

Material and

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EDITORIAL

Rev.Dr.A.Mary Delphine, Principal

The year 2020 began on a positive and hopeful note. As time went on within two months we have all been affected by the shocking wave of corona which originated in Wuhan City and spread all over not leaving our country too. Heavily affected by this pandemic we had to close institutions and waited in fear for our lives. Could not wait for a longer period our apex institutions started conducting online seminars which made all Professors to be engaged academically and to future benefit. This was a road alternated for regular learning mode. Yes of course we involved in Online classes which was first of its kind in the educational sectors.

In India, around 250 million students were affected due to school closures at the onset of lockdown induced by COVID-19. The pandemic posed several challenges in public and private schools which included an expected rise in dropouts, learning losses, and increase in digital divide. The education sector in India, which was hitherto slow to change, has been witnessing а massive transformation recently with changing job landscape, technological disruptions, demand for quality education and the implementation of National Education Policy (NEP) 2020. The pandemic caused further shocks to the system with schools forced to shut down during the lockdown period, and the transition of students and teachers to online teaching-learning. In India, around 250 million students were affected due to school closures at the onset of lockdown induced by COVID-19. The pandemic posed several challenges in public and private schools which included an expected rise in dropouts, learning losses, and increase in digital divide. The pandemic also called into question the readiness of the systems, including teachers to address such a crisis and sustainability of private schools. However, COVID-19 also acted as a catalyst for digital adoption in school education. With schools reopening in many states, it is important that a careful strategy is built in to smoothen the transition of children back to

school after more than 15 months of home-based learning. This transition has to consider the learning losses which had happened over the previous year as well take a futuristic approach to build a resilient system which can withstand any future shocks. NEP 2020, and subsequent government initiatives such as National Digital Education Architecture (NDEAR) and National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat) are expected to provide a blueprint for this transformation. This situation has brought together policy makers, industry heads, and service providers together on a platform to deliberate on the road to recovery for schools post the pandemic. The impact of the pandemic maps across five themes on the various initiatives undertaken bv governments and civil society organizations to address the challenges:

- 1. curtailing dropouts during and post pandemic
- 2. decline in learning outcomes and well-being
- 3. integration of digital based learning
- 4. the role and capacity of teachers and
- 5. sustainability of private schools.

We need to focus on some important thematic areas of education in the post pandemic period such as path leading to quality relationship between student and educator, systemic interventions redefining the role of teachers as 'edupreneurs', role of digital technology in impacting teaching-learning process, solutions bridging the learning gaps in curriculum, pedagogy and assessments and strategies for ensuring sustainability of private schools. We need to collaborate with all concerned stakeholders on post pandemic recovery of the system of our colleges too with a focus on building an equitable, inclusive, and holistic education system for the country. St.Justin's always stands for quick recovery of the same affected edustem.

TAKE CARE STAY HOME AND STAY SAFE! WE NEED EACH OTHER!

COVID-19 AND ITS IMPACT ON EDUCATION SYSTEM

Introduction:

The current worldwide epidemic has wreaked havoc on one of the most important systems: education. Education is undeniably crucial in contributing to a country's welfare and an individual's growth, but it has been jeopardized by the emergence of Covid -19. It has had a huge impact on the lives of millions of kids. There have been a number of severe targets that have had to be met since the lockdown was implemented. Education was also hampered by the economic crisis, which reduced its output. According to studies, the epidemic has denied almost 32 crore students of an education. This is being referred to as a national crisis, with an increase in unemployment as a result. This article deals with the impact covid 19 has on education.

In March 2020, a nationwide lockdown was imposed, forcing some schools and colleges to close and instructing students to abandon the usual classroom teaching style. This resulted in an immediate increase in innovation and technology, which the teachers used to finish the curriculum. However, due to a lack of infrastructure, productivity suffered. Remote learning was not available in every family; according to the Global internet network research, just 24% of households had a consistent internet connection, while other remote areas remained unreachable. As a result, the government was forced to ensure that sufficient benefits and monetary funds were provided.

Let us not ignore the impact on girls, who have recently begun to defy educational conventions and have been seen dropping out of schools in large numbers. In extreme circumstances, the fall rate of poverty was recorded at 8% of GDP, resulting in additional reasons such as unemployed families who couldn't afford fees and resources being forced to stop their children's education due to debts, and so on. Boys were requested to work as daily wage

employees, while girls were assigned to home chores, prompting the government to ask a series of questions in order to stimulate emergence.

Students initially happy about the virus because there was a lockdown all over India, there were no schools and colleges, had an ash life initially enjoying all day playing games, watching movies right from the morning to the night. At once, an instant of time, there was no movie to watch. Waiting for unlocking situation to meet friends and relatives, still, things are not settled to meet friends and relatives.

Initially Online classes feel better. Where there was a complete change in the situation of the class's atmosphere. After a month came to know that there are lots of disadvantages and advantages to this type of education. Finally everyone came to know that this virus is not a blessing to students but a fore shadow of the student's further life to adjust the online mode of education. This type of online course seen in Software Engineers attending from home and taking time to adjust in college courses.

ADVANTAGES:

There are no significant advantages because there is a huge loss in jobs, lives, and the economy of the Country. But speaking about the children, there are some advantages.

School and Collages holidays:

Students can use their quality time in studying and the other activities in which they are interested. Spend time in the house by not going out and enjoy watch movies and do some craftwork.

Time to spend with family:

Best time to spend with grandparents, cousins, mother, father, and other relatives as there is ample time to spend (if possible, as per government norms). Moreover, everyone is doing working from home. There is no need to step out of the house and meet with relatives you can pick the phone and call them and talk with builds more family relations. Watching a movie along with the family and enjoying it can only happen now at this time. Spend time with parents and explain career planning views and brainstorm them for stepping towards proper feature path.

Saving Time:

Saving time to avoid transportation time, prayer, sports, chatting with friends. Spending five to six hours of quality time for online classes. Whereas in school, spent 10 hours. Getting more time for the self-study if we use it in the proper way to avoid watching movies and playing mobile games

DISADVANTAGES

There are significant disadvantages because there is a huge loss in jobs, lives, and the economy of the Country. The main disadvantages for students are

Online Classes:

In online classes, the adoption rate is around 50-60% whereas in the classroom the adoption was around 80-90%. Online classes affect the eyes of the students due to long hours in front of the blue screen:

Small children like the playschool and the primary grades must not have this type of class because they have low concentration power, and these small kids do not have the ability to sit for a longer time in front of the blue screen.

Lots of poor students do not have access to laptops and computers; all these students are naïve, think there should not be this disparate education.

Surely there are lots of disadvantageous factors like there are no exams; students are being given marks by the internals. This may impact their career in the future. These factors are going to be a fore shadow to the child further life. On this note, want to say that students are missing the days in the schools and colleges. The government can take good decisions on education with clear instructions as early as possible to avoid the situations that occurred during the Covid-19 pandemic.

According to ASER (Annual Status of Education Report), they have demonstrated with verifiable data that parents, even in rural areas, have showed full interest in their children's education despite the minimal resources available to them. As a result, this demonstrates a promising aspect of the educational system in terms of raising government awareness in order to meet their demands. On the plus side, with the increased use of webinars, conferences, and financial aid through volunteer organizations, things have definitely improved over time.

CONCLUSION

The goal was to create a traditional educational environment using digital technology. To get pupils' attention, teachers started creating modules, frameworks, and explanations on whiteboards, similar to how a classroom is set up. One of the sole tasks in the next years will be to take necessary safeguards to safeguard children while also affiliating them with teaching aids, as this creates the groundwork for an upcoming mode of educational growth. Let us hope for the best to come and life rejenuvated.

DR. A. MARY DELPHINE,

PRINCIPAL,

ST.JUSTIN'S COLLEGE OF EDUCATION, MADURAI.

HUMANITY

"You must not lose faith in humanity. Humanity is an ocean; if a few drops of the ocean are dirty, the ocean does not become dirty." – Mahatma Gandhi

When we say humanity, we can look at it from a lot of different perspectives. One of the most common ways of understanding is that it is a value of kindness and compassion towards other beings. If you look back at history, you will find many acts of cruelty by humans, but at the same time, there are also numerous acts of humanity. Here comes an essay on humanity, will take us through its meaning and importance.

Importance of Humanity

As humans are progressing as a human race in the future, the true essence of humanity is being corrupted slowly. It is essential to remember that the acts of humanity must not have any kind of personal gain behind them like fame, money or power.

The world we live in today is divided by borders, but the reach we can have is limitless. We are lucky enough to have the freedom to travel anywhere and experience anything we wish for. A lot of nations fight constantly to acquire land which results in the loss of many innocent lives.

Similarly, other humanitarian crisis like the ones in Yemen, Syria, Myanmar and more costs the lives of more than millions of people. The situation is not resolved anytime soon, thus we need humanity for this. Most importantly, humanity does not just limit to humans but also caring for the environment and every living being. We must all come together to show true humanity and help out other humans, animals and our environment to heal and prosper.

The Great Humanitarians

There are many great humanitarians who live among us and also in history. To name a few, we had Mother Teresa, Mahatma Gandhi, Nelson Mandela, Princess Diana and more. These are just a few of the names which almost everyone knows.

Mother Teresa was a woman who devoted her entire life to serving the poor and needy from a nation. Rabindranath Tagore was an Indian poet who truly believed in humanity and considered it his true religion.

Similarly, Nelson Mandela was a great humanitarian who worked all his life for those in needs. He never discriminated against any person on the basis of color, sex, creed or anything.

Further, Mahatma Gandhi serves as a great example of devoting his life to free his country and serve his fellow countrymen. He died serving the country and working for the betterment of his nation. Thus, we must all take inspiration from such great people.

The acts and ways of these great humanitarians serve as a great example for us now to do better in our life. We must all indulge in acts of giving back and coming to help those in need. All in all, humanity arises from selfless acts of compassion.

Conclusion of the Essay on Humanity

As technology and capitalism are evolving at a faster rate in this era, we must all spread humanity wherever possible. When we start practicing humanity, we can tackle many big problems like global warming, pollution, extinction of animals and more.

SR. DR. M. AMALORPAVAM,

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CHALLENGES FACING BY THE YOUTH IN TODAY'S SOCIETY

Introduction

Most of the problems facing today's youth are not restricted to any one ethnic or religious group, but affect young people generally. Most discussions on youth have focussed on issues such as drug abuse, crime, violence, sexuality and poverty. In addition to these, today's youth is afflicted by new challenges.

These include:

- 1. An Identity Crisis: Who am I?
- 2. Lack of self confidence and low self esteem: I am worthless
- 3. A sense of hopelessness: Where am I going?
- 4. Confusion and ambiguity concerning moral issues: What is right and wrong?
- 5. The negative impact of the electronic media: Entertainment?
- 6. Competitiveness in education: the uneven playing field: *Excellence by whom? Not Me.*

Traditional Society: Historically, the older generation has managed to transmit their beliefs, values, traditions, customs, worldviews and institutions to the younger members of their societies. This was achieved largely because of the impact of agencies of socialization, such as the family, religion and the schools. Today the impact of these institutions has been challenged and undermined by new forces, particularly the internet and the television.

Dominant Culture: We conveniently call on God on special occasions as a mere formality. These questions carry the answer is yes. We are witnessing an erosion of traditional systems and institutions. As such, the family and religion now have a minimal impact on the average youngster. The values emphasized today include individualism, Godlessness, materialism, secularism and rationalism.

The youth is encountering the most serious challenge to his /her faith under the impact of a godless culture of modernity. Religious institutions do not socialize best minds in our society. The emphasis is on competitiveness, academic success, career goals, income and social mobility. Little or no attention is given to preparing tomorrow's leadership. There is no emphasis placed on critical thinking, problem solving. We are preparing followers, imitators' conformists, and not leaders, innovators or problem solvers. The youth is being asked to give up certain family and social values that were an integral part of their identity, adopt in its place a sense of self-alienation, and become a self-estranged imitator of everything "modern". We need to pay close attention to the effects of secularism: confining the role of religion in the private domain of the individual and creating a dichotomy between "religious" and "worldly," between "private" and "public." It denies religion and its mediating institutions any public function and influence in shaping matters of public policy.

