

A multisector collaboration is the partnership that results when government, non- profit, private, and public organizations, community groups, and individual community members come together to solve problems that affect the whole community.

Multisector collaboration have the capacity to solve systematic problems, because they draw on the resources of all the sectors: business, government, and nonprofit. They can wield more power than one organization or even a group of similar organizations.

- **MULTISECTOR COLLABORATION IS MESSY**

With so many people with different interests involved, multisector collaboration is a process that doesn't always go according to a neat plan. Getting many people from different sectors to agree is a challenging, messy, operation. Working in a multisector collaborative is like learning to surf in an ocean – you have to change plans often to fit the always changing situations and crises that you continually meet. But remember, surfing the waves if fun!

- **MULTISECTOR COLLABORATION IS A LONG – TERM ENTERPRISE IN WHICH THE INVESTMENT OF TIME AND RESOURCES IS GREAT, BUT SO ARE THE REWARDS**

Multisector collaboration requires strong leadership. Leaders are needed to provide a vision, instill confidence, wield influence where necessary, handle crises, and move the process forward. Without strong leaders, a multisector collaborative isn't likely to survive the many difficulties it can confront.

It is also important that there are leaders from all the different sectors, especially leaders who represent community members, not just large or powerful institutions. In fact, multisector collaboration has a high potential for significant change partly because it provides opportunities for community members without formal titles to develop leadership skills.

If you believe that there are not enough strong leaders to launch a multisector collaborative in your town, you can do something about it. In Hartford, Connecticut, organizers had such a problem, so they developed a leadership program that trained leaders from all sectors of the community. Over a period of time, the leaders learned skills and built trust with one another. Later they were able to work together to build a successful multisector collaborative in Hartford.

As COVID – 19 cases rise in one of Southeast Asia’s worst-hit nations, low public trust in vaccines will be a huge block in the government’s vaccination program. In a recent survey in January 2021 which was conducted by Pulse Asia, nearly half of Filipinos said that they would not get vaccinated against COVID – 19 due to safety concerns. A proposed solution would be a Multisectoral Approach (MSA). MSA refers to the deliberate collaboration among various stakeholder groups (e.g. government, civil society and private and religious sectors) and sectors (e.g. health, environment and economy) to achieve a policy outcome. By engaging multiple sectors, such as interfaith collaborations, governments can leverage knowledge, expertise, reach and resources, benefiting from their combined and varied strengths as they work toward the shared goal of building public trust on vaccines.

- **MULTI-SECTORAL COLLABORATION IS AS UNITY TEACHES US TO JOIN TOGETHER AND BUILD STRENGTH. The SYMBOL OF UNITY IS ‘ONE FOR ALL, ALL FOR ONE’.**

- **Conclusion :-**

Multisectoral approach (MSA) refers to deliberate collaboration among various stakeholder groups (e.g., government, civil society, and private sector) and sectors (e.g., health, environment, and economy) to jointly achieve a policy outcome. By engaging multiple sectors, partners can leverage knowledge, expertise, reach, and resources, benefiting from their combined and varied strengths as they work toward the shared goal of producing better health (PH) is challenging because of the size of its population and wide variation in geography. MSA help in addressing identified health issues in focused way as it helps in pooling the resources and formulating the common objectives.

- **Reference :-**

<https://www.law.cornell.edu>

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ENTREPRENEUR COMMUNITY

INTRODUCTION:

Entrepreneurial communities are forward-thinking, innovative, and locally-based partnerships. Entrepreneurial communities come together in community-based partnerships to generate effective and sustainable employment by developing their human capital.

Community entrepreneurs are one or more independent individuals who create or administrate an online or offline community space in which members meet to share common interests and motivations. Community-based entrepreneurship is considered to be an important instrument for the realization of potential among marginal and deprived communities isolated from the mainstream economy and is important in bringing social upliftment

An entrepreneurial community is a community that intentionally acts to cultivate and support entrepreneurs. Because of our familiarity with industrial recruitment it is only natural that people automatically begin to think about the infrastructure needed to support entrepreneurs. Ideas such as incubators, access to financial capital, and broadband/e-commerce may come to mind. These are important policy tools to address issues facing entrepreneurs within a community, but this way of thinking presumes to know what entrepreneurs within a community need/want and is typically driven by funding availability. It also leads to a piece-meal system of services for entrepreneurs, which is confusing for these individual to navigate and is likely missing key service [Lichtenstein, Lyons and kutzhanova 2004].

BODYCONTENT



People, in general, are faced with issues related to poverty, illiteracy, lack of skills, poor health care systems, etc. These are problems that cannot be tackled individually but can be better solved through group efforts. There is need to organized the poor and marginalized to come together for sloving individual or collective problems (Yunus 2008). Community based entrepreneurship is now seen as a viable alternative for development processes.

A general model of a community-based entrepreneurship is the same across the region. It is led by an individual or a group, economically homogenous in nature. It has been recognized

as a effective tool for capacity building of the marginalized section (Rao2003). Several empirical pieces of evidence suggest that it does enhance the qualitative equality economic cultural spheres (Mckiernan2002; De, and Sarkar 2010;parwez 2014). The basic directive principles of community-based entrepreneurship are group approach, mutual trust, and motivation towards economic activities encouraged by institutional support, Suresh et al. (2003) summaries several factors associated with community-based entrepreneurship: functions like operations, internal problems, effective leadership, and support towards establishing a business venture.



Minniti and Bygrave (1999) argue that individuals' decisions towards entrepreneurship is influenced by “three simultaneous elements: (1) subjective initial endowment is personal, (2) institutional and economic circumstances of economy are community specific and (3) the existing level of entrepreneurial activity in that community is perceived by the individual.” The nature of these determinants suggests prevailing interventions some way or other addressing the issue or not. Bygrave and Minniti(2000) imply that determinant variation in entrepreneurship led processes from region to region, even with similar economic conditions. They conclude that there are threshold effects of entrepreneurship, and policy interventions that do not raise equilibrium in a community will not be successful.

EXAMPLE: local government policy, the local school system, and the availability of financial capital are necessary for entrepreneurial success. However, if they do not work in coordination with one another (i.e., as a system), the schools may produce entrepreneurs with skills that the local banks will not accommodate production of their product.



CONCLUSION:

This study tries to examine a community-based entrepreneurship through a case study approach with an implicit research question on how it can lead to livelihood development and eventual empowerment of the community at large. This paper is comprised of a conceptual and empirical analysis, with the application of a case study method in a community-based.

REFERENCES:

Minniti, M., & Bygrave, W. (1999).

The microfoundations of entrepreneurship.

Entrepreneurship Theory and Practice, 23(4), 41-52.

Morris,J, (2006). Removing the barriers to community participation.

National Community Forum.

NANSI RAKESH YADAV

S.Y.B.COM (B)

21-5292



Limited Liability Partnership (Amendment) Rules, 2022

A Limited Liability Partnership is a legal entity separate from its members and able to enter into contracts in its own right, to own property and to have fixed and floating chargers secured over its assets.

The Ministry Of Corporate Affairs vide is notification dated 11th February 2022, has published the Limited Liability Partnership (Amendment) Rules, 2022 which shall come into force with effect from 1st April 2022.

➤ Synopsis of LLP (Amendment) Rules, 2022

The LLP (Amendment) Rules, 2022 has amended Rule 5 (fees), 18, and 19

➤ Amendment in Rule 19(1) of LLP Rules, 2009

The amendment is brought under rule 19(1) states that a limited liability partnership or a proprietor of a registered trademark under the trademarks Act, 1999 (47 of 1999) already has a name of trademark which is similar to or which too nearly resembles the name or new name of a limited liability partnership incorporated subsequently, may apply to the Regional Director in form 23 to give a direction to that LLP incorporated subsequently to change its name or new name.

➤ Allotment of name to existing LLP- Rule 19A

As mentioned above, the MCA has introduced the new rule 19A which provides for the allotment of the new name for the existing LLP under section 17(3) of the LLP Act, 2008. If an LLP does not change its name as per the directions issued under section 17(1) of the LLP Act within 3 months, the new name of the LLP will be the combination of the below:

- Letters `ORDNC` (Order Of Regional Director Not Complied)
- Year of passing direction
- Serial number
- Existing LLPIN

➤ Adjudication of LLP Penalties

The new rule 37A provides for the adjudication of LLP penalties. The adjudicating officer can pass an order of penalty against an LLP after sending notice and hearing the concerned person of the LLP. The adjudicating officer will send the order copy to the Partner/designated partner of the LLP and the regional director. The LLP must pay the penalty only through the MCA portal.

➤ Rule 37B – Appeal against order of adjudicating officer.

The LLP can file an appeal within 60 days of passing the order by the adjudicating officer in form 33 – LLP ADJ setting forth the appeal grounds.

➤ **Rule 37C – Registration of appeal**

The regional director's office will register the appeal and give a serial number when it is in order. The regional director will notify the adjudicating director against whose order an appeal is filed.

➤ **Rule 37D – Disposal of appeal by Regional Director.**

The regional director will hear the parties to the appeal and pass an order in writing. The order passed by the regional director will be communicated to the adjudicating officer, the appellant (LLP that files the appeal), and the central government.