Technology: Internet and TV

We are witnessing a phenomenal advancement in technology over the last three decades, and our citizens are experiencing remarkable social and cultural change. This drastic change has generated psychological and social dislocations among many people. Moreover, technology has influenced the way we think about life in general and interpersonal human relations in particular. Certainly, religion should influence all aspects of our life. It regulates our relationship to God and fellow human beings.

When religion is made insignificant and is reduced to one among many other forms of cultural expressions, then meaningful existence and interpersonal relationships that are cultivated by its presence are threatened. In its place personal greed and intensified forms of individuation breed self-centered and "first me" individualism. If these tendencies are not kept in check by concern for the well being of others, as taught by religion, it could lead to a selfserving, ego-centered individual.

Television in particular has gone beyond its mandate to assist the family and the school in providing visual aid and education to the young. It has taken upon itself to appeal to the destructive and disintegrative instincts, to provoke greed, unlimited self-gratification, and absence of moral restraint in its young audience. Religious groups must create alternate avenues for recreation and social interaction. There should be avenues where spiritual and social activities combine to make the average child a whole human being whose life is directed to God. Adults should ensure that he or she benefits and makes full use of the cultural resources of his or her society. This is a delicate task, and much research and brainstorming need to take place before we arrive at solutions.

Education System: There is the need for re-structuring of the education system, so as to minimize competition and rivalry and thereby reduce feelings of marginalization and exclusion among low achievers. Also, there is a need for reform of the curriculum so as to include universally desirable values that are necessary for producing well rounded, balanced and useful citizens. Our present educational system has trivialized religious devotion and gelatinized moral commitment. Therefore, the youth of today does not have the moral guidance to be able to pursue the right course when faced with a moral dilemma.

Family: The parents, consequently, have to assume an active role in the moral development of their children. They need to become fully involved at every stage in the child's mental growth until he/she attains maturity. This involvement includes learning to communicate with the younger generation through their books and reading materials. In addition, there is a need for constructive entertainment and personal involvement in the selection of the types of entertainment (whether at home or outside). This is very critical and almost inevitable since there is enormous pressure on the children from outside their home to participate in undesirable activities. Let us ponder about the undesirable effects of this trend of parental non-involvement and the absence of suitable alternatives.

The main crisis today is about morals. In the freedom struggle, people with a steady income in their profession gave up their jobs and joined Mahatma Gandhi in spite of personal loss to them. It was all missionary zeal. Today, hardly anybody who is reasonably successful in his vocation would like to leave that and join politics and public life. The result is all the political parties are saddled with people for whom politics is their main business. Government and not a first class one. In the Western countries, also there is corruption. However, the public at large is not affected because the police, the courts, schools, hospitals, etc. do not extort money from the poor man. Corruption is confined to the higher echelons. In India, there is corruption at the higher level for the mutual benefit of the corporate sector and politicians and extortion at the lower level where the hapless common person has to pay to get even his rightful job done.

Until politicians are blatantly corrupt, the bureaucrats' right from the secretary level to the clerks makes money and a corrupt politician cannot obviously act against them. If all this continues as it is, democracy itself will be in danger. Everyone is aware and accepts the fact that India is undergoing a crisis and it is affecting the citizens of the country indirectly. We are facing a down surge in our economy as well as the moral grounds. We have different groups of people who believe the moral and economic crisis. We can check through a few points in favor of both the concerns that have hit our country.

Conclusion: In closing, we have to recognize that we have a serious challenge on our hands: to ensure that today's children (tomorrow's adults) would experience a better world than we are living in today. We also need to concentrate to rectify the wear and tear of these crises which have caused on the pride and reputation of our beloved nation

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ASST. PROF. IN EDUCATION,

ENERGIZING AND ENLIVENING THE ONLINE CLASS



Tips and Techniques to increase the effectiveness of online teaching

BUILD A STORYLINE – Our textbooks sound dry and uninviting to students because they take no effort to build an interesting premise before introducing a topic. Now that you have the freedom to experiment, try hooking the students with an engaging story built around the topic. For instance, before beginning a lesson on the center of gravity, why not show a visual story around the gravity defying leaning Tower of Pisa?

CLASSROOM FLIPPING – That's the technical jargon for putting the cart before the horse. That is, homework comes before the class, not after. Students are given a topic to prepare in advance. You could set up small groups, similar to traditional student groups, similar to traditional study groups, for supportive mentoring of fellow learners. Point them to appropriate reference material and clearly define your expectations. Now the online class becomes a discussion forum, so it increases participation. You can reserve actual in-class time to put what they have learned to test with teacher-guided activities such as debates, problem-solving, in-depth discussions, quizzes.

PRE-RECORDED VIDEO LECTURES – Instructional parts where the teacher is communicating one-way can be video recorded beforehand. Keep it short, stick to a clear, concise topic. And walk around the room to your heart's content! When you play the video in class, you can just sit back and watch what the students are up to. Interruptions will not disturb your thought flow either. It might sound like extra work, but saves the teacher a lot of stress during the actual class.

OUT OF CLASS ENGAGEMENT – Now that you have the online plunge, might as well go the whole hog! Sharing interesting and educational posts on online discussion forums is one way of doing it. Learners can also post to request assistance from each other, developing peer-to-peer support. Leverage the power of social media to increase engagement with student groups. Their methods may be more effective in gauging the students' understanding when compared to the traditional class test. You can start a class blog which will be a collective document prepared at the end of the lesson. Collaborative editing by the students, review and approval by the teacher. Ready reckoner for the exams, no more last minute scrambling!

MIXED MODE OF INSTRUCTION – Online classes do not have to be just video calls. Instructional videos, slide shows, audio voice-overs, live demonstrations, play acting, group discussion, gaming, puzzles – take your pick, whichever works best for the topic under discussion. Make sure your content is mobile friendly as most students in India use their mobile phones and not laptops connecting to the class. Gaming for educational purposes is a promising prospect that the Prime Minister touched upon in one of his 'Mann Ki Baat' sessions, (more on this later).

VLOG – Vlog simply means Video Blog. A free format video that can be a mix of infographics, voice-overs, video snippets, animations, anything. The Microsoft Movie Maker software that comes free with Windows is good enough for starters. Apple Mac users can use the iMovie tool. Fillmora is a good option (not free) for more sophisticated videos.

PPT TOOLS – MS PowerPoint, Google Slides, Slide share, Prezi is all useful options for slideshow presentations.

INFOGRAPHICS – A combination of descriptive points along with pictures, graphs, statistics, real world examples. Powerful and concise, as compared to lengthy worded explanations.

ONLINE WHITEBOARD – Create software is a good example of a collaborative whiteboard. You can plan, brainstorm, analyze or design any subject together with the students.

MRS. M. RETHI,

LIBRARIAN.

EDUCATION 4.0: NEW CHALLENGE OF LEARNING



Introduction:

The dynamic fast changing world has led to a transformation from agricultural society to industrial society, with more advancement in information technology and innovation that is named as the Economy 4.0 era. Therefore, it is vital for the youth to keep pace with changes in order to be competitive. The learner needs to have the skills and abilities to respond to the current social changes. This is a new challenge to re-define the new Education 4.0, to identify the intelligent people, who are creative and innovative. It is a challenge for the learner to seek the learning outcome with regard to the learning management by the teacher.

At present the economy is undergoing phenomenal transformation. Since from the industrial revolution, there has been the wide array of information and communication technology, which play an important role in daily lifestyle, and creating digital society. The new pace of virtual world brings a sea change in the lifestyle of the people from reality. Since it has become the digital society, it creates changes in the lifestyle of people irrespective of distance, time and places. It connects everyone globally with wider vision and keeps updating faster. People must live together among the new social media environment, and it is essential to be aware and knowledgeable about the social media. Besides this, the work and structure of the organization would also change. Life would be more attached to the machinery with more advancement in its functions and programs.

Education 1.0 responded to the need of the agricultural society. The knowledge is transferred from the teacher to the learner, using the concepts and comprehensive study would take place. The learner follows the teacher who focused on explaning as the main method.

Education 2.0 responded to the requirement of the industrial society with the concept of teaching to learn rather not much about being creative. The learning management focused on learning the technology is to use as tools in the work.

Education 3.0 addressed the need of the 'technological society'. It creates knowledge by supporting self-learning. Education in this era uses learning technology in forms of teaching materials, digital media and social media. It focuses on interactive learning. This learning management empowers students to generate knowledge, not merely to consume.

Education 4.0 is a purposeful approach to learning that lines up with the fourth industrial revolution and about transforming the future of education using advanced technology and automation. Creativity is the foundation of Education 4.0. It emphasizes the need to prepare students to take on challenges, head-on. Education 4.0 is catering to the need of the society in **'innovative era'**.

Therefore, Education 4.0 will be more than just an education. Hence, learning management must respond to the changes in social and economic environment to cater the human capital need. There must be a change in learning management, which is not attempting to build up the skills in the 3 R's of reading, writing and arithmetic's, to produce good and clever youth to live in a happy society rather it must also create the quality and skills responding to Education 4.0.

The required skills:

Learning management, responding to Education 4.0 is with a purpose to build the individuals for being ready to be creative and innovative. Therefore, the required skill for the youths covers the life skills and the skills of creating innovation. The life skills or the innovative skills to live in the era of Education 4.0, besides possessing 21st century skills which consist of leadership, collaboration, creativity, digital literacy, effective communication, emotional intelligence, entrepreneurship, global citizen, problem- solving and teamwork. It has also to include the skills of building an intelligent nation or intelligent people who are critical thinking, creativity and innovation, cross-cultural understanding, information and media literacy, career and learning skills management empowers students to generate knowledge, not merely to consume

Today, it is the digital society where the lifestyle has changed, learning management should respond to the changing behavior of the learner. That is, to redefine the education in order to respond to the innovative society or Education 4.0. Therefore, it is not enough to define the education for 21st Century Skills only, but also to consider the learning management in the aspect of Social & Virtual Learning; that the graduates will become intellectuals and eventually that would help to build an intelligent nation

Challenges:

To develop youths to use new technological applications for using intelligent agents, Mobile technologies, Cloud Computing and services it is very essential to search for new approach and ways in learning management; addition to the learning management of 21st Century Skills. Many concepts of the learning management for the 21st Century Skills are still very interesting or could be used. The concept of the learning process such as being in the real situation of working in the plant, there are 4 ways: 1) Critical-Based Instruction, 2) Creativity-Based Instruction, 3) Productivity-Based Instruction, and 4) Responsibility-Based Instruction.

Educational management is adopted with 21st Century Skills, together with the Social & Virtual Learning, would be facing different issues and obstacles. Still, it is difficult to confirm whether it is successful; hence it remains as a challenge. Also, another challenge is the ability of the learner to seek the learning outcome and suitable approach for learning further.

Conclusion: Today, it is the digital society where the lifestyle has changed, learning management should respond to the changing behavior of the learner. That is, to redefine the education in order to respond to the innovative society or Education 4.0. Therefore, it is not enough to define the education for 21st Century Skills only, but also to consider the learning management in the aspect of Social & Virtual Learning; that the graduates will become intellectuals and eventually that would help to build an intelligent nation.

DR. D. VANI MAHESWARI

ASST. PROF. IN MATHETHEMATICS EDUCATION

ACHIEVEMENTS IN DIFFERENT FIELDS THAT MAKES INDIA A PROUD NATION

The Republic of India turns 69 this year, and ever since, India's road to being a developed nation is certainly one for the books. As patriotism fills the air on this day, we take a look at the many milestones we have achieved along the way, and look forward to the ones that await us in the future.

Agriculture

Primarily being the agricultural land, today, India is the largest producer of milk with 18 % of world production, second largest producer of rice, over 100 million metric tonnes, wheat over 90 million tonnes, sugar 25 million tonnes, fruits and vegetables over 200 million metric tonnes.

- India is the largest producer of cotton with a production of 6.51 million tonnes of the fibre.
- Besides, it is a significant producer of a variety of spices, plantation crops, poultry, and fishery products. While beef may be banned in many parts of the country, India is the highest exporter of beef in the world.

Science and Technology

Ever since Independence Modern India has had a strong focus on science and technology, realising that it is a key element for economic and social growth.

- Mangalyaan India's first aircraft to Mars entered Mar's Orbit on September 24, 2014, making India the first Asian country and only the fourth country in the world to enter the Mars orbit in its first attempt.
- India successfully launched Chandrayaan in 2008 in order to explore the moon. The craft was inserted into lunar orbit in its first attempt. One of the greatest achievements of Chadrayaan was the discovery of the water molecules in the lunar soil.
- Indian company Hero MotoCorp is the world's largest manufacturer of two-wheelers.

Infrastructure

The foundation of Infrastructural development was laid down during the British Raj. Most of the historical monuments were built during their rule.

- As of June 2018, India has 37 heritage sites, the sixth most of any country. Few of the sites include: Western Ghats, Forts at the foothills of Rajasthan, Kaziranga national park, Sun Temple and many more.
- Country's first Solar Park came up at Charanka village in Gujarat in April 2012. The park at Charanka is spread across 5,000 acres, and has 500 MW of generation capacity of both solar and wind energy.
- The Western Ghats are considered as one of the eight "hottest hotspots" of biological diversity in the world. The range starts from Gujarat and is approximately 1,600 km long and ends at the southern tip of India in Kanyakumari. The area plays host to around 5,000 species of flowering plants, 139 mammal species, 508 bird species, 179 amphibian species and 288 freshwater fish species.
- The Indira Gandhi International (IGI) Airport in Delhi won the Best Airport award from the Airports Council International within 25–40 million annual passengers category in 2015. It also bags two awards for The Best Airport in Central Asia/India and Best Airport Staff in Central Asia/India at the prestigious Skytrax World Airport Awards.
- Indian Railways are one of the largest railway networks comprising 115,000 km that carries more than 23 million passengers daily from one place to another.
- India has the largest postal network in the world. With 1,55,618 post offices and over 5,66,000 employees.

Social and health

While the life expectancy was around 37 years in 1951, it almost doubled to 65 years by 2011. There is a steady decline in Infant mortality rate marked with death rate coming down to half of what it was during the 50s. A similar improvement has been noticed in the maternal mortality rate.

- India's last polio case was reported in West Bengal in January 2011 Since then no other such case has been reported. In March 2014, The World Health Organisation certified India- a polio-free region.
- The Mid-Day meal scheme of Government of India is the world's largest scheme for kids serving 120,000,000 children in over 1,265,000 schools across the country.
- India reduced its "out of school" children by over 90 per cent and achieved "universal primary education" in 2015.
- One of the major achievements of the decade was the approval of the Right to Education bill that was passed on July 2, 2009. The RTE Act makes education as a fundamental right of every child and bridges the gap between different classes of society. It requires all private schools to reserve 25 percent seats for poor children.
- In 2002, RTI act was passed which aims "to provide for setting out the practical regime of right to information for citizens" RTI is active in all states and union territories of India except Jammu and Kashmir.

Sports

When it comes to sports, the first thing that strikes our mind is cricket and Sachin Tendulkar. But there are other people who have been making India proud in sports apart from cricket.

- In 2008, Abhinav Bindra created history by bagging gold in men's 10m air rifle event at the Beijing Games. His gold remains the country's first and only individual gold medal till date.
- While we all remember the 2010 Common Wealth Games held in Delhi for all wrong reasons. What we don't remember is that we won 101 medals, including 38 gold, and acknowledge the hard work put in by the athletes. For the first time in the history of the Games, India won over 100 medals in total and stood in the second position, after Australia.
- Pankaj Advani, the only Indian who has dominated the world billiards for several years now and has won 16 world titles.
- PV Sindhu achieved the Silver medal in the World Badminton Championships in 2017 where she lost by a whisker to Japan's Nozomi Okuhara. She has reached an all-time

high of 2nd ranked women badminton player. She also became the first Indian woman to win a silver medal in the Olympics, at the 2016 Rio Olympics.

- 10-year old R Pragganandhaa became the world's youngest International Master in chess.
- Vijendra Singh in 2008 Olympics won the Bronze medal and blessed India with first ever Olympic medal in boxing.
- India has been part of 5 men's Kabaddi World Cups held till now and have won all them. The Indian women's team has also won all Kabaddi World Cups held until date.

Politics

India was the first country in South East Asia that decided to have a democratic form of government soon after the independence. The first general elections were conducted in the year 1951 with Universal Adult Franchise.

- India was the first ever country to grant voting rights to women without any discrimination.
- So far, India has witnessed 16 major bloodless changes of power (Lok Sabha) at the Centre. It shows the strength of democratic values of the people of this country.
- India has the largest number of elected persons in the world, thanks to Panchayati Raj system across the country.
- India is among the very first countries to have a woman head of state (Indira Gandhi).
- Women participation in the Indian politics has been the highest. They have held high offices including that of the President, Prime Minister, Speaker of the Lok Sabha and Leader of the Opposition. One of the five major states has women chief ministers.

SR.MARTHAL

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NOMOPHOBIA

Nomophobia or 'no mobile phone phobia' describes the fear of being without or unable to access your smartphone. The symptoms of nomophobia have a lot in common with smartphone addiction – a dependence syndrome and clinical addiction. Nomophobia and smartphone addicts spend an excessive amount of time on their devices. And this has the propensity to negatively impact all aspects of their lives, notably their relationships and work/life balance. Smartphones are designed to make our lives a lot easier – there's now an app for pretty much everything, but the evidence is starting to stack up that the very devices that are made to make our day-to-day lives simpler, over-complicate them when overused.

Many would argue that our modern phones are *necessary evils* to keep us safe and contactable in emergencies. However, we believe the separation anxiety experienced by smartphone users has less to do with staying safe in emergencies, rather more to do with a FOMO (fear of missing out) on the latest happenings online. Interestingly, the guests on our retreats always say that they missed *virtually nothing* when they turned their phones back on after unplugging for a few days...

Symptoms of Nomophobia

A phobia is a type of anxiety disorder that is characterized by an irrational fear of an object or situation. In this instance, the fear is of being without a phone or being out of the reach of cell phone service.

While nomophobia is not a clinical diagnosis, some of the symptoms that are commonly identified as related to this fear include:

- The inability to turn off your phone
- Constantly checking your phone for missed messages, emails, or calls
- Charging your battery even when your phone is almost fully charged
- Taking your phone with you everywhere you go, even into the bathroom
- Repeatedly checking to make sure that you have your phone
- Fear of being without Wifi or being able to connect to a cellular data network
- Worrying about negative things happening and not being able to call for help
- Stress over being disconnected from one's online presence or identity
- Skipping activities or planned events in order to spend time on the mobile device

Characteristics of Nomophobia

The fear of being without a phone center on:

- Not being able to communicate with others
- Feeling generally disconnected
- Not being able to access information
- Giving up a convenience

Causes of Nomophobia

- A fear of isolation may, understandably, play a part in the development of nomophobia. If your phone serves as your main method of contacting the people you care about, you'd most likely feel pretty lonely without it. Not wanting to experience this loneliness can make you want to keep your phone close at all times.
- Another cause might be a fear of not being reachable. We all keep our phones close if we're waiting for an important message or call. This can become a habit that's hard to break.
- Phobias don't always develop in response to a negative experience, but this does sometimes happen. For example, if losing your phone in the past caused significant distress or problems for you, you might worry about this happening again.
- Your risk for developing nomophobia may increase if you have a close family member who has a phobia or another type of anxiety.
- Living with anxiety in general can also increase your risk for developing a phobia.

How is it diagnosed?

If you recognize some signs of nomophobia in yourself, it can help to talk to a therapist. Frequently using your phone or worrying about not having your phone doesn't mean you have nomophobia. But it's a good idea to talk to someone if you've had symptoms for six months or longer, especially if these symptoms:

- are frequent and persist throughout your day
- hurt your work or relationships
- make it difficult to get enough sleep
- cause problems in your day-to-day activities
- have a negative impact on the health or quality of life

There's no official diagnosis for nomophobia, yet, but trained mental health professionals can recognize signs of phobia and anxiety and help you learn to cope with symptoms in a productive way to help overcome their effects.

Coping

If you think you have nomophobia or feel that you are spending too much time on your phone, there are things that you can do to better manage your device use.

- Set boundaries. Establish rules for your personal device use. This might mean avoiding your mobile device at certain times of the day, such as during meals or at bedtime.
- **Find a balance.** It can be all-too-easy to use your phone to avoid face-to-face contact with other people. Focus on getting some personal interaction with others every day.
- Find other ways to occupy your time. If you find that you are using your phone excessive out of boredom, try looking for other activities to distract you from your device. Try reading a book, going for a walk, playing a sport, or engaging in a hobby that you enjoy.

SR. SASIKALA ASST. PROF. IN EDUCATION

AN A-Z OF CLASSROOM MANAGEMENT AND RELATIONSHIPS

Animate yourself/ your learners/ your material. Bring real-world examples and experiences into your classroom. Contextualize, conceptualize and clarify. Develop recognition of, and recording of, collocations. Empathize equally. Foster cross-cultural exchanges. Group learners with imagination and variety. Help the students to help themselves. Include the excluded. Justify unpopular classroom decisions. Keep the students on their toes. Let communicative activities run their course. Motivate intrinsically. Nodding is not proof of comprehension. Opinions are more than 'it depends'. **P**repare plans Bs, Cs and Ds Questions questionable grammar rules. **R**ecycle and revise. Silence should not be mechanically filled. Test teach test. Test teach test. Test teach test. Use the students as your primary resource. Vary your lead-ins, your interactions and your feedback. Write student-teacher and teacher-student contracts. Xtra enthusiasm on Monday mornings. You are a different type of teacher from the ones they are used to; show them why.

Zigzagging is often a more interesting path to follow than the mechanical A to B.

MRS. D. THILAGAVATHI

ASST. PROF. IN ENGLISH EDUCATION.

தனிமரம் தோப்பாகாது

இயற்கையின் இரைப்பையை நாளும் அழித்துவரும் மானுடத்திற்கு,

இயற்கை அளிக்கும் எச்சரிக்கை மணியாக இந்தப் பழமொழி அமைகின்றது.

இவ்வுலகம் அனைத்து உயிர்களுக்கும் பொதுவானது.

ஆயினும் மனிதனின் ஆதிக்க உணர்வு இயற்கையை மாய்த்தும் தேய்த்தும் வருகின்றது.

மனிதகுலம் இயலாமையில் இன்னும் சில காலங்களில், இயற்கையின் அழிவால் போவதில் துன்புறப்போகும் சூழ்நிலை உருவாகப் ஆச்சரியமொன்றும் இல்லை. அப்போது காலம் கடந்திருக்கும் மரங்கள் இறந்திருக்கும்

மனிதன் மட்டும் தனியாளாய்த் தவமிருப்பான் மாற்றங்களின்றி!

திருமதி.ச.மணிமேகலை தமிழ்துறை உதவிபேராசிரியா்

TEACHING ONLINE.....

Tabs and Windows,

Screens and Apps;

Desktops in front,

Laptop on laps.

Network and Wi-Fi

Mouse and pad;

Teachers today,

Are really going mad!

Zoom and G.meets,

Online meetings,

Dull and Yawning faces,

No smiles, no greetings.

Docs and Slides,

Sheets and Presentation;

Begging online,

to pay attention.

Quiz and exams,

Papers and test,

Smart generation Fooling at their best! Children abandoned,

The Family left;

Angry glances,

Still couldn't disconnect!

Deadlines and Pressures Papers and Submission; Swollen eyes, aching backs,

a lot of exertion.

Beeping messages

Untimely call;

Yet, a real teacher

is always standing tall...!

Modern generation,

Modern aspect,

Can we teachers

get little Respect....????

MRS. L. VINNARASI,

ASST. PROF. IN MATHEMATICS EDUCATION.