➤ **Applicable Fee for LLP Registration**

Sl. no	LLP Contribution	Applicable fee
1	Limited Liability Partnership whose contribution does not exceed Rs. 1 lakh	Rs. 500
2	Limited Liability Partnership whose contribution exceeds Rs. 1 lakh but does not exceed Rs. 5 lakhs	Rs. 2,000

➤ **Conclusion :-**

The Limited Liability Partnership (Amendment) Rules, 2022 is a welcome and significant move by the Ministry of Corporate Affairs. These changes will definitely help the businesses registering as LLPs to ease the process of Incorporation of an LLP. The said amendments are expected to be enforced from the 1st April 2022 .

➤ **Reference :-**

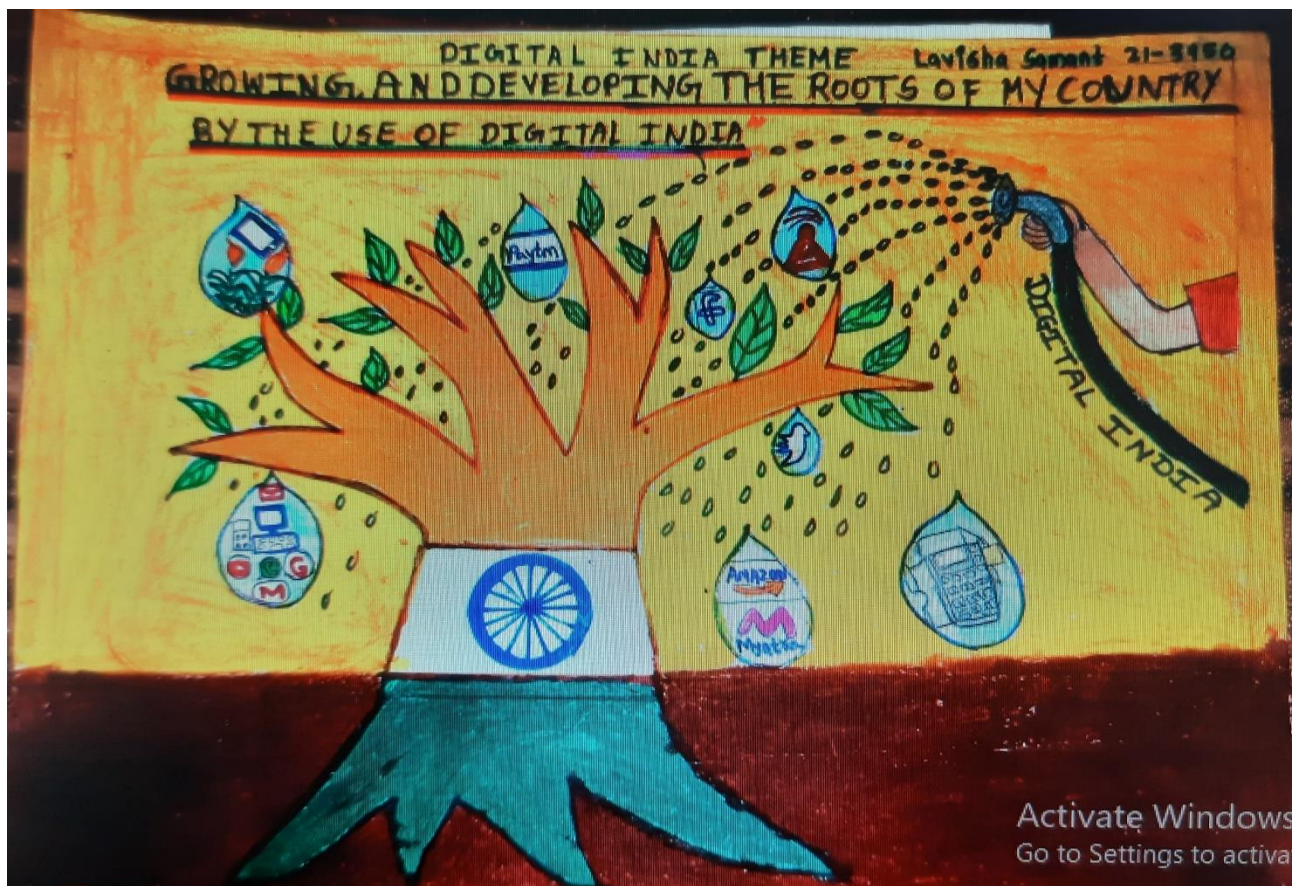
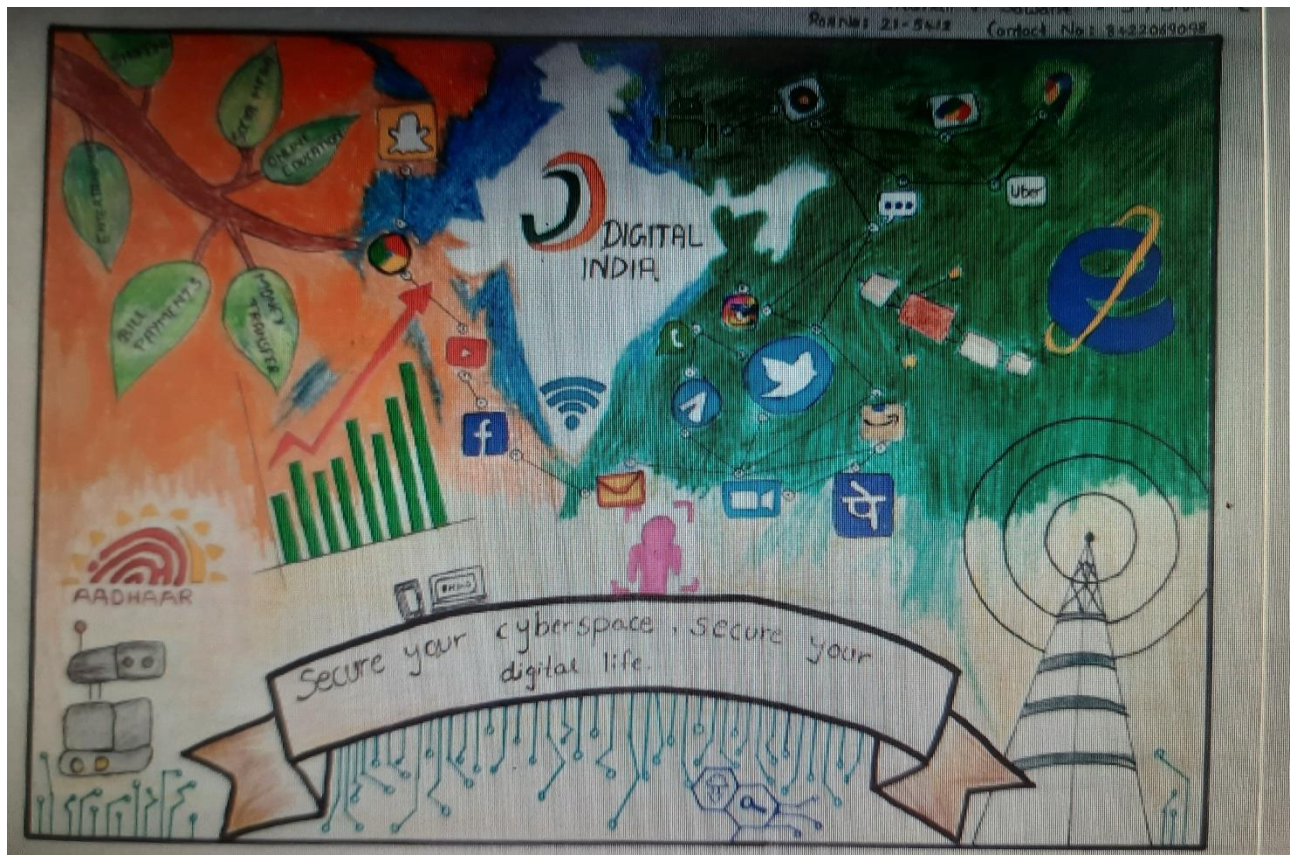
- 1) <https://www.indiafillings.com>
- 2) <https://wwwwebizfilling.com>

Name :- Kalyani Shivaji Ghare
Class :- SY B.COM D
Roll No :- 21-5502

PARTICIPANTS FILLED WITH THRILL AND EXCITEMENT SHOWCASING THEIR CREATIVE THINKING SKILLS IN “LET’S DRAW IT” POSTER MAKING & SLOGAN WRITING COMPETITION



CREATIVE POSTERS AND SLOGANS;





STUDENTS ENLIGHTENED WITH WORDS OF INSPIRATION AND MOTIVATION EXTENDED BY OUR HONOURABLE PRINCIPAL DR. SURAYAKANT LASUNE



STUDENTS FILLED WITH ENTHUSIASM SHOWCASING THEIR HIDDEN ATTRIBUTES, EXPRESS THEIR THOUGHTS, AND CRITICAL VIEWS IN DEBATE COMPETITION- “WORD ATTACK”