SCIENTIFIC ATTITUDE: THE MOST IMPORTANT OUTCOME OF SCIENCE EDUCATION

Science, of all human endeavors, is one of the greatest adventures. Its job is to explore nature and its unknown regions. It probes the greatest mysteries of the universe, such as black holes, galaxies etc,. "Science is, actually, a way of thinking, a vital, ever-growing way of looking at the world". Scientific attitude does not mean ridiculing the achievements of the past, most of which were enshrined in ancient literature, but studying them with a critical mind to solve and appreciate Similarly, it also doesn't mean that one should blindly accept all that had been stated in such literature, which goes against the principles of scientific temper and attitude.

Nature of science

Science is both a product, i.e. an accumulated and a systematized body of knowledge and the process of acquiring and refining knowledge through scientific methods and scientific attitudes. Therefore the facts are only part of science; beyond them is an attitude towards fact – finding and knowledge in general. Given this attitude, we can learn to use the rational techniques of thinking that have come to be associated with science.

Attitude is defined as "predisposition to respond in a particular way towards a specific class of objects". They are not directly observable or measurable. Instead, they inferred from the way one reacts to a particular stimulus. Attitudes are learned and acquired. First, they are inculcated and later modified; therefore knowledge of the mechanism of developing them young people is very important. The home is the first institute from where the child acquires attitudes. Acquisition of attitude is also due to the influence of other social institutions, such as school and other external environment. So teachers and parent play a very important role in this process.

Scientific attitude

Scientific attitude is the most important outcomes of science education. Science education in the schools helps in establishing a scientific and literate society, a society that is innovative and forward looking. Therefore, by possessing positive scientific attitudes and attitude towards science the children will have a strong tendency to embark themselves in science related careers. Attitudes are learned either actively or vicariously and, therefore, can be

taught, hence the importance of the scientific attitude in curriculum and of science in school education cannot be overlooked,

The Directorate of Extension Programs for Secondary Education, Government of India, in its brochures on evaluation of in general science, set some of the objectives of teaching general science in school as follows:

- The student should develop the power of minute observation of their surroundings.
- The students should develop the scientific method of thinking and action.
- The students should adopt the scientific attitude in making statements, accepting information and forming beliefs.

Science education is, therefore, an integral part of education at school level and the main aim of science education is to develop a scientific attitude among the students. Scientific Attitude is just a setting of mind and a way of life according to certain principles. It does not come with mere study of physics, chemistry or any other branches of science. It is developed when Science subjects are taught as discipline of mind.

If scientific Attitude is developed children will live, think and work accordingly. It makes the people live as effective citizens in the present scientific society. It also helps the people live up to their satisfaction and expectation.

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BIOCHEMISTRY OF CHROMATOPHORES AND BIOLUMINESCENCE

INTRODUCTION

There are well documented instances that many animals change colour and they do so by the movement of pigments within certain integumentary cells (chromatophores) or organs. All the animals, however, do not show colour changes. Animals which are able to change colour are found both invertebrates (cyclostomes, some fishes, amphibians and reptiles) and invertebrates (leeches, polychaets, higher crustaceans, certain insects, cephalopods and echinoderms).

It was Aristotle, in the fourth century B.C., who was the first to describe colour changes in Chameleon and Octopus. It was earlier thought that the colour change in the animal are under nervous control but it has been proved in almost all the colour changing animals that the mechanism of colour change is under hormonal control.

Chromatophores

Colour change in animals is a physiological phenomenon. Almost all multicellular animals are characterized by a distinct colour or colour pattern present in their skin. This skin colouration is due to special pigment cells or the ability to change colour by movements of pigments within certain integumentary cells or organs are known as chromatophores.

In some cases pigmentation is static, whereas in some cases the colouration changes temporarily under certain selection of pressures. The pigment cells or chromatophores are placed near the surfaces which upon movement impart the changing pattern of the skin.

UNIT OF COLOUR CHANGE THE

The unit of colour change is a chromatophore. They are special pigment cells located in the skin or often even in certain deeper tissue of the body. These cells have the ability to bring about redistributions or dispersion of the pigment within their cell bodies.

When the pigment in the chromatophores are contracted, the colour of the integument is "light, but when they are expanded they impart deep colour to the animal. When the pigment in the chromatophores are concentrated the integuments of the animal look blanched, white on the other hand, if the pigment is dispersed the animal looks coloured.

Besides the above mentioned phenomena, the amount of pigment in the pigment cells is also responsible for the colour of the integuments. thus, in short, the colour of the skin can vary depending upon the physiological conditions of chromatophores.

DEPENDING UPON WHAT TYPE OF PIGMENT IS PRESENT IN THE CHROMATOPHORES THEY CAN BE DIVIDED INTO FOLLOWING CATEGORIES:

SHOWING COLOUR OF INTEGUMENT DEPENDING UPON THE PHYSIOLOGICAL CONDITIONS OF CHROMATOPHORES.

Sl.no:	LIGHT OR BLANCHED	COLOURED INTEGUMENT
	INTEGUMENT	
1	Pigment in chromatophores condensed.	Pigment in chromatophores widely
		dispersed.
2	Chromatophores contracted.	Chromatophores expanded.
3	Amount of pigment in chromatophore	Amount of pigment in chromatophore
	decreased.	increased.

MECHANISM OF ACTION INVOLVED IN CHROMATOPHORES

Chromatophores are either located in the skin or sometimes in the deeper tissues of the body. The colouration of the body is influenced by dispersion or accumulation of the pigment. Two major types of chromatophores have been identified. One of these is confined to the cephalopod molluscs. Here the organ is a small sac-like cell containing pigment granules with radiating muscle fibres. The muscles are attached to the membrane of the cell. The shape of the pigment mass undergoes quick change by contraction and relaxation of the muscle to produce colouration. The second type of chromatophores are commonly found in colour changing species. In this case there is an irregularly shaped cell or sometimes a syncytium containing pigment granules. The shapes of the chromatophores are also variable.

On the bases of colour and biochemical nature of pigments, chromatophores are of following kinds. They are,

<u>MELANOPHORES</u>: The most comman and well-studied chromatophores are the melanophores. They contain brownish-black pigments melanin and are, therefore, called melanophores.

XANTHOPHORES: They are the chromatophores which contain yellow pigments.

ERYTHROPHORES: They are the chromatophores which contain red pigments.

LEUCOPHORES: They are the chromatophores which contain white pigments.

<u>GUANOPHORES</u>: They are the chromatophores which contain refractile guanine type crystals.

Depending upon as to whether one or more than one pigment is present in the chromatophore of a given species they can be divided into-"monochromatic, dichromatic or polychromatic chromatophores. Depending on the duration of response colour changes have been classified into two types:

1. Morphological colour changes

2. Physiological colour changes.

1. Morphological colour changes are generally accompanied with increase or decrease in the number of chromatophores and the quantity of pigment synthesized or destroyed. The response usually requires a particular time and that is why the change is rather a slowly adapting and longer lasting one.

2. **Physiological colour changes**, on the other hand, are quick colour responses effects through the movement of pigments within chromatophores. This process helps quick colour adaptations which are easily alterable and temporary in nature.

Under electron microscope the chromatophores appears as a uninucleated structure with cell membrane thrown into many branches. The type of branched outline of chromatophores is easily observable when it is in punctate, i.e., fully concentrated stage. During response the shape of the chromatophore remains unchanged, only pigments in it undergo migration of different magnitudes.

BIOCHEMISTRY OF CHROMATOPHORE

Biochemically, pigment in the melanophores of vertebrates and brachyuran decapods is melanin. This pigment is brown or black and can be extracted from tissues with boiling alkali. It is probably polymerized indole quinones formed by the action of tyrosinase on aromatic amino acids, especially tyrosine.

The red and yellow pigments are carotenoids in all animals except cephalopods.Primarily they are synthesized by plants and animals obtain them through diet and on oxidation they are converted into the pigments. Thus, Astaxanthin is probably the most common chromatophoral carotenoid in crustaceans. It also occur in the erythrophores of a number of fishes.The pigment in the leucophores of Rana pipiens is guanine.Yellow,orange and brownish-violet pigments are found to be ommochromes,exhibiting a reversible redox colour change in solution from yellow-brown oxidized to wine red reduced.Thus,different chromatophoral patterns may be due to different oxidation-reduction stages,polymerization or conjugation with proteins of a single ommochrome.

Generally, a single chromatophore contains pigment of only one colour. When many chromatophores with pigment of one, two or more colours cluster together they form an organchromatosome. Monochromatic chromosomes consist of two or more cells containing pigment of one uniform colour. Polychromatic chromatosome is another term used for a chromatosome with chromatophores having pigment of different colours. During colour response a pigment may be concentrated into a smaller ball (punctate), thereby the animal appears pale or may disperse (reticulate) giving a definite colour pattern to the body. Between punctate and reticulate stage, three stages of intermediate patterns of pigment distribution have been identified. They are punctate-stellate, stellate, stellate-reticulate. The shade imparted to the body of an organism by the chromatophore system depends on :

- 1. The number of chromatophores involved in a response
- 2. The colour of pigment each type of chromatophores contains
- 3. The degree of dispersion or concentration of the pigments.

FACTORS CONTROL OR INFLUENCING CHROMATOPHORE SYSTEM

The chromatophore system of animals is influenced by various factors. The response may not be the same in all the animals with the same type of stimuli; it varies from animal to animal. The various factors which may influence the chromatophores are many, but light seems to be the most important.

LIGHT

Light is the most important and primary environmental factor that has a marked influence on the chromatophore system. Light mainly excites either eyes or some other receptors situated in the integument or both. These structures send afferent impulses to the brain. Brain influence chromatophores situated in the integument of the animal either by efferent nerves supplying them or by releasing certain hormones which have influence on them. In general, we may distinguish two types of response of light.

PRIMARY RESPONSE

Colour changes which are produced under the influence of light through routes other than the eyes are called primary response, and are present even if the animal is blind folded. This is mainly due to direct reaction to illumination of the skin. It is generally manifested as a dispersion of the pigment in those chromatophores that principally determine the colour of the animal. Primary responses are due to direct influence of light on the chromatophores and is most marked in Chaemeleon.

SECONDARY RESPONSE

Colour changes which are controlled by way of eyes are known as secondary responses. The type of colour of an animal will acquire in a given intensity of light depends on the ratio of the amount of light directly falling on the eyes from above to the amount of light reflected from the background on which the organism resides. Thus, on an illuminated black background where the ratio is large, the animal initiates dark colouration, on the other hand if the animal is placed on
illuminated white background where the ratio is small, the animal becomes blanched or less coloured.

Besides the light, background also effectively alters the state of chromatophores. Thus ,on an illuminated black background , the animal becomes darker than one on an illuminated white background. The ratio of incident light intensity/reflected light intensity is called as albedo response. The ratio is large on black background than on white one, as in the second case more light is reflected. These background responses are prominently evident in crustaceans and fishes.

Thus, both light intensity and colour of the background act together in bringing about colour changes and enable animals to resemble their background—a defence mechanism. Besides adapting to the white and black backgrounds, some animals have the ability to change their colouration to match red and yellow backgrounds as in Cragon. Palemonetes will change its colour within a few days to accord with black, white, red, yellow, blue or green backgrounds.

2. TEMPERATURE

Generally, low and high temperatures induce darkening and lightening responses respectively. For example, in Hyla low temperatures induce darkening while at higher temperatures there is a concentration of dark pigment with subsequent lightening of the body. Among invertebrates the results are not consistent; arthropos like Callinectes and Palaemonetes lighten with rising temperature while shrimp, Macrobranchium, darkens both at high and low temperatures Similar lightening response is exhibited by the isopod, Idothea and crabs Uca and Hippolyte. In general, these responses are found to be thermoregulatory.

3. HUMIDITY

The frog, Rana, darkens in a damp environment and lightens in a dry one. In the insect, Caraussius, high humidity induces darkening.

4. **<u>PSYCHICAL STIMULI</u>**

The chromatophores of some animals are influenced by psychic state. If a squid is excited, it shows extraordinary play of colours. The changes take the form of waves of colours passing smoothly and rapidly over the surface of body. Reptiles and some fishes also show characteristic colour changes when excited. The frog, Xenopus, darkens during excitement.

5. DIURNAL RHYTHMS

One of the characteristic features of chromatophore system is the daily rhythm in movement of pigment within the chromatophores. Such cyclic colour change that occurs during the day and night is called as diurnal rhythm which is evident in almost all animals possessing well developed chromatophore system.

In general, the animal becomes dark during the day (due to the pigment dispersion) and pale during the night (due to the pigment concentration). However , a number of exceptions to this generalization exist.

FUNCTIONAL ORGANISATION AND CONTROL OF CHROMATOPHORE SYSTEM

IN INVERTEBRATES

1. ANNELIDA

Certain annelids becomes pale when kept in darkness and dark when illuminated. This is observed in the "polychaete, nereis, and several leeches. However, none of these forms show any response to the background. The rhynchobdellid leech, Placobdella parasitica (common parasite on turtles), possesses three types of pigment cells. They are, brownish and white coloured pigment, yellowish granular pigment, and dark greenish pigment.

2. Echinodermata

The sea urchin becomes lighter in colour on transfer from light to darkness. These physiological colour changes require about one to two hours for full response. The chromatophores in these animals contain reddish-brown pigment which concentrates in the dark adapted and disperses in the light adapted individuals.

3. MOLLUSCA

Among different classes of molluscs, only cephalopods have well developed chromatophore system . Structurally, a chromatophore is a uninucleated flattened sac containing pigments of different colours like yellow, orange, red, red-brown, blue-violet-black and black. Whenever radial muscle contract, they exert traction on the pigment cell and cause it to expand; when they relax again pigment cells shrink to their original size. The substances, tyramine and betaine are present in the blood of cephalopods. The tyramine like adrenaline darkens the animal. Whereas, betaine like acetylcholine appears to lightens the animals. Eg.Loligo.

4. INSECTS

Number of insects changes their colouration in response to external stimuli; morphological colour changes dominate physiological ones.

Many butterfly pupae are darker at low and lighter at high temperatures. These responses are controlled by hormones from eyestalk – CNS complex.

The migratory locust Locusta migratoria, for example, on removal of eyes shows limited ability to adapt its background by varying the quantity of yellow and black pigments and permanently become yellowish-white or brown or black.

The colour change of the phasmid, caraussius, have been investigated extensively. In the integument of this insect the hypodermal cells have four pigments- brown, red yellow

and green. The brown and red pigment show active concentration and dispersion in response to external stimuli. The brown pigment exhibits a distinct diurnal rhythm, becomes dark by night and pale by day. High humidity also produces body darkening.

5.CRUSTACEA

Among invertebrates, crustaceans are the extensively studied animals in colour physiology. The colour response in these animals are secondary in nature mediated through eyes and the central nervous system. Most crustaceans possess within their chromatophores white, red , yellow and black , blue and brown pigments.

CHROMATOPHORE SYSTEM IN VERTEBRATES

Chromatophore system comprising integumentary pigmented cells is well developed in poikilothermic vertebrates. The melanocytes do not undergo further transformation in birds and mammals and that is why these groups do not exibit physiological colour responses, however, in poikilotherms i.e. fishes, amphibians and reptiles. The chromatophores of vertebrates are usually monochromatic and these cells possess elaborate dendritic processes. The main chromatophore pigment is melanin which appears black but it may be partly oxidized to impart yellow, orange, or light brown colouration. In poikilothermic vertebrates physiological colour changes are effective. The regulation of chromatophore system is concerned, chromatophores may be regulated entirely by nerves (nerugenic), or entirely by hormones (aneurogenic), or both by nerves and hormones. The chromatophores are generally dermal or epidermal in situation, but may also be present in deeper tissues and the wall of the blood vessels.

FUNCTIONAL SIGNIFICANCE OF CHROMATOPHORE SYSTEM

Life, both in water and on land, is rugged and dangerous. Murder and starvation are rampant, for every animal is trying to eat the other one that is small enough to go in its mouth.

1 CAMOUFLAGING:

Numerous methods are being used by different animals and one of them is "protective colouration" or this phenomenon is called camouflaging. Such a mechanism is of great survival value in those animals who can change their color according to the background. For example, it was proved experimentally that those which can change colour according to their background are seized in smaller numbers by their predators as compared to those which are unadapted for this purpose. The colour and pattern changes in certain fishes, viz., flounders is most marked. These fishes almost mimic the pattern of their background. If they are placed on sand the specks on their body become quite small, but when placed on gravel the specks become larger and blend with the larger rock particles.

2. THERMOREGULATION:

Colour change is also said to play some role in thermoregulation amongst desert lizards. For example, desert lizard Phrynosoma is light coloured during mid – day and at night, but acquires dark colouration during early morning and late afternoon. Such a mechanism allows maximum heat absorption during morning and evening because the environmental temperature and the body temperature of the lizard is low during both these periods.

3. MATING:

Another important role of colour change is mating behavior in some animals. By displaying colours, males seem to attract females in some species. In some teleosts and cephalopods change in colour is an indication of the onset of breeding season.

4. WARNING :

Some animal possess red colour all over its body as it indicates to the other animal that it is not edible.eg. Kraits.

5.FEEDING AND ESCAPING:

In majority of animals, chromatophore responses are made in accordance with the colouration of the background. Thus, by imitating the colour pattern of the environment, animals exhibit adaptive behavior; it can attack prey or escape the sight of predators.

Conclusion

Thus Biochemistry of chromatophores and bioluminescence takes place in various organisms very effectively.

SR. IGNACIAMMAL

ASST. PROF. IN BIOLOGICAL EDUCATION

PHYSICAL THERAPY...

"A healthy body is a guest-chamber for the soul; a sick body is a prison." – Francis Bacon

Nowadays, Industrial development worldwide slowly started taking toll on peoples lives including in India. In search of good career and growth, people had no or little time to respond to the needs of body and mind to keep them happy and healthy.

Due to sedentary lifestyle, People are ending up with health conditions which were rare and

unheard of in the past. Overuse of medicine and adulteration in food making it even difficult to come out of this situation.

"The reason I exercise is for the quality of life I enjoy." – Kenneth H. Cooper.

They use a variety of treatments, with a focus on physical activity and exercise. There are a number of experts teaching more ways to get fit, giving advice on how can avoid chronic diseases. So, the problem is not the information, medicine or facilities. The problem is the colloborative ecosystem that supports "Happy Healthy Life". And we have made it our mission to create one.

"Those who do not find time for exercise will have to find time for illness. – Edward Smith – Stanley

Physical therapy is an important component of orthopedic treatment. In fact, it is often one of the first steps in addressing an injury. Physical therapy may be helpful in maintaining strength, mobility, and function regardless of the underlying cause of Peripheral Neuropathy (PN). Patients with diabetic neuropathy may also benefit from physical therapy, however, diabetic neuropathy patients must also tightly control their blood sugar levels to prevent major fluctuations. It is an important component of recovering from any injury.

Of course, the primary goal of physical therapy is restored function and a return to activity—but these things are often a byproduct of the larger rehabilitation process, during which many patients learn a whole new way of moving.

Physical therapists diagnose and treat individuals of all ages, from new-borns to people at the end of life. They examine each person and then develops a treatment plan to improve their ability to move, reduce or manage pain, restore function, and prevent disability.

If you want pain relief, improved mobility, increased strength and flexibility, and proper alignment, don't slack on your physical therapy. It helps improve post-surgical outcomes, by addressing pain, scar tissue, strength, range of motion, and more.

"The body is like a piano, and happiness is like music. It is needful to have the instrument in good order." – Henry Ward Beecher.

DR. REDEMPTA NISHANTHINI PHYSICAL DIRECTRESS

SAVE WATER

- ✤ Water is the other word for live .
- ✤ Water is the basic need of our life.
- ✤ Without water, there is no life.
- ✤ We all need to save water.
- Some of the major sources of fresh water are river water, lakes, groundwater, and rain water.
- ✤ Water is the most precious element on earth and it needs to be saved at all cost.

K.KALANANDHINI I B.ED (ENGLISH)

FRIENDS – GOD'S TREASURES

Friendship is one of the most precious gift of life. Good friends are like angels. You don't always see them, But you know they're always there.

> Good health, good times, good food and more. Are things we can be thankful for And friends, For all the things they do, Deserve a special "thank you" too!

Friends share all our hopes and dreams. Help us with the latest schemes. Their loyalty is unbending. And their trust is never ending.

A friend's someone who always brings A smile to our face A special person who can make The world a happy place.

Helping, hoping, hugging, caring Listening, talking, planning, sharing Friends are amazing people who Know all the amiable things to do!

> R. ESTHER I B.ED (ENGLISH)



GLOBAL WARMING

1. Global Warming is a term almost everyone is familiar with. But, its meaning is still not clear to most of us. So, Global warming refers to the gradual rise in the overall temperature of the atmosphere of the Earth. There are various activities taking place which has been increasing the temperature gradually. Global warming is melting our ice glaciers rapidly. This is extremely harmful to the earth as well as humans. It is quite challenging to control global warming; however, it is not unmanageable. The first step in solving any problem is identifying the cause of the problem. Therefore, we need to first understand the causes of global warming that will help us proceed further in solving it. In this essay on Global Warming, we will see the causes and solutions of Global Warming.

2. Global warming has become a grave problem which needs undivided attention. It is not happening because of a single cause, but several causes. These causes are both natural as well as man-made. The natural causes include the release of greenhouses gases which are not able to escape from the earth, causing the temperature to increase.

3. Further, volcanic eruptions are also responsible for global warming. That is to say, these eruptions release tons of carbon dioxide ,which contributes to global warming. Similarly, methane is also one big issue responsible for global warming.

4. After that, the excessive use of automobiles and fossil fuels results in increased levels of carbon dioxide. In addition, activities like mining and cattle rearing are very harmful to the environment. One of the most common issues that are taking place rapidly is deforestation.

5. So, when one of the biggest sources of absorption of carbon dioxide will only disappear, there will be nothing left to regulate the gas. Thus, it will result in global warming. Steps must be taken immediately to stop global warming and make the earth better again.

6. As stated earlier, it might be challenging ,but it is not entirely impossible. Global warming can be stopped when combined efforts are put in. For that, individuals and governments, both have to take steps towards achieving it. We must begin with the reduction of greenhouse gas.

7. In short, all of us must realize the fact that our earth is not well. It needs to treatment and we can help it heal. The present generation must take up the responsibility of stopping global warming in order to prevent the suffering of future generations. Therefore, every little step, no matter how small carries a lot of weight and is quite significant in stopping global warming.

ANTONY SUSILA MARY . A

I B.ED (ENGLISH)



READ TO LIVE

When you have enormous worlds around you Just escape into them and explore them; But when you are confined within something, Let it be the walls outside you or within you, Just pick up a book and explore the infinite Number of worlds hidden between the pages. You will no longer be confined to anything Instead ,you will find yourself erasing out From the fake realities into the real imaginations.

STEFFI RACHEL.J

I B.ED (ENGLISH)



A. ANTONY SUSILA MARY I B.ED (ENGLISH)

REINFORCEMENT

Reinforcement is a consequence that will strengthen an organism's future behavior whenever that behavior is preceded by a specific antecedent stimulus. Reinforcement can include anything that strengthens or increases a behavior, including specific, tangible rewards, events, and situations.

The four types of reinforcement include:

Positive reinforcement: This involves adding something to increase response, such as praising a child when they complete a designated task. This would motivate the child to get involved in the task.

Negative reinforcement: This involves removing something to increase response. In negative reinforcement, a response or behavior is strengthened by stopping, removing, or avoiding a negative outcome or aversive stimulus.

Punishment: This involves adding something aversive to modify behavior. For example, yelling at a child for misbehaving. In this example, the child would associate every negative behavior with punishments. This would prevent the child from repeating such behavior.

Extinction: This involves removing or taking away something to modify a certain response. This is called negative punishment or extinction. For instance, a teenager comes home late, and the parents curb their phone usage. Next time, the teenager would think before breaking the curfew.