STUDENTS EXPERIENCE THE GRILL OF ACTUAL INTERVIEWS IN MOCK INTERVIEW CONTEST





NIVESH- AN INVESTMENT AWARENESS EXHIBITION

STUDENTS PARTICIPATED WITH IMMENSE ZEAL AND ENTHUSIASM IN THE EXHIBITION AND LEARNT ORGANIZATIONAL SKILLS AND TEAM WORK



**DOMBIVLI SHIKSHAN PRASARAK MANDAL'S
K.V. PENDHARKAR COLLEGE OF
ARTS, SCIENCE AND COMMERCE, (AUTONOMOUS)
DOMBIVLI[E]**







*Thinking what to do
with your savings?
The answer is **"To INVEST"**
But where and how?*

you will get the answers at

"NIVESH"
AN INVESTMENT AWARENESS
EXHIBITION



Initiative of



**COMMERCE
ASSOCIATION**

**Make this Gudi Padwa more auspicious with investment.
For details visit our exhibition on
1st April, 2022 in the college library from
10:00am to 1:00pm.**



***STUDENTS PARTICIPATED WITH EAGERNESS AND PASSION IN THE
ACTIVITY ORGANIZED BY COMMERCE READERS CLUB***





**Issue
IX**

**DOMBIVLI SHIKSHAN PRASARAK MANDAL'S
K.V. PENDHARKAR COLLEGE OF ARTS, SCIENCE AND COMMERCE
(AUTONOMOUS)**

PLOT NO. SPL-04, OPP. MIDC OFFICE, DOMBIVLI (E) 421203.

BIOSCENE 2021-22

Biotechnology: Past to Future



Bioscene 2021-22

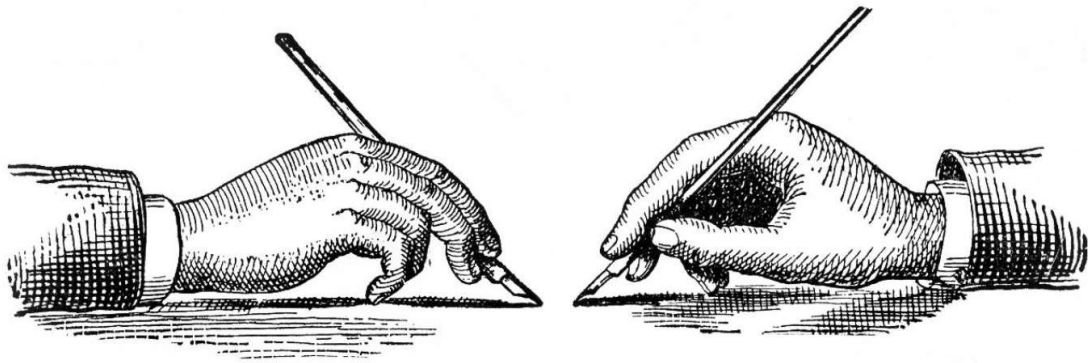
Issue IX

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EDITORIAL

Editorial

I feel myself lucky that I am writing this editorial for the ninth issue of departmental annual magazine of Biotechnology named '*Bioscene*', 2021-22. This year theme of the magazine is "**Biotechnology – Past to future**". The Department of Biotechnology was established in the year 2003-04 by the efforts of former Head of Botany Department Dr. R. G. Bagool and now it is running under the headship of Dr. Suman Satyaram. Our department is offering 3 years **B. Sc. Course in the subject Biotechnology**. The aim of our department is to help our students to grow as biotechnologist and better human beings who are capable to face challenges of the present world. As educators we need to incorporate such activities that help all round development of students. Department always encourage students for such activities. This magazine is also a platform for students to showcase their talent.

This magazine is like bouquet with beautiful articles, art work and poems. This magazine covers detail report of this major departmental activity. It also covers articles written by our students, research projects of students, Poems and Art work of students and student's achievements.

Thus, this magazine is not the outcome of the efforts put in by an individual, but the efforts put in by our students, all teachers and last but not least the management of DSPM's K.V. Pendharkar College who has always supported these activities. Here I would like to thank all those who have contributed to make this effort a success. I truly hope that this magazine will make an interesting read.

Seema Dalvi.

ACTIVITY REPORT

Departmental Activity Report

from June 2021 - April 2022

Along with regular teaching for biotechnology and applied component, following activities were conducted in the year 2019-20.

1. An **Expert lecture** on “Book Review – Emperor of all Maladies by Siddharth Mukherjee” was arranged by online mode for T. Y. students on 2nd August 2021. Ms. Amala Patwardhan, Librarian narrated the technique of writing review on a book in the session. All 35 students attended the lecture.
2. **Advanced Learners’ & Slow learners’ group** was created to enrich the students’ knowledge in the subject and to enhance their learning skills. A total of 8 students and 7 students were grouped under Advance Learners from S.Y. Biotechnology and T.Y. Biotechnology class respectively. Students were assigned with various activities like assignment, presentations & flowchart making in the month of July & September 2021.
3. **Guru Purnima day** was celebrated on 23rd of July 2021. Students from T.Y. Biotech were encouraged to conduct lectures & practicals on the same day. Total enthusiastic students attended from S. Y. Biotech was 23 & from T.Y. Biotech was 35.
4. **F.Y Induction Programme** by virtual mode for students was conducted on 1st October 2021. The students were informed about Orientation lecture course, Biotech course details, academic calendar and examination pattern. Number of students present (30).
5. F.Y Parent Meeting was conducted on 1st October 2021 on Zoom Platform.
6. **Orientation lecture series and practical** were conducted from 04/10/21 to 09/10/21 to familiarize student about the basic concepts & applications in biotechnology, microbiology, biochemistry, & life sciences.

7. Enrollment process for Skill development Certificate course in **Sewage Treatment Plant process** of 2 credits for UG students (2nd Batch) was started in the month of October 2021.
8. Departmental Fest - Psicraze was organized for all F.Y, S.Y & T.Y students. It included activity like Poster making, Essay Writing, Extempore round, Mr. & Ms. Biotech competition. The event was organized by S. Y. and T.Y. Biotechnology students under guidance of teachers on 23rd & 24th December, 2021.
9. The special guidance lecture by Mr. Chetan Patil on “Career Opportunities in Clinical Research” under the forum of “*Alumni Interaction*” is organized by for T.Y Biotechnology students on 18/12/2021. All 35 students attended the lecture.
10. **Intercollegiate Webinar** - Popular Lecture series organized by IWSA (Indian Women Scientist Association) Funded by Board of Research in Nuclear Sciences in association with College for Students and Faculty on 12th February 2022. Topic was **Bioinformatics: Basics to Application**, Speaker **Dr. Ashok Varma** Senior Scientist ACTREC.
11. Virtual excursion conducted for T.Y Biotech students by circulating short video on Amul Cheese making and CETP - Vapi (Common Effluent treatment plant) on 31/01/22 & 19/03/22 respectively to familiarize students with working & practical demonstration of the Production plant.
12. Skill development Certificate course in **Sewage Treatment Plant process** of 2 credits (2nd Batch) was completed for 21 students.
13. Summer training in Pathology laboratory was completed by 3 S.Y Biotechnology students in the month of May 2022. One student from T.Y has enrolled for online summer internship in IIT – BHU between May to June 2022.
14. This year **Departmental Magazine Bio-scene Issue – 9** was compiled based on the theme **Biotechnology: Past to future**.

ARTICLES

Recent Advancements in the field of Biotechnology

In a First, Man Receives a Heart from a Genetically Altered Pig



US surgeons have successfully implanted a heart from a genetically modified pig in a 57-year-old man. The "historic" procedure took place at the University of Maryland Medical School. Bennett, had spent the last several months bedridden on a heart-lung bypass machine.

The Food and Drug Administration granted emergency authorization for the surgery on New Year's Eve, as a last-ditch effort for a patient who was unsuitable for conventional transplant. While the patient's prognosis is far from certain, it represents a major milestone for animal to human transplantation.

The patient, David Bennett, had been deemed ineligible for human transplant -- a decision that is often taken when the recipient has very poor underlying health.

He is now recovering and being carefully monitored to determine how the new organ performs.

Future scope:

This first-in-the-world surgery will provide an important new option for patients in the future. To meet demand, doctors have long been interested in so-called xenotransplantation, or cross-species organ donation, with experiments tracing back to the 17th century. It has proved to be a medical first that could one day help solve the chronic shortage of organ donations.

Research into Cat DNA Unlocks Clues to Help Cats and Human



Researchers say that cats can help unlock important clues into the human genome, DNA, and health. Interestingly, the feline genome has similarities to humans that are overlooked.

A good thing is that when studying cats for genetic research, scientists don't need to do experiments on the cats. Sometimes, they only need a swab to get a DNA sample.

Unlike dogs or mice, cat genes are closer in size to a human's, the cat genetics specialist says.

Recently, one article in 'Trends in Genetics' suggested that cats can help researchers determine how the so-called "dark matter" in our DNA works. It makes up 95% of our DNA and may not be junk at all as previously thought.

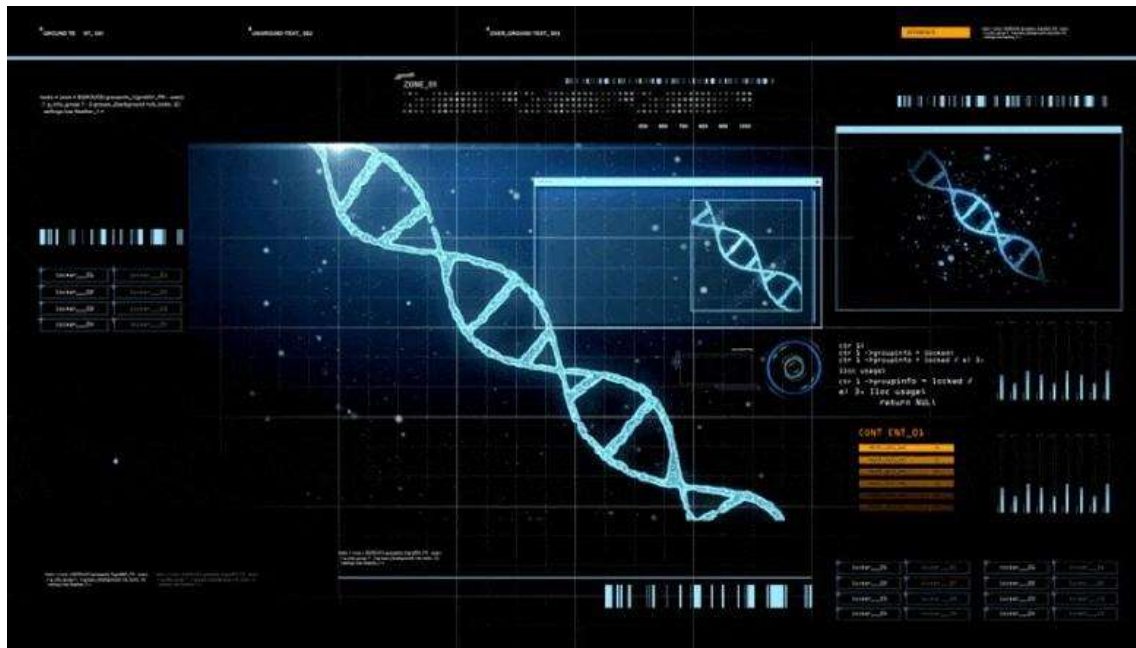
Future scope:

Scientists have found that some genetic diseases in cats are related to their genetic dark matter. By looking closer, they may find clues to similar diseases affecting us.

If scientists zero in on the specific genes involved in a disease, they can treat the root cause, not just symptoms. Then, they could apply the technique to help people.

For example, cats and humans may be prone to the same genetic illness, such as polycystic kidney disease. With research, a technique to help cats could soon help people treat various such diseases that are similar in cats as well as humans.

The Earth BioGenome Project



The Earth Biogenome Project, a global consortium that aims to sequence the genomes of all complex life on earth (some 1.8 million described species) in ten years, is ramping up.

Researchers will no longer be limited to a few “model species” and will be able to mine the DNA sequence database of any organism that shows interesting characteristics. This new information will help us understand how complex life evolved, how it functions, and how biodiversity can be protected.

The grand aim of the Earth Biogenome Project is to sequence the genomes of all 1.8 million described species of complex life on Earth. This includes all plants, animals, fungi, and single-celled organisms with true nuclei (that is, all “eukaryotes”).

Future scope:

The genome sequencing project will help us to get the genomic sequence of every species present on this planet which will make it much easier to study and keep a handy record of all the genetic diversity that we can observe around us.

World Record- Setting DNA Sequencing Technique



DNA sequencing technique helps undiagnosed patients find answers in mere hours

new ultra-rapid genome sequencing approach developed by Stanford Medicine scientists and their collaborators was used to diagnose rare genetic diseases in an average of eight hours — a feat that's nearly unheard of in standard clinical care.

In one of the cases, it took a snappy 5 hours and 2 minutes to sequence a patient's genome, which set the first Guinness World Records title for fastest DNA sequencing technique. The record was certified by the National Institute of Science and Technology's Genome in a Bottle group and is documented by Guinness World Records.

Future Scope:

DNA sequencing is such a time taking process and a very crucial too as it gives us the whole genetic makeup of an individual. With new emerging techniques if we are able to sequence it faster it would be very easy to identify and diagnose some serious genetic diseases.

- Pratibha Maharana (FY Biotechnology)

T.Y. BIOTECHNOLOGY PROJECTS

EXTRACTION OF BIOMATERIALS FROM MARINE ORGANISM (POMFRET FISH)

Sayali Padate, Seema Agashe

INTRODUCTION

1. Pomfret (*Bramidae*):

Pomfret is a group of 35 different types of marine fishes species which comes under Bramidae family. They are included in a particular category of fishes known as perciforms. Some species of pomfret are also known as monchong. They are distributed in different parts of three oceans such as Pacific Ocean, Atlantic Ocean and Indian Ocean. They are also found in Mediterranean Sea, Norwegian Sea and Sea of Japan.



SCIENTIFIC CLASSIFICATION:	Kingdom	- Animalia
	Phylum	- Actinopterygii
	Class	- Actinopterygii
	Order	- Perciforms
	Family	- Bramidae

This species of fish is found in eight different genera: -

- | | |
|-------------------------|--------------------------|
| i. <i>Brama</i> | v. <i>Pteraclis</i> |
| ii. <i>Eumegistus</i> | vi. <i>Taractichthys</i> |
| iii. <i>Pterycombus</i> | vii. <i>Xenobrama</i> |
| iv. <i>Taractes</i> | viii. <i>Pampus</i> |

Collagen & Lipid: - Collagen is the most abundant protein. It is used in laboratory studies for cell culture, studying cell behavior and cellular interaction with the extracellular environment. The amino acid composition of collagen is atypical for proteins, particularly with respect to its high hydroxyproline content. The collagen that we consume through supplements or use through cosmetics is obtained from pig or cow skins. Besides anti-aging benefits, fish collagen

also provides an alternative to people with religious concerns, who worry about disease. A lipid is a macro bio-molecule that is soluble in non-polar solvents. The lipid term is sometimes used as a synonym for fats; fats are a subgroup of lipids is called triglycerides. Fishs are considered as the most important source of long-chain polyunsaturated fatty acids of the omega-3 family in the human diet. These substances provide in normal functioning of cardiovascular and neural systems, immunity and metabolism in general.

REVIEW OF LITERATURE

Alizadehnodeh Maboud et.al (2014) worked on the Isolation and Purification of collagen from the skin of Black Pomfret for tissue engineering purpose. Collagen is an abundantly present protein in vertebrates which has many biomedical matters, pharmaceutical, tissue engineering, industrial and biotechnological application. Fish collagen is more commonly used due to lack of disease transmission and pathogenesis, easy availability, lack of religious and high collagen content as safe collagen source. In this research paper they have focused on tissue engineering application. The sample used for carrying out extraction was packed in polythene bags. After extraction the yield of collagen obtained from Black Pomfret was found to be 13.6% on a dry weigh basis.

Hafez Jafari et.al (2020) worked on Fish Collagen: Extraction, Characterization and application for Biomaterials Engineering. In this research paper they have explained the extraction of collagen from Golden pompano. Collagen break down occurs due to aging, exposure to ultraviolet light and tobacco. The extraction of collagen is done by Acetic acid and deep eutectic solvent extraction method. The solid-liquid ratio for extraction is 1/40 and the yield extracted from skin of Golden pompano is 21.81% and from the bone is 1.25%.

Sonali Chakraborty et.al (2004) worked on lipid profiles of Pomfret fish organs. In this research paper they have studied about lipid matter content in different organs such as brain, muscle, digestive tract and eyeball of Pampus argenteus. The variation of lipid profile with salinity of fish constitutes to generate more information on lipid spectrum of organs of fish and the influence of salinity on lipid composition. The lipid composition like phospholipids, cholesterol and the fatty acid composition of the total lipid of the different organs of pomfret is edible salt-water fish of India. The fat content in Pampus argenteus is 1.43% and lipid content in Pampus argenteus has highest saturated fatty acid in eyeball (84%), digestive tract (69%), muscle (52%) and brain (34%).

Nurnadia Abd Aziz et.al (2012) worked on Quantitative Determination of Fatty Acids in Marine Fish and Shellfish from Warm Water of Straits of Malacca for Nutraceutical Purposes. In this research paper they have conducted study to determine quantitatively the fatty acid contents of 20 species of marine fishes from which one species is Black Pomfret. After transporting the samples to the laboratory, samples are prepared for extraction of fatty acids. Black pomfret comes under the category of lowfat fish (2-4% fat). The yield of fatty acids obtained after extraction is 2.33 ± 0.11^a .

Panagiotis Berillis (2015) worked on Marine collagen: Extraction and Application. In this research paper the studies have been conducted on what is collagen, its chemical structure, isolation and extraction, collagen obtained from marine fishes and sponges and applications

are explained properly Marine collagen in general is found to be about 60% purer than bovine collagen and much safer. Collagen is also important to the food processing industry.