Reinforcement has limitless opportunities and when used correctly can create limitless change. When using reinforcement, we see an actual increase in the future probability of that behavior occurring again. Reinforcement is applied in the workplace, home and especially in schools. It is a key element in the successful outcome of a person, so it can be applied with caution so as to get the targeted response of the person.

Reinforcement Theory of Motivation



DEEPIKA K. I B.ED (ENGLISH)

HAPPINESS

HAPPINESS doesn't grow on trees It is not a thing to eat It is a brick wall That stays within us all.

It is the secret of life It stays in the selfless heart It cannot be stolen by a thief It lies deep inside the heart.

It is given by God to everybody But it cannot be seen by anybody Without this our life is nothing Let us feel and spread this good thing.

It is felt within by many people But not every time in their life It multiples when it is shared Spread this message everywhere. Light a smile on your face

See all the difference it will make When you're depressed, when you're sad SMILE, and you'll never be mad. *Keep smile always*

> K.RAKSHANA I B.ED (ENGLISH)

UNIFIED IN DIVERSITY.

That's what people today should be,

Humans embrace harmony and happiness.

Hope that flower from the seed,

That will allow us all to prosper.

People will be people all the same. And under the setting sun, Nothing may ever change,

But Iam here to take a stand.

A.AFROSEFATHIMA

I B.ED(ENGLISH)



LIBRARY

It is place were only Hear the sounds of sounds Can hear the sounds of twisting And turning the pages of books Hark the sounds of switching On and off the fans; cracking Sounds of chairs.

It's a place to listen the Language of a book, to Understand the tone of the book, to Feel the fragrance of the pages Hear, the speaker is book And the reader are the listeners.

Library is a place of silence But is full of noises and Mummers which are made by the books. He is the only person who Allowed to speak, to teach And to delight. There is a person who plays Multi-roles in this domain Who plays the role of an observer, Plays the role of a watchman, Plays the role of a checking inspector And the role of a peace maker. His monotonous words are "Don't talk, don't talk, please Maintain the silence." The Librarian is The person who tries to make silence In the place of silence.

It's a place where a person seeks Solitude not only for knowledge but For his heart too. The power of tranquility wins Over the knowledge of the person.

> A. JENIFER SHALINI, I B.ED(ENGLISH).



இயற்கை

என்னை அழித்தவனையும்

சுமக்கும் நாற்காலியாகவும் இருக்கிறேன்

இப்படிக்கு மரம்

மேகமே உன்னை யார் என்ன செய்தார்கள்

இப்படி அழுகின்றயே ஆனால்

நீ அழுதால் மட்டுமே

நாங்கள் சிரிக்க முடியும் .

பிரித்து பார்த்து நேசம் காட்டாத

ஒன்று இயற்கை மட்டும் தான்.

S.AGILA I B.ED (ENGLISH)

மாம்பழம்

அவள் கடித்ததும் வலிக்கவில்லை என்று சொல்கிறது மாம்பழம். அவள் கடித்ததும் வலிக்கவில்லை என்று சிரித்துக் கொண்டே உயிரை விடுகிறது மாம்பழம். முதல் முறை என்னை கையில் எடுத்து பார்கிறாள் நான் இன்னும் அழகாக பிறந்திடக் வேண்மோ? வெட்கப்படுகிறது ் வ்ழுபவாவ

S.AGILA

I B.ED (ENGLISH)

LIFE OF A WOMEN AS A FEMINIST

As a woman, leading their life is a normal one, but as a feminist it was different because there comes many questions about life. The life we live was unique not all lead a same life. In my prospective life of a woman should be independent with self -respect, and with financial States that would make her to be bold and make her own way

Women are not born as a servant, but they are becoming like a servant because of society which was pushing family hard to make them . "Feminist" this word has been misunderstood by this generation , this term is to be equal but not in all . We should be women for sometimes , Our body was a precious one we should not make it as an entertainment for another. EQUALITY this means equal in career and income and also respect which also includes decision making . Parents, let's your daughter be in a family discussion , and make her own career, Let her face this world only then she can understand everything.

Dear Father's and brothers don't be your daughter and sisters bodyguard, but be a role model for your son's and brothers. Even if this society crushes her as trash she will wake up as a new paper, let her write her own future not everyone should let the "ink" in it. Once Gandhi said

"When a woman walks free at night with jewel's independently that when India gets it's Freedom". But according to his words, it never happened and India doesn't get's sit's freedom.

On last Feminism was to make women play her role in a good way, not too toxic her and make her a evil one. So respect women and support her.

R. JESSICA I B.ED (ENGLISH)



S.SANKAVI I B.ED (ENGLISH)

இயற்கை

ஒர் ஆர்த்மார்த்தமான மாளிகை நதிகளைப் போல வளைந்த பாதைகள் இருளைப் போல அடர்ந்த மரங்கள் ஊற்று நீரின் சுவையோ...... இந்த இயற்கையின் விருந்தை கண்டு என் கண்கள் உறங்காமல் ரசிக்கிறது, என் காதுகள் பறவைகளின் ஓசைக்கு அடிமையானது, என் கால்களோ செல்ல முடியாமல் மரத்துபோனது என் மனம் மகிழ்ச்சியின் வியப்பில் போயின பசி,தூக்கம்,கவலை...,என அனைத்தையும் மறந்து என் மனம் ஆழ்ந்த அமைதியும்,பேரானந்தமும் கொண்டது!!!

> K.SANKAVI I B.ED(ENGLISH)

YOU CAN WIN!

"SUCCESS DOES NOT MEAN THE ABSENCE OF FAILURES; IT MEANS THE ATTAINMENT OF ULTIMATE OBJECTIVES. IT MEANS WINNING THE WAR, NOT EVERY BATTLE " - Edwin C. Bliss

Today's world is marching towards success. Everyone of us is busy with choosing the best thing, we tend to spend more time in order to choose the best one. Every human being wants to go higher and higher in their life. Also, they desire to equip themselves with the right position in the best way. For that, invariably, all of us are trying to select 'EDUCATION' as a means to achieve our ends.

Our life is somehow based partially on our studies and marks. Nowadays, we are not studying to enrich our knowledge rather to get more marks in the examination. We byheart everything and simply reproduce it in the exams.

This is how we take our education. Education is not merely meant for scoring high marks; instead it builds up our character and our behaviour. How far our education system cares for our students' character formation? As we all know there is a lot of difference between private school students and government school students. Education should not only drive us towards high scores but should also help students form good character.

You need to keep your mind on what you wish to become. YOU CAN WIN is a famous driving statement for successful people. But behind this statement there is something which can motivate any student, that is victory. Victory is the synonym of success! Success is a matter of choice and not a mere chance. The secret of success can be learnt from the life histories of successful people.



Here let us share a famous life history of a successful man. There is a man who failed in business at the age of 21, was defeated in a legislative race at age 22, failed again in business at age 24, had his sweetheart die when he was 26, had a nervous breakdown at age 27, lost a congressional race at age 34, failed in an effort to become vice- president at age 47 and elected president of the United States at age 52, this man was Abraham Lincoln.

Abraham Lincoln, being the son of a poor shoe - maker was able to become the president of the United States. He had a clear goal and success. Whatever be the case, your drive ultimately pushes you to achieve what you have desired.

Wherever you are and whatever you do, there will be some obstacles in your journey. To reach success also, we must come across certain obstacles like our ego, fear of failure, lack of self-esteem, no plan, lack of commitment, anger and lack of priorities and so on. If you are aware of these obstacles in your journey, really you would avoid all these elements and you can march towards your goal and definitely quench your success. Wish you all the best to succeed in your life!

JEYA SUBHA.R.S. I B.ED (ENGLISH)

LIFE OF MAN

Live shows one face of the man life shows only one face of the man his reappearance is behind the life he lives let the few who see that understand that face his life is not life ,his history... He's the only one who has a place in history his hard work, honest and diligence tells us that, his every success is the only word that fascinates him. It didn't kill him, that is why he has a place in history......

K. MAHES I B. ED (ENGLISH)



THE ELEPHANT AND HER FRIENDS

Once upon a time, a lone elephant made her way into a strange forest. It was new to her, and she was looking to make friends. She approached a monkey and said, "Hello, monkey! Would you like to be my friend?" The monkey said, "You are too big to swing like me, so I can't be your friend." The elephant then went to a rabbit and asked the same question. The rabbit said, "You are too big to fit in my burrow, so I can't be your friend." The elephant also went to the frog in the pond and asked the same question. The frog replied, "You are too heavy to jump as high as me, so I can't be your friend."

The elephant was really sad because she couldn't make friends. Then, one day, she saw all the animals running deeper into the forest, and she asked a bear what the fuss was about. The bear said, "The lion is on the loose – they are running from him to save themselves." The elephant went up to the lion and said, "Please don't hurt these innocent people. Please leave them alone." The lion scoffed and asked the elephant to move aside. Then, the elephant got angry and pushed the lion with all her might, injuring him. All the other animals came out slowly and started to rejoice about the lion's defeat. They went to the elephant and said to her, "You are just the right size to be our friend!"

MORAL: A person's size does not determine their worth.

B. PRIYA DHARSHINI

I B.ED (ENGLISH)

LEAD LIKE A WOMEN

Typically I would retreat to the background in work assignment. However I found was overload on small project because I appeared to lack confidence. After being told that constructive criticism I went on a self examination sabbatical. Lead like a women empowered me in a biblical way not the cultural way, I particularly like the chapter on lacking confidence .She strongly explained where our confidence lies which is in god not in ourselves. Lead like a women is a stark contrast from other book in the same game.

As a women and an African American in educational leadership, I often feel dejected and sometimes I feel I have to prove my worth. Every women aspiring to be leader or in leadership already should read this book. This book points out the strengths women innately possess. Deborah encourage us to cultivate and use these attribute in a positive manner as leaders within our communities, businesses, places of employment and ministry.

RASITHA. K I B.ED (ENGLISH)

UNSUNG SOLITARY

۴.

She says I born in December I believe her because she's My Mother. As a child, I accompanied with my loneliness; I can't tell her to stay back! But my heart says stay with me Staying with relatives and neighbours can't make my home. My locked home makes me ill; Reminds me to wait still. There is Sumise in the Evening, Makes my home unlock; my heart locks.

> LMONICA 1 B. Ed (ENGLISH)

LET US LIVE IN A RELATIONSHIP

Have you we ever thought relationship between Human and Nature?

Nature is inseparable reality for humans+t9, it is like friendship with reaction or reciprocal. To say the richness of natures beauty, it sweetness, to cherish each moment in it's lovely relationship.

It surrounds us with it's ever inspiring, surprising elements .Ever tender, flowing love in it's approach. Pleads only one thing...! That is... Care For Me(Nature). It's says not that I am selfish but I am generous, bountiful and thoughtful about your future.

Don't you and me realize it's shrilling, twinkling presents in all it's seasons. Don't you and me feel Nature and we need to be intimate relationship the early down the shining show on the wild grass and radiant light on our cheeks and heavenly bliss as rains in due times. Nature still calls us...! Friends... !still I need to be cared .

No need to step out of your home just gaze your surroundings how the wind is smoky, how the lands are abandoned with discouragement of our farmer friends. Thinking that people wants to make life easy we make it complicated " The least things that You and I are to do..; friends Let us care for our nature .

Is it not the responsibility is yours and mine to care for the earth and to live in relationship? All things are created by God for our good. It's our bountiful duty to nurture it.

Here is a baggage to reveal satire of present situation that is ... more industries, the usage of plastic immeasurable e- waste, the soil exploitation, the wild life destruction, wastage of water, electricity, unbeatable chemicals, in food and other products. Climate changes destructive modern technology Selfish motives enmity between countries, states. Divisions in the name of language, culture, caste, religion and etc.

My God ! My God! Did I do my part for it or against it ? Yes we all did a part for breakup of our relationship between nature and human.

Dear God we human or called by you as crown of creation. Today each of us carried out the role to break up the bond of relation from you as we destroyed our nature. "If you care for the nature:

it's cares for you unceasingly. We have responsibility for our failures to do what is undone. "What we sown we reap today. We witness it in this panic situation – The Corona Virus. We human are tired and ashamed to be the cause of our destruction today. We know it for sure it is a turning point and a lesson it's a right time to establish our relationship with God and Nature.