Sarvenaz khalili Tilami and Sabine Sampels (2017): Nutritional Value of Fish: Lipids, Proteins, and Minerals. In this research paper they have studied about the application of fish lipids, proteins and minerals in human nutrition. Fish and seafood consumption reduce the risk of coronary heart and cardiovascular disease, decrease inflammatory disease as arthritis and prevention of cancer. A daily intake of EPA and DHA of at least 0.22g each has been suggested as adequate for adults and many countries have set up their own recommendations for the daily intake of EPA and DHA.

CONCLUSION

Pomfret is a fish from Bramidae family, which is a group of 35 different types of marine fishes. This species has 8 genera. Among which Brama is the largest genus consisting of 8 distinguishing species and Xenobrama is the smallest genus consisting of only 1 species. In India Silver pomfret is mostly found from Gujarat and Maharashtra coast along the Northwest and Orissa and West Bengal on the North east coast.

Extraction of collagen and lipids is done from the waste materials obtained from the fishery industry. The yield of collagen obtained from Golden pompano by DES extraction is comparatively greater than that of Black pomfret by Nagai and Suzuki methods. The yield of fats is obtained by same method from both the fishes but yield from Black pomfret is greater than from Pomfret fish.

LITERATURE REVIEW ON BIOREMEDIATION OF PETROLEUM CONTAMINATED SOIL

Bhushan Devkule, Suman Satyarum

Petroleum, is one form of another, has been used since ancient times, and is now important across society, including in economy, politics and technology. The rise in importance was due to the invention of internal combustion engine, the rise in commercial aviation, and the importance of petroleum to industrial organic chemistry, particularly the synthesis of plastics, fertilizers, solvents, adhesives and pesticides. The oil and gas industry in India dates back to 1889 when the first oil deposits in the country were discovered in the state of Assam and Maharashtra (Bombay high). Petroleum products are materials derived from crude oil as it is processed in oil refineries. They belong are known to belong to the family of carcinogens and are neurotoxic pure organic compounds petroleum products are complex mixtures. On the other hand, Petroleum hydrocarbon contamination is the major environmental problems today resulting from the activities related to petrochemical industry. Accidental release of petroleum products are of particular concern in the environment. Hence there are Mechanical & Chemical methods generally used to remove hydrocarbons from contaminated sites. *Bioremediation* is the promising technology for the treatment of these contaminated sites since it is cost-effective and will lead to complete mineralization.

Bioremediation is defined as the use of micro-organisms to detoxify or remove pollutants owing to their diverse metabolic capabilities. in simple words hydrocarbons can be removed by the help of specified micro-organisms. Bioremediation is rapidly developing field of environmental restoration utilizing natural microbial activity to reduce the concentration and or toxicity of various chemical substances such as Petroleum products, Biodegradation is a natural process carried out by soil & aquatic microorganisms mostly bacteria and fungus.

Petroleum-based products are the major source of energy for industry and daily life. Leaks and accidental spills occur regularly during the exploration, production, refining, transport, and storage of petroleum and petroleum products. Release of hydrocarbons into the environment whether accidentally or due to human activities is a main cause of water and soil pollution. Contaminated sites which are suitable for bioremediation includes class of contaminant, specific example & potential sites here are few examples regarding this contaminant such as chlorinated solvents eg. Trichloroethylene occurs in a potential site such as chemical manufacturing units, Polychlorinated biphenyls eg. 4-chlorophenyl occurs in a potential site such as Electrical manufacturing, power stations & railway yards.

Literature data of Bioremediation of contaminated soil with petrol, diesel, crude oil, Biodiesel and engine oil way reviewed. The petroleum contamination has become the major issue in recent times Petrol oil exhibits toxic effects in agricultural crops due to the presence of various hazardous hydrocarbons. we can conclude that streptococcus spp. can degrade the petrol contaminated soil with the efficiency of 89.6%. The contamination can affect the soil health and it can also reduce the activity of essential soil microbes. The Pseudomonas is also

prominent petroleum hydrocarbon degrading organisms. Diesel having high molecular weight compounds are fatal for the soil's microflora *Pseudomonas* has about 97.80% diesel contamination efficiency. *Streptococcus* spp. were again the prominent biodegradable agent in Engine oil contamination *Pseudomonas putida* exhibits biodegrading activity against the biodiesel soil contamination.

Even though the amount of contamination has reduced, degradation of spilled oil is still required. The use of bacteria shows promising results as a hydrocarbon degrader. Although, biological methods are successful, they are a bit time consuming. If extensive research is carried out consistently, it is possible that in the future Novel and improved methods can be developed to reduce the time frame of degradation and as a result soil contamination will not be considered as an eminent issue worldwide anymore.



THE JOURNEY OF GENETICALLY MODIFIED CROPS – A REVIEW

Roshan George, Sandeeptha Rathindran

INTRODUCTION

To date, scientists have engineered bacteria that produce medication-grade drugs & crops with built-in pesticides. While these are all relatively recent advances in scientific technology, humans have been altering the genetics of organisms for over 30,000 years. How did the original practice of selective breeding evolve into the concept of genetically modified organisms, as we know it today? The concept of “genetically modified organisms,” or GMOs, has received a large amount of attention in recent years. Indeed, the relative number of Google searches for “GMO” has more than tripled since late 2012. Genetic modification is a biological technique that affects alterations in the genetic machinery of all kinds of living organisms. GMO is defined as follows by WHO “Organisms in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating and/or natural recombination”.

HISTORY

An enormous breakthrough in GMO technology came in 1973 when Herbert Boyer and Stanley Cohen worked together to engineer the first successful genetically engineered (GE) organism. The two scientists developed a method to very specifically cut out a gene from one organism and paste it into another. By the middle of 1974, a moratorium on GE projects was universally observed, then at the Asilomar Conference of 1975, scientists, lawyers, and government officials debated the safety of GE experiments. The attendees eventually concluded that the GE projects should be allowed to continue with certain guidelines in place.

Calgene’s Flavr Savr tomato became the first food crop to be approved for commercial production by the U.S. Department of Agriculture. These tomatoes were modified to include a DNA sequence that inhibited production of a natural tomato protein, increasing the firmness and extending the shelf life of the Flavr Savr variety. With the creation of golden rice in 2000, scientists had genetically modified food to increase its nutrient value for the first time. Its goal was to combat vitamin A deficiency, which is estimated to kill over 500,000 people every year. By 2010, 29 countries had planted commercialized biotech crops and a further 31 countries had granted regulatory approval for transgenic crops to be imported. The US was the leading country in the production of GM foods in 2011.

BENEFITS

1. Agronomic and Economic benefits

1996–2012 saw an increase of more than 370 million tons of food crops. One-seventh of the increased yield is attributed to GM crops in the U.S. To achieve an equal increase in yield as delivered by GM crops, it is estimated that an addition of more than 300 million acres of land would have been needed. From 2006 to 2012, the global increase in farm income from GM food had reached \$116 billion, almost triple that of previous 10 years.

2. Modification of the chemical composition of food

Some genetic modification is specifically targeted to enrich certain nutrients or substances having high therapeutic and pro-health value, including vitamins A, C, E, unsaturated fatty acids, alimentary cellulose and probiotics. The “Golden Rice” is a significant example. It ameliorates malnutrition in an effective and economic way.

3. Products for therapeutic uses

Genetic engineering techniques enable the expression of viral or bacterial antigens in the edible portion of plant cells. In theory, thus, transgenic foods could serve as oral vaccines, capable of stimulating the immune system, via mucosal immunity, to produce antibodies.

RISKS

1. Health risks

Three major health risks potentially associated with GM foods are: toxicity, allergenicity and genetic hazards. “Starlink” maize provides an example of a food hazard caused directly by the expression of the inserted gene. The modified plant was engineered with genetic information from *Bacillus thuringiensis* in order to endow the plant with resistance to certain insects. The inserted gene encodes a protein, called Cry9c, with pesticidal properties, but with an unintended, strong allergenicity. Several cases have been reported of allergic reaction in consumers after consuming the “Starlink” maize.

2. Ecological risks

Currently, the majority of GM foods are aimed at endowing the altered plant two desirable properties – pest-resistance or herbicide-resistance. The use of these technologies has benefits. But, in the long-term, can these strategies really out-fox Nature? It seems almost inevitable that, in a few years, insects and weeds will respond to the human-made pressures in their habitats by evolving ways to nullify our clever design of transgenic crops.

CONTROVERSY

There have been many controversies regarding GE technology. While some critics object to the use of this technology based on religious or philosophical bases, most critics object on the basis of environmental or health concerns. In July 2011, protesters from Greenpeace, a nongovernmental, environmental organization, broke into an experimental farm of the Commonwealth Scientific and Industrial Research Organization (CSIRO), an Australian federal government agency and destroyed the entire crop of genetically modified wheat. In August 2013, a research field of Golden Rice managed by the Philippine Government's International Rice Research Institute (IRRI) was attacked by anti-GMO activists. In a different example, the economic stress of the poor yield of GE cotton crops in India over the late 1990s and early 2000s was associated with a presumed increase in farmer suicides. However, it was later concluded that suicide rates were actually unchanged after introduction of GE cotton, and that there were economic benefits of GE cotton for most Indian farmers. During the same time frame, public awareness increased, and calls for regulation of GE food grew louder, resulting

in labelling requirements for GE food in many countries. Today, 64 countries have mandatory labelling laws for GE food.

CONCLUSION

The advantages of using GM crops are far more than the risks attached to it. Humans have continuously adapted to changes to be able to survive this long and we need to be acceptable to changes for our better future. This does in no way or form mean that we should ignore all the risks and unknown possibilities with this technology. But to completely ignore it and not even giving it a chance would be very unscientific. Proper testing needs to be done. Public safety should be considered top priority, the scientific community needs to come together to tackle misinformation and unethical research. Regulation, monitoring and maintenance should be made stricter.

LITERATURE SURVEY ON POLLEN ALLERGENS

Shruti Vilas Kadam, Sneha Pande

INTRODUCTION

"Allergens" are the substances that cause allergies. Over 700 environmental allergens have been identified and characterized. Plants are one of the major sources of allergens which elicit allergic response by immunoglobulin E (IgE) mediated allergies. Within past century, allergic diseases have been developed from being rather rare conditions into pandemic health problems. In general, pollen allergens are considered a major risk factor for both seasonal and indoor allergies. Pollen allergens are water- soluble proteins or glycoproteins, which make them readily available biologically, being capable of evoking an IgE antibody mediated allergic reaction in seconds. Pollens of trees, grasses and weeds have all been found to elicit allergic reactions in atopic individuals.



Fig. Release of pollen grain allergens

METHODOLOGY

A literature survey on Pollen Allergens was carried out by collecting information from various research articles and papers. Some information is also collected from Science Journals, libraries, etc. A systematic review was carried out on the most common pollen allergens like Sunflower, Birch, Ragweed, Parietaria, Olive pollen and Japanese Cedar which causes severe pollen allergy.

RESULT AND CONCLUSION

Allergies are a serious health problem. Pollen allergens are considered a major risk factor for allergic rhinitis and asthma. It has been found that the most common allergies that are caused by pollen are allergic rhinitis and asthma. Some pollen allergens like Olive pollen, Birch pollen, Sunflower cause specific allergies like respiratory allergic diseases, bronchial asthma and inflammation, rhino conjunctivitis, cardiovascular disease and atopic dermatitis. Increasing carbon dioxide and temperature seems to substantially increase pollen production. Changes in weather such as thunderstorms during pollen season may induce hydration of pollen grains and their fragmentation which generates atmospheric biological aerosol carrying allergens. As a

consequence, asthma outbreaks can be observed in pollinosis patients. These factors give rise to the increasing pollen formation and its allergy. ASIT is the only treatment that can fundamentally change the natural course of allergic diseases and result in long term remission of allergic symptoms.

SURVEY ON AWARENESS OF SKIN CANCER AND USE OF SUNSCREEN

Pooja Nagaonkar, Seema Dalvi

ABSTRACT

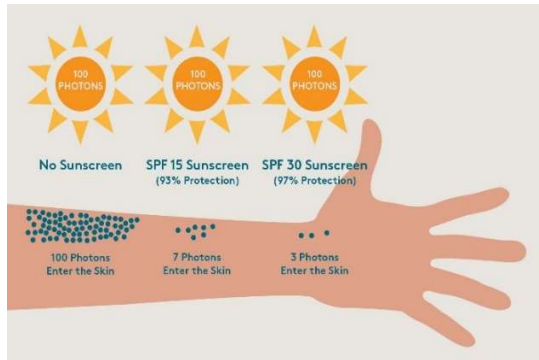
Sunlight is essential for Vitamin D but the effects of excess sunlight may be harmful in many ways. But long exposure to sun can cause many long-term effects such as Melanoma, skin ageing, etc. UVA and UVB radiation can both affect health. Even though UVA radiation is weaker than UVB, it penetrates deeper into the skin and is more constant throughout the year. Since UVC radiation is absorbed by the earth's ozone layer, it does not pose as much of a risk. Typically, they form on the head, face, neck, hands, and arms because these body parts are the most exposed to UV radiation. Most cases of melanoma, the deadliest kind of skin cancer, are caused by exposure to UV radiation. This research survey indicates the awareness of people on the effects of these rays and their ways to prevent skin diseases. Their methods and use of sunscreen for the protection from the rays are surveyed. This survey can be useful for spreading more awareness on some factors like SPF and PA+ values in a sunscreen. Also, the rate of cancer due to UV can be decreased by simple preventive measures.



INTRODUCTION

Solar radiations reaching the terrestrial surface comprises ultraviolet (UV), visible light, and infrared (IR) rays. UVA has the longest wavelength (320–400 nm) but the least energy photon, while UVB wavelength is in the middle span (280–320 nm) and UVC has the shortest wavelength (100–280 nm) but the highest energy. UV-induced skin damage is one of the most common concerns in the world. Certainly, UVA is a risk of skin aging, dryness, dermatological photosensitivity, and skin cancer. It damages DNA through the generation of reactive oxygen species (ROS), which causes oxidative DNA base modifications and DNA strand breaks, resulting in mutation formation in mammalian cells. On the other hand, UVB can directly damage DNA through the formation of pyrimidine dimer and then cause apoptosis or DNA replication errors, leading to mutation and cancer. Although UVC is the shortest and most energetic wavelength, it is the most dangerous type of UV ray because it can cause various adverse effects (e.g., mutagenic, and carcinogenic). However, UVC rays do not penetrate through the atmosphere layer. Melanoma is a less common but more serious type of skin cancer

that's diagnosed in more than 68,000 Americans each year. Another 48,000 are diagnosed with an early form of the disease that involves only the top layer of skin. Melanomas arise from the cells that provide pigment (color) to the skin. Your risk for melanoma is higher if members of your family have had skin cancer or if you've already had a melanoma or other skin cancers. A major risk factor for melanoma is having many moles or having large flat moles with irregular shapes. Sunburns, especially during childhood, may also raise your risk for melanoma.



AIM

The aim of this study was to explore people's knowledge, attitude, and behavior in relation to sun protection. The google form was created to conduct the online 'SKINCARE SURVEY', which was shared with different age group of people, who live in different localities to gather information.

RESULTS

A total of 125 respondents aged 15 and above were included in the final analysis (47.2% male and 52.8% female). There were respondents from Dombivli and nearby areas.

EXPOSURE TO UV FROM THE SUN

Almost half of the respondents stated that their main source of UV exposure was travel while a quarter stated working outdoor

SUN PROTECTIVE BEHAVIORS

Sunscreen is the most commonly used sun-protective behavior, used by almost 50% of respondents. Significantly more females than males reported using sunscreen as a protective measure. Only One-third of respondents use shades as a sun protection measure. Females were more likely than males to wear sunglasses and use shade whereas males were more likely to wear hats. Almost one in ten respondents take no skin protection measures. However, only half stated that they use shade as a sun protection measure and less than 45% avoid the midday sun also showing the same number of people wearing long sleeves and long pants to avoid the burning sun.

SUNBURN

Over 10 % of all adults experienced sunburn in the past year.

Almost Half of respondents have been sunburned five or more times in their lifetime

Almost half of the respondents have experienced sunburn while One-third have never experienced sunburn.

OBSERVATIONS:

Most of your exposure to the sun/UV rays:

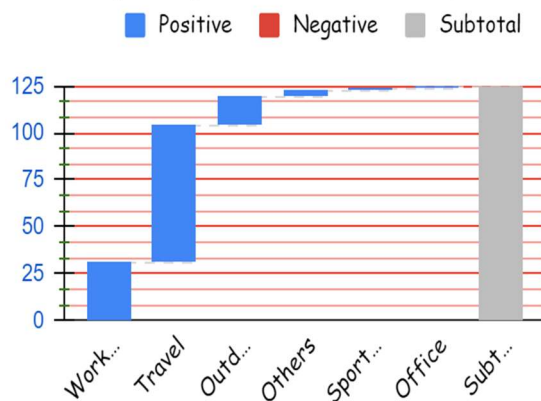


Fig 1: Most of people's exposure to the sun/UV rays

Count of when do you decide to take sun protection measures?