Beloved God wants His creatures ever to be grateful and be in his relationship to savour the sweetness God's tender love and care so, in giving we receive it. My dear nature my sweet mother earth you carry us thinking never as a burden. We love you, we need you and we pledge we start to care for you my beloved nature.

So friends let us live in relationship with nature

V.SIREESH I .BED (ENGLISH)

MY MOTHER

No one can take your place,

You are everything to me.

Your hugs are warm,

and make me happy.

You nurse me whenever I'm sick,

You feed me when am hungry,

You help me in my studies.

You are my guide,

Whenever I go wrong, you show me the right path

V. RIYASHNI

I B.ED (ENGLISH)
MY MOTHER...

Mom, you're a wonderful mother, So gentle, yet so strong. The many ways you show you care Always make me feel I belong.

You're patient when I'm foolish; You give guidance when I ask; It seems you can do most anything; You're the master of every task.

You're a dependable source of comfort; You're my cushion when I fall. You help in times of trouble; You support me whenever I call.

I love you more than you know; You have my total respect. If I had my choice of mothers, You'd be the one I'd select!

> V. RISVANA I B. ED (ENGLISH)

NEVER GIVE UP

Giving up is the sign of the weak hearted soul,Such a person will never be able to reach his goal.Believe in yourself, you will come up with flying colors,Like a warrior you will shine even in a dark, stormy weather.

V. RIYASHNI I B.ED (ENGLISH)

HANGING GARDEN OF BABYLON

We all know about the Hanging gardens of Babylon. But do you know were the Babylon gardens are real?



Ancient writes describe a fantastic series of gardens which was constructed at the ancient city of Babylon. It is not clear when these gardens were built, but some ancient writers were so impressed by the gardens so they called them a "Wonder of the world". In 250BC Philo of Byzantium wrote that the Hanging gardens had plants cultivated at a height above ground level and the roots were embedded in an upper terrace. This has left archaeologists with a question. Did the Hanging gardens really exist? In 2013, Stephanie Dalley proposed in a book that the gardens were actually located at the Nineveh. Over the past two decades, both Babylon and Nineveh have suffered damage from wars and it seems unlikely that this mystery will ever be fully solved.

In her soon-to-be-released book "The mystery of the Hanging Garden of Babylon : An exclusive world wonder traced" published by Oxford university press, Dalley asserts that the reason why no traces of the Hanging Gardens have ever been found in Babylon is because they never built there in first place . this was a arid landscape of ancient Babylon, lush vegetation cascaded like water falls down the terraces of the 75 foot high garden. Exotic pants herbs and flowers dazzled the eyes and the fragrances wafted through the towering botanical oasis dotted with statues and tall stone columns.

Babylon king Nebuchadnezzar11 was said to have constructed the luxurious Hanging Garden in the sixth century B.C as a gift to his wife Amytis who was homesick for the beautiful vegetation and mountains of her native media.

So far archaeologists who have excavated Babylon have been unable to find the remains of gardens.Still now there are many mysteries in the world there are many treasure hunters in the search of buried treasures but till now most of them are unrevealed.

C.PAVITHA

I.B.ED(ENGLISH).



REACH YOUR AIM

Can there be any hurdle, Bigger than your aim? All you need is to snuggle, With your goal to reach the fame, Bigger the sticks' bundle, Is bigger the effect of the flame. Leave it for God to juggle, As God and will are the same.

V. RIYASHNI I B.ED (ENGLISH)

THE SECRET OF PEACE

One day I walked along the Brook Wondering about my past deeds Nothing struck my mind Except being heedless and self-centered I asked the LORD, " Can I make myself worthy?" He told me a secret: " Give and Glow" Then I gave my heart to the LORD Gave my time and energy to my family, friends. Gave my belongings to the needy And then the incomparable joy of giving Gave me 'PEACE' in return Oh! It is the everlasting peace of the Lord That filled my heart.

S. M. PREETHI

1 B.ED (ENGLISH)

THE LITTLE SECRET OF SUCCESS

Not does everyone get it right the first time, Success is unfortunately a wicked difficult climb.

However for those who just won't lose hope, Success will throw down a lifesaving rope.

Work hard, work smart, and you will succeed, Don't follow the rest of the world, take lead!

All my best wishes I send to you my dear friend, I hope you keep getting successful till the end.

> V. RIYASHNI I B.ED(ENGLISH)



THE HAPPIEST DAYS OF YOUR LIFE? THE HAPPIEST MOMENT OF MY LIFE HAPPENS ONCE A DAY _SUZEM ORMAN

School days should be a happy time in a young person's life.what can make people's lives a misery during this time, then?In my opinion, there is one word which answer the question-bullying.

Unfortunately, bullying is quite common in schools where I live.it can affect students of any age, and both boys and girls. A friend of mine had a very negative experience at school last year as an older boy continually called him names and sometimes used to post nasty message about him on Facebook. Obviously, my friend felt very upset about this and it affected his self-confidence. Some days, he didn't want to come to school at all.



What can people do to stop this problem? personally, I think teacher need to be aware the bullying may be happening in their classes and be very strict when they have a case of bullying.

Another thing teacher's could do is prepare lessons to talk about the problem with their pupils, which might make bullies realise how badly they hurt their victims. As for students if they find out a classmate is being bullied, they should support them as much as possible and let a teacher know.

Bullying can be a nightmare but there are things we can do to prevent it. Hopefully, one day all students will be able to go to school without fear of being bullied.

THENDRAL I B.ED (ENGLISH)

MATH FUN

a)How can you add eight 8's to get 1000?

b)Two fathers took their sons fishing.Each caught one fish but there were only 3 fish.How could that be?

c)What mathematical symbol can be put between 5 and 9,to get a number bigger than 5 and smaller than 9?

Ans:a)888+88+8+8=1000

b)There were only 3 people-son, his father and his grandfather.

c)A decimal point-5.9

S.GLADIYA

1B.ED(MATHEMATICS)

Math

Math is like time, It's never stops. Math is a **book**, You can't close it till it's done. Math is like a **lottery**, You can never win. Math is a **painting**, You can't loss interest in it. Math is like an **eternity**, It's never over. Math is **smile**, It can be happy and evil. Math is like glue, Once you know it, You can't forget it. Math is a roller coaster, It's exciting. Math is like an alien, You don't know all about it. Math is a **bag**, It can hold your skills. Math is like a sward, When you mess up it hurts. Math is a **mother**, It's always there when you need it. Math is like a rainbow, It has a treasure at the end.

AJITHA REKLIN. A I B.ED. (MATHEMATICS)



MATHEMATICANS AND THEIR INVENTION

ARYABHATA:



Aryabhata gave the formula $(a + b)^2 = a^2 + b^2 + 2ab$.

He also worked on the place value system using letters to signify numbers and stating qualities.

He also calculated the value of pi = 3.1416.



BRAHMAGUPTA

 $Introduction \ of \ zero \ (\ 0 \) \ to \ mathematics, \ which \ stood \ for \ ``nothing'' \ , \ was the biggest \ contribution \ of \ Brahmagupta.$

He also explained how to find cube and cube-root of an integer and gave rules facilitating the computation of squares and square roots.

SRINIVASA RAMANUJAN:



SrinivasaRamanuja was one of India'S greatest mathematical geniuses.

He made substantial contributions to HARDY-RAMANUJAN Littlewood circle method in number theory and worked on elliptic functions, continued fractions, partial sums, products of hypergeometric series and infinite series.



P.C. MAHALANOBIS:

Prasanta Chandra Mahalanobis's most significant contribution in the field of statistics was the Mahalanobis Distance.

He founded the "INDIAN STATISTICAL INSTITUTE".

HARISH CHANDRA:



Harish-chandra FRS an Indian American Mathematician and physicist who did fundamental work in representation theory, especially harmonic analysis on semisimple Lie groups.

BHASKARA:



Bhaskara, an Indian astronomer, and mathematician helped to disseminate the mathematical work of Aryabhata.

He was the one who declared that any number divided by zero is infinity and that the sum of any number and infinity is also infinity.

He is also famous for his book "SIDDHANTA SIROMANI".

NARENDRA KARMARKAR:



Karmarkar's algorithm is an algorithm introduced by NarendraKarmarkar in 1984 for solving linear programming problems.

He is also listed as an ISI highly cited researcher.

C.R.RAO:



CalyampudiRadhakrishnaRao, popularly known as C.R.RAO is a well-known statistician, famous for his "THEORY OF ESTIMATION".

His contributions to statistical theory and applications are well known, and many of his results, which bear his name, are included in the curriculum of courses in statistics at bachelor's and master's level all over the world.

AKALYA.E I B.ED(MATHEMATICS)



K.KAVI BHARATHI

I B.ED (MATHEMATICS)

SRINIVASA RAMANUJAN

- Srinivasa ramanujan was a Great mathematician of india.
- He had born on 22 december 1887 in madras during the british government.
- Initially he was not interested in traditional education.
- He received the K.Ranganatha rav prize in mathematics in 1904.
- He had introduced the Hardy-Ramanujan Number 1729.
- On 26 April 1920 he died at the age of 32.

J.VENCY 1 B.ED(MATEMATICS)



CONFINEMENT

Once, we used to live well.

Meeting with my loved ones,

Our families and my friend.

Today, we are forced to remain confined to our home.

No school, nochurches, no meetings.

Everyone is obliged to wear a mask and respect the prevention tips in order to fight against this disease

Which is called coronavirus.

M.MAHALAKSHMI I B.ED(MATHEMATICS)

3D SHAPES

- 3D Shapes are fat not flat.
- A Cone is like a party hat
- A Sphere is like a bouncy ball
- A Prism is like a building tall
- A Cylinder is like a can of pop
- A Cube is like the dice you drop.
- 3D Shapes are here and there
- 3D shapes are **everywhere**..

AJITHA REKLIN. A IB.ED(MATHEMATICS)

TREES

I think that I shall never see A poem lovely as a tree. A tree whose hungry mouth is prest, Against the earth's sweet flowing breast; A tree that looks at God all day, And lifts her leafy arms to pray; A tree that may in summer wear A nest of robins in her hair; Upon whose bosom snow has lain, Who intimately lives with rain; Poems are made by fools like me, But only God can make a tree.

D.JENIFER I B.ED(MATHEMATICS)



COVID-19- STUDENTS FEELINGS

Before the virus, I went to school everything was happy.

Now I see people with face masks and few cars. But I am happier to have more with my mom and I Have more days to play.

I'm afraid that my family and will get sick.

I miss playing with my friends at school.

I miss visiting my grandparents at their house. I dream about seeing my best friend and then us going To the beach.

While this (lockdown) happens, I draw pictures, I play.

And I do homework

I hope that this ends so I can go back to seeing my friends.

When all this ends. I will go to the park to the skate.

All this will pass, we will be fine, if we take care of, Ourselves and wash our hands, the virus will die. Stay at home so we can go out.

M. .DIVYA I B.ED (MATHEMATICS)

இவளின் துணிவு

நெடிய இரவின் வெறி மிகுந்த கூரிய நகங்களையுடைய கசங்கிய கனவுகளில் சிக்கித் தவித்து.., எங்கெங்கிருந்தோ துரத்தும் ஆயிரம் கைகளை கண்டு ഗ്ര്യൈലിல் ஒடுங்கிவிடவும் இல்லை... சருகாய் உதிர்ந்து விடவும் இல்லை... வெண்சாம்பலாய் கரைந்து விடவும் இல்லை... ஆயிரம் மூர்க்ககுணங்களை துரத்தும் அறிவின் முனையையும் வலிமையின் முனையையும் தீட்டிக்கொண்டே தான் இருக்கிறோம்!... எதையும் எதிர்நோக்கும் துணிவோடு...

M. RAJALAKSHMI I B.ED (MATHEMATICS)



The Constitut

We, The People of India, having solemnly resolved to Constitute India into a SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC and to becure to all its citizens JUSTICE, Social , economic and Political: LIBERTY of thought, expression, belief, faith and worship; EQUALITY of Status and of opportunity; and to Promote cumong them all. FRATERNITY surving the dignity of the individual and the unity and integrity of the Nation : IN OUR CONSTITUENT ASSEMBLY this 26th day of NOVEMBER, 1949, do HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.