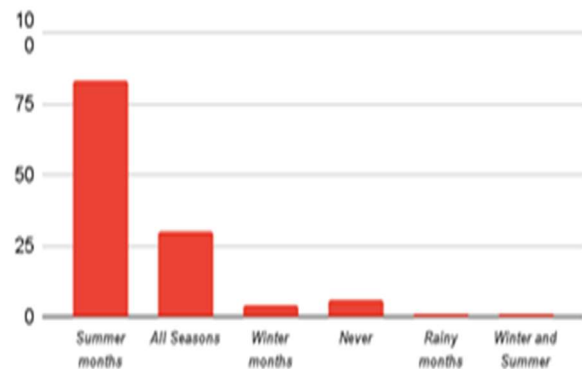


Fig 2: SPF that is used most often

SPF used most often :

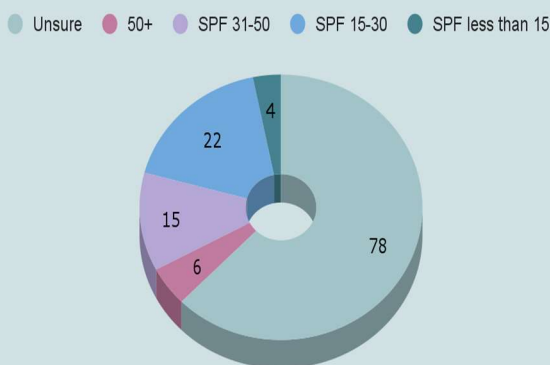


Fig 3: Count on awareness of UV Index

Awareness on UV Index:

● No ● Yes

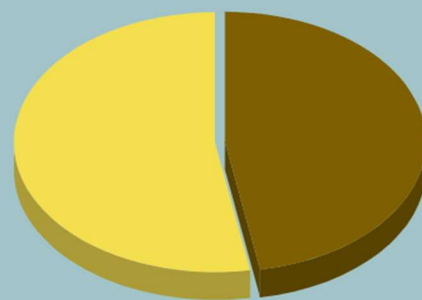


Fig 4: Count on when do you decide to take sun protection measures?

CONCLUSION

This study has indicated a low rate of sunscreen use by our population despite reasonably good knowledge about the hazards of sun exposure. This necessitates the need for health education program. More people should be given enough knowledge about skincare and skin protection. This will help more people know why protecting their skin is important so we can prevent melanoma and protect our skin. As the rate of sunscreen use is low, education and awareness about the hazards of sun exposure and the benefits of regularly applying suns screening effects must be spread.

THE DEPARTMENT CONGRATULATES ITS
MERITORIOUS STUDENTS SECURING 'O' GRADE

Sr. No.	Name of Student
1.	Adhikari Rutuja Rajendra
2.	Bhanushali Megha Alpesh
3.	Bhoir Aparna Santosh
4.	Devkule Bhushan Jalindar
5.	George Roshan Biju
6.	Ghadigaonkar Aaditi Arjun
7.	Jadhav Rishikesh Ramdas
8.	Jha Akshada Sanjay
9.	Kadam Shruti Vilas
10.	Murudkar Riddhi Satyavan
11.	Phadke Dhruva Suhas
12.	Salvi Aayushi Dattatray
13.	Singh Nidhi Radheshyam
14.	Ugvekar Bhargavi Chandrakant

ART BY STUDENTS



Akshada Jha (T.Y. Biotechnology)

BIOTECHNOLOGY-PAST TO FUTURE

Beginning my way from decades & decades,
I progressively evolved,
Oddly from brewing to invitro,
Thanking the great scientists of the world,
Efficiently named 'Biotechnology' by Karoly Erky,
Cohens & Boyer, Watson & Crick are the heroes to shape me,
How can you forget microbes?
Onumerous bacteria and fungi,
Nobviously are my dear obedient friends,
Oliving around and developing everyday,
Longing to New-upcoming technology,
Offering solutions to problems,
GYour reliable biotechnology.

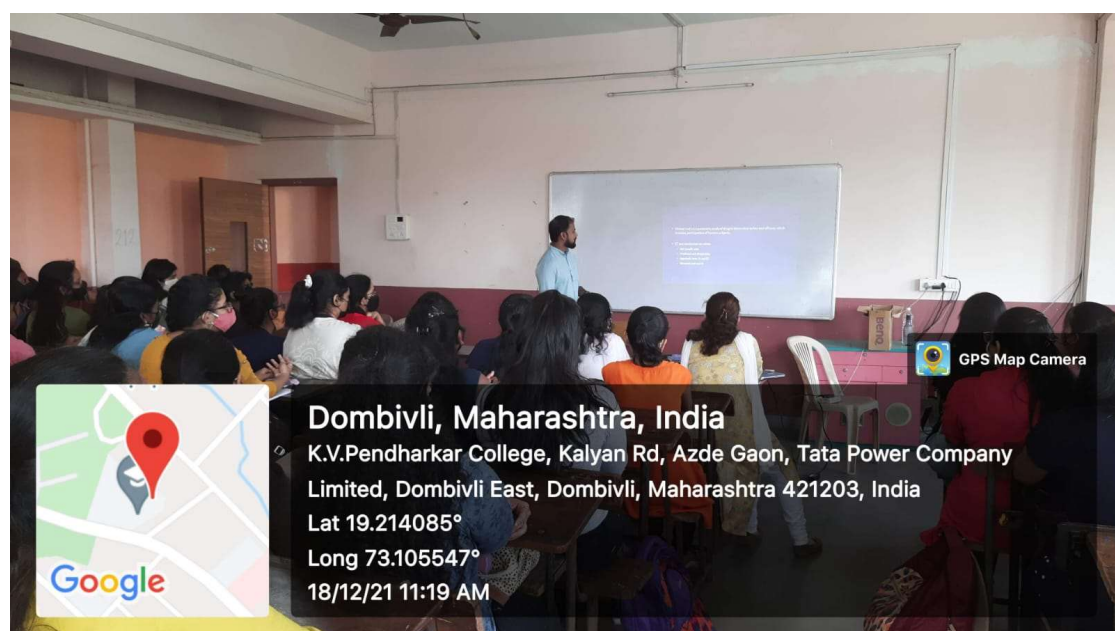
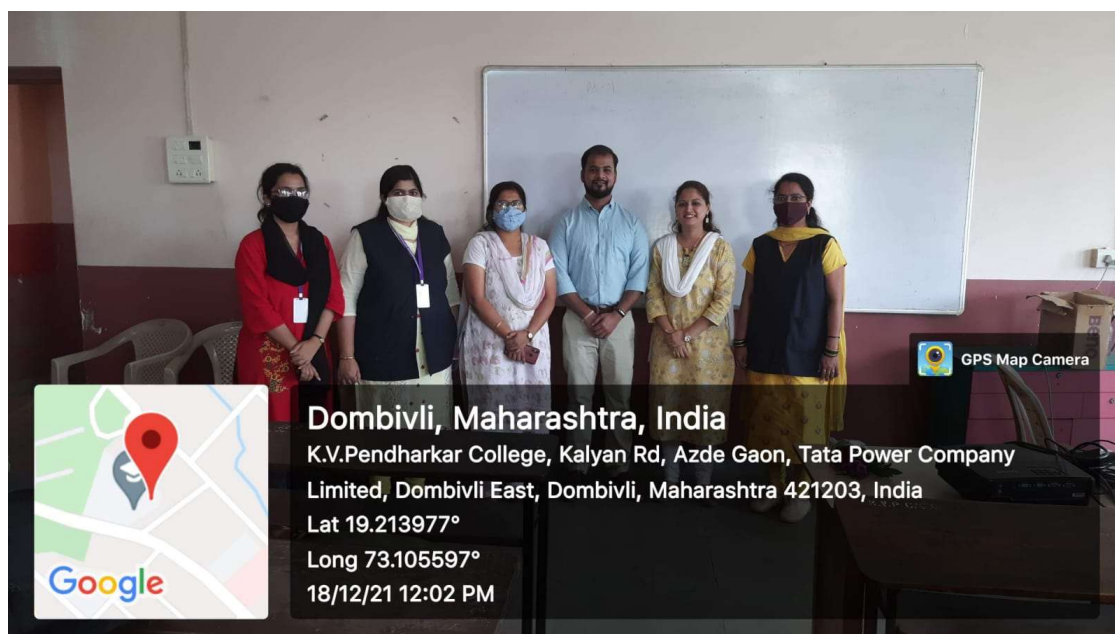
Sakshi Yadav (S.Y. Biotechnology)

PHOTO GALLERY

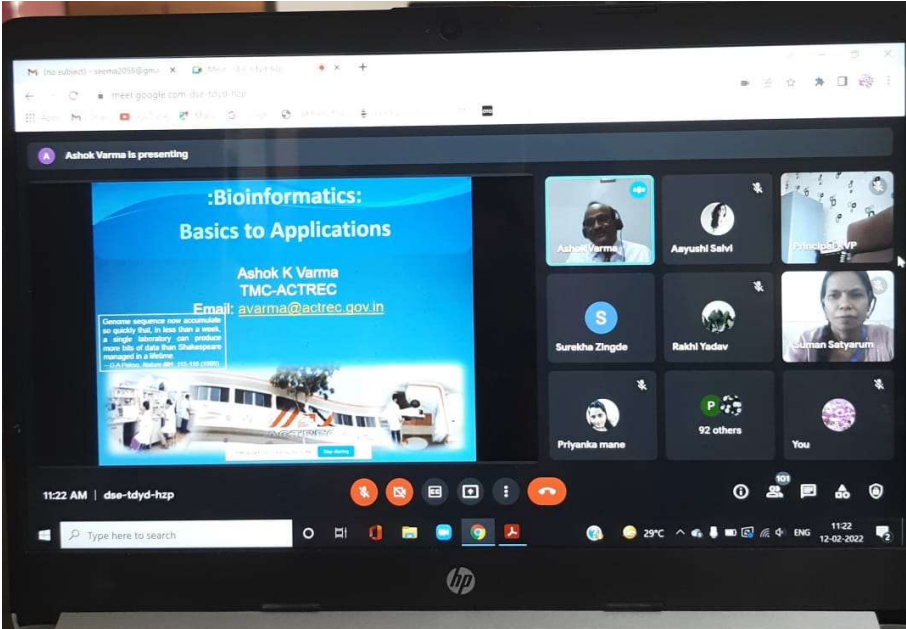
Departmental Fest – Psi-craze 2021-22



Alumni Interaction – Career Opportunities in Clinical Research



Intercollegiate Webinar



**:Bioinformatics:
Basics to Applications**

Ashok K Varma
TMC-ACTREC
Email: avarma@actrec.gov.in

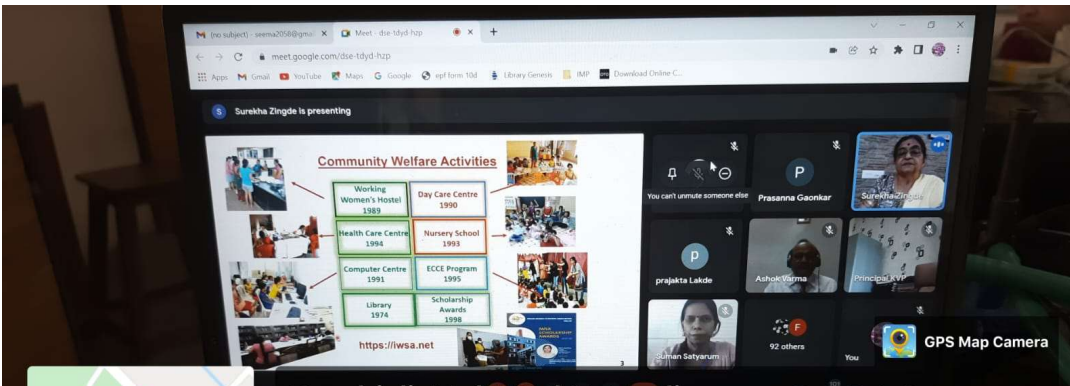
Genome sequencing now accumulates at a speed that is faster than a week. A single laboratory can produce more data than Shakespeare managed in a lifetime.

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GPS Map Camera

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K.V.Pendharkar College, Kalyan Rd, Azde Gaon, Tata Power Company Limited, Dombivli East, Dombivli, Maharashtra 421203, India
Lat 19.213941°
Long 73.105497°
12/02/22 11:22 AM



Community Welfare Activities

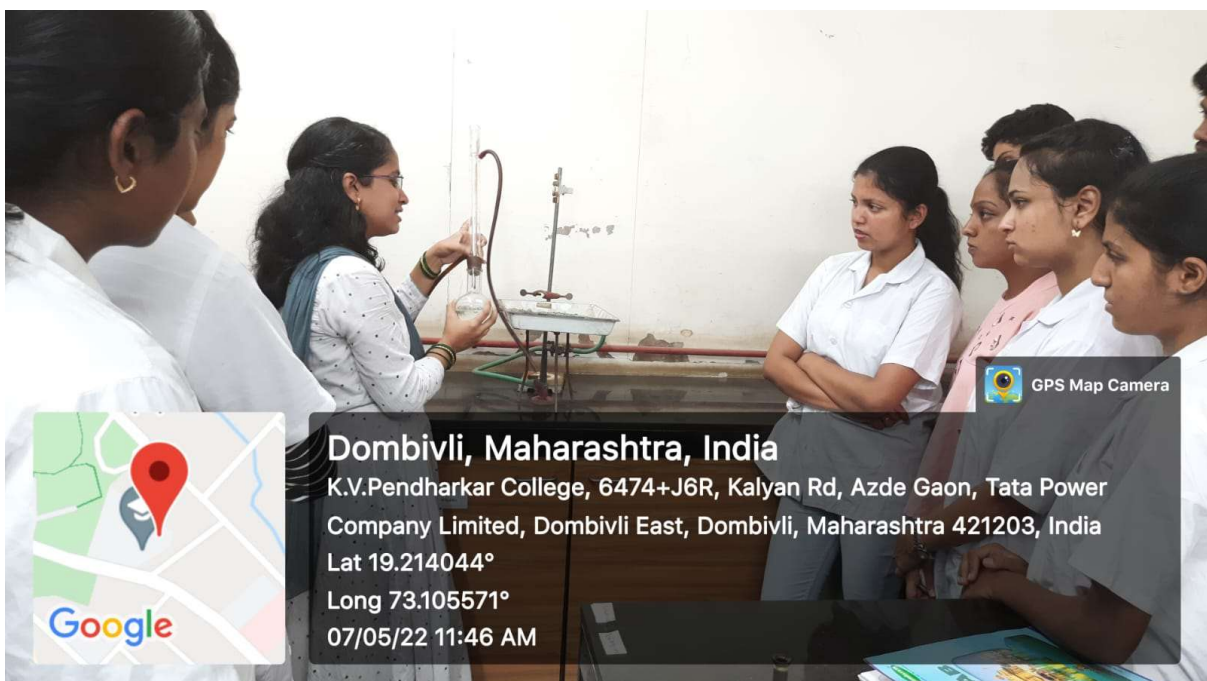
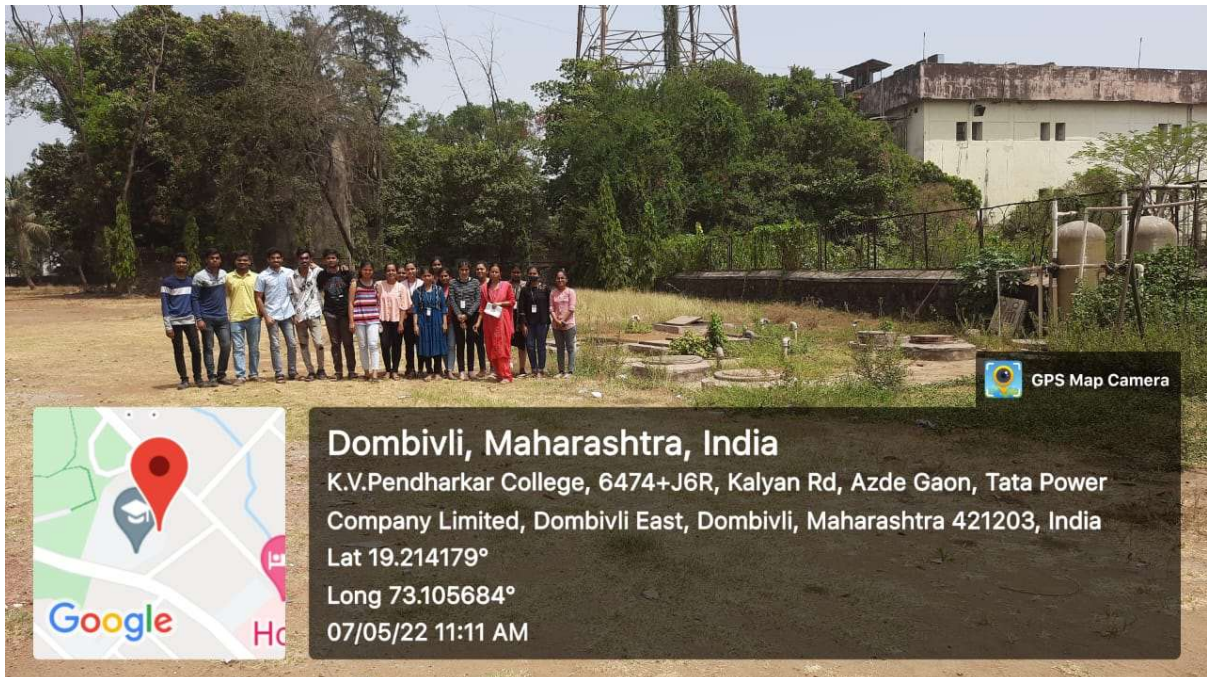
Working Women's Hostel 1989	Day Care Centre 1990
Health Care Centre 1994	Nursery School 1993
Computer Centre 1991	ECCE Program 1995
Library 1974	Scholarship Awards 1998

<https://iwsa.net>

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Long 73.105476°
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Certificate course on Sewage Treatment Plant process



STUDENT'S ACHIEVEMENTS



F. Y. Student (Mrunal Kate) in Sports – Athletics

1. Gold in 100m Hurdle race (5th National Youth Games Championship 2021)
2. Gold in 400m Hurdle race (5th National youth games championship 2021)
3. Bronze in 400m Hurdle race (Senior Annual Athletic Championship)



S. Y. Student (Pratik Gohil) in Sports – Chess



Cultural activity –

F. Y. Student – Sakshi Singh (1st Prize in Singing competition)

T. Y. Student – Roshan George (2nd Prize in instrumental performances)



T. Y. Students – Meena Selvaraj and Pooja Nagaonkar

1st Prize in Model making Competition (Science Association)



Dombivli, Maharashtra, India

K.V.Pendharkar College, Kalyan Rd, Azde Gaon, Tata Power Company Limited, Dombivli East, Dombivli, Maharashtra 421203, India

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