JOCHI.A

I B.ED (MATHEMATICS)

I AM TWO SINGLE-DIGIT NUMBERS. WHO AM I ?

.My total is 8,my difference is 2	
. My total is 7,my difference is 5	
. My total is 5, my product is 6	
. My total is 5,my product is 4	
. My product is 10,my difference is 3	
. My product is 12,my difference is 1	
. My product is 21,my difference is 4	

ANSWERS:

- 5&3.
- 1&6.
- 2&3.
- 1&4.
- 5&2.
- 4&3.
- 7&3.

V. SYEDA RIFAYA

I B.ED (MATHEMATICS)

DREAMS

Don't let your dreams; To be just dreams Never give up on your dreams, That you have been chasing Almost for whole life. And No one is born ugly, Were just born in judgemental society. Life isn't about perfect its About accomplishing your dreams.

> G. SAHAYA PRINCY I B.ED (MATHEMATICS)

INTERESTING FACTS

- The Eiffel tower in Paris weights over 1000 elephant's
- The stronger muscle in the human body is the tongue
- Coco cola the soft drink was original green
- The most common name in the world is Mohammed
- The cigarette lighter was invented before the match
- Elephants are the only animal that cannot Jump

A. MANISHA 1 B.ED (MATHEMATICS)



RAJALAKSHMI.M I B.ED (MATHEMATICS)

FISH AND MONKEY COMPARISON – A SHORT STORY

One day while fish was swimming closer to river bank it heard a voice saying, "How is the water?"

Fish raised her head upward that there was a monkey sitting on tree. Fish smiled and replied, "Water is warm and nice."

Monkey felt little jealous and wanted to put fish down. He replied, "You should come out of water and climb up this tree. View from here is amazing."

Fish replied with sadness, "I cannot climb a tree and I cannot survive without water."

Seeing fish's sad face monkey made fun of fish saying, "You are totally worthless if you cannot even climb a tree."

After hearing that remark fish was thinking about it day and night became really depressed. It started thinking to herself, "May be monkey is right. I am worthless if I cannot climb a tree."

Another fish in the river noticed that fish looked all depressed and asked the reason for the depression.

Fish told the fellow fish about the monkey and his comment. After listening the fellow fish replied, "If you are worthless because you cannot climb a tree then the monkey is also worthless as it cannot swim or live in the underwater."After hearing this the fish realized that she was really gifted and it was wrong to think worthless.

MORAL:People tend to think of themselves based on Judgment of others. Instead of being depressed about others comments we should find our true potential.

S.NANDHINI

I B.ED(MATHEMATICS)



FACTS ABOUT MATHS

- The word "hundred" comes from the old Norse term, "hundrath", which actually means 120 and not 100.
- From 0 to 1000, the only number that has the letter "a" in it is "one thousand".
- Every odd number has an "e" in it.
- Markings on animal bones indicate that humans have been doing maths since around 30,000BC.
- 2 and 5 are the only prime numbers that end in 2 or 5.
- An icosagon is a shape with 20 sides
- A year isn't exactly 365 days -- it's 365.2564 days! That's why we have a leap year every four years.

R. BACKYA I-B. ED(MATHEMATICS)


COMPUTER SHORT CUT NAMES AND FULL NAMES

- ➤ MS MICRO SOFT
- > XP Extreme Programming
- PC Personal Computer
- CPU Central Processing Unit

HARD DISK

- HDD Hard Disk Drive
- ✤ GB Giga Byte
- ✤ KB Kilo Byte
- ✤ MB Mega Byte
- ✤ TB Tera Byte
- ✤ PB Peta Byte
- ✤ EB Exa Byte
- ✤ YB Yotta Byte
- ✤ ZB Zeeta Byte
- MBPS Mega Byte Per Second
- DM Disk Manager
- FDD Floppy Disk Drive

RAM

- RAM Random Access Memory
- ROM Read Only Memory
- PROM Programmable Read Only Memory
- EPROM Erasable Programmable Read Only Memory
- EEPROM Electrically Erasable Programmable Read Only Memory
- SRAM Static Random Access Memory
- DRAM Dynamic Random Access Memory

- o DDR Doubble Data Rate
- o SDR Single Data Rate
- NVRAN Non Volatile Random Access Memory
- WRAM Window Random Access Memory
- o CAM Computer Aided Manufacturing
- VRAM Video Random Access Memory
- o EDORA M Extended Data Out Random Access Memory
- MDRAM Multibank Ram Random Access Memory
- o ASCII American Standard Code for Information Interchange
- o SID Serial Input Data
- o SOD Serial Output Data
- o LED Light Emitting Diode
- LCD Liquid Crystal Diode
- o USB Universal Serial Bus
- OS Operating System
- LSB Least Significant Bit
- o MSB Most Significant Bit
- o CAD Computer Aided Design
- DP Data Processing
- BOS Basic Operating System

B. JOSEPHIN PUNITHA

I B.ED (COMPUTER SCIENCE)

REVERSE PLASTIC VENDING MACHINE

AIM: SAFE DISPOSAL OF PLASTIC BOTTLE & RECYLING.

METHOD: CONCEPT OF **IOT** (INTERNET OF THINGS)

INVENTED BY: Elmer M Jones and Sue Walker Vance (1920)

WORKING: People can deposit empty plastic bottle and get their needs according to the option provided by the machine.

IMPLEMENTED IN: TRICHY, SALEM, COIMBATORE(BUS STOPS).



The picture below is the First Plastic Reverse Vending Machine in *South India*, launched in **Salem.**

HAZARDS OF PLASTICS:

Plastics are Harmful since its Non-Biodegradable.

- Makes soil less Fertile, which in turn affects agriculture in Land.
- Affects Sea Life.
- Exposure of plastic leads cancers, Birth Defects, Impaired Immunity.

PERKS OFFERED IN MACHINE:

Users drop the empty bottle into the machine after that user will press the button according to his /her convenience.

- WATER: If the user clicks the Water button the machine provides water in a glass container. The water is made to flow on the glass which is detected by a Flow and Level Sensor. *Flow and Level Sensor*: Is a type of sensor that scans the container and fill the water accordingly.
- 2. **DONATE:** If the User selects *Donate* Button the beverage container is sent for recycling.
- 3. WIFI: if the users select wifi he/she can use the wifi provided by the machine for 10 minutes.
- 4. **COUPON**: user can get **coupon** for 5 rs (she/he can buy the things for 5 rs near by shops)
- 5. MOBILE CHARGING: User can charge their phone for 10 minutes.

SENSOR

Sensor is a device that detects and responds to some type of input from the physical Environment.

REVERSE VENDING MACHINE.

- Initially, the user will drop the beverage container (empty) into the plastic reverse vending machine.
- The plastic will move into the machine, and get place into *chute*.





WORKING OF THE MACHINE:

Empty bottles enter into the machine through material hopper then to vibratory feeder. There is a sensor inside the machine it detected either it is plastic bottle or not if it is not plastic bottle then the ejector compressed air and reject the material. If it is plastic bottle is ensured and selected then it move to the next process of recycling.

- The Raspberry Pi is a credit card-sized single-board *Linux computer*.
- The Raspberry Pi camera module is based on a ¹/₄ inch, 5 *megapixel Omni vision OV5647 CMOS* (Complementary Metal-Oxide Semiconductor) image sensor.
- The beverage container is illuminated by camera module and *scans* the container.



AMALADHIVYA J

I B.ED (COMPUTER SCIENCE)

MY DEAR PAL

Dear bezzie you're the one

who besides me at the slump,

My cherished amigo you are the one who sees the pain in my eyes

While everyone else belives that happy on my face,

Hey chum you are the one who gives

the total freedom to be myself while being with you,

You are the only one unimpeachable in my entity after my parents,

I'am so obliged to have you in my esse.

And with the word of honour I'll beside of your needs at any crisis...

S.CHELLAVELPRIYANKA

I B.ED (PHYSICAL SCIENCE)

SCIENTISTS AND THEIR INVENTIONS

SCIENTISTS	YEAR	INVENTION
Evangelista Torricelli	(1608-1647)	Barometer
Ferdinand verbiest	(1623-1688)	Automobile
Charles Babbage	(1791-1871)	First Mechanical computer
Wihelm conrad Rontgen	(1845-1923)	X - rays
Thomas Edison	(1847-1931)	Electric bulb
Emile Berliner	(1851-1929)	Gramophone
Alexander Graham Bell	(1857-1922)	Telephone
Rudolf Christian karl Diesel	(1858-1913)	Diesel Engine
Albert Einstein	(1879-1955)	Theory of Relativity photoelectric Effect Einstein calculate
Sir Alexander Fleming	(1881-1955)	Penicillin
Fritz pfluemer	(1881-1945)	Magnetic tape
Frederick Banting	(1891-1941)	Insulin
Edwin Herbert Land	(1909-1991)	Polaroid instant camera
Konrad zusc	(1910-1995)	World's first program- controlled computer
Samuel Morse	(1791-1872)	Single-wire telegraph system
Guglielmo Marconi	(1874-1937)	Marconi law and a radio telegraph system
John Logie Baird	(1888-1946)	Electronic colour television tube
The Wright Brothers, Orville	(1871-1948)	First successful Airplane
,Wilbur	(1867-1912)	
Marie sklodowska curie	(1867-1934)	Radium
Sir chanderasekhar venkata Raman	(1888-1970)	Raman Effect

P.S.ASHIMA

I B.ED (PHYSICAL SCIENCE)



TEACHERS

Distance learning involves high level of interaction between student and teachers. It is important duty for teachers to give their fullest to everyone of their students education even in this pandemic situation. Teaching face - to -face and teaching online are both teaching but they are qualitative different. I would like to give 8 roles for a effective online teacher .

- TOUR GUIDE : A tour guide leads more people through a place. Similarly online teacher plays the role of guiding students through one or more learning guiding experience. Within this role the teacher directs and redirects the the attention of learners towards key concept and ideas . A good tour guide doesn't want to miss the highlight of the tour .
- CHEERLEADER : As with all learning environment, learner often need some encouragement. Learning is hardwork and learning through online makes students isolated, confusing, or discouraging without this important role. Even when providing constructive feedback, the teacher ask cheerleader finds a way to promote a positive messages.
- 3. LEARNING COACH : many people focus on the role of teachers as role model and that is valuable . This is a powerful and essential role of the online teacher. Such a teacher must move beyond simply modeling a love for the subject and personal skill with the content .
- 4. INDIVIDUAL AND GROUO MIRROR : imagine waking up in the morning getting ready for work and heading out the door without ever looking into a mirror to see that your hair is sticking straight up in the air . That is good information to know before you walk in the office . The effective online teacher finds ways to give this sort of feedback to individual learners and , when appropriate, group of learners.
- 5. SOCIAL BUTTERFLY : without intentional efforts to build a positive social environment, online learning can feel lonely and impersonal . As a result the online teacher must serve like a great party , host , facilitating introductions, using discussion starters to facilitate conversation among students and taking the time to get to know students and referencing that knowledge in interactions with them .

- 6. BIG BROTHER : everything is documented in an online course the teacher can tell when and how many times a student logs into a course with pages were viewed or not how many discussions post the students contribute . This data can be abused , but it can also be used to make adjustments and informed decisions as and online teacher . If the student is not logging in , failing to visit the pages then teacher is responsible to contact the students
- 7. VALVE CONTROL : online courses are rich with content and sometimes students can get lost in all that content the teacher acting as a valve control intentional releases content chunks that are appropriate for students teachers can release it all it ones or to break the content in to smaller segments
- 8. CO-LEARNER : great teachers are lifelong leaners and they canodel that learning for their students in variety of students in online classroom of ways in online classroom. Teachers can be active and not too active participant in online discussions, sharing about subject, even complete all or parts of some assignments. This goes long way in building a vibrant dynamic online learning community wereevery person in the community commits to embodying the traits of a lifelong learner.

We the future teacher should be ready for all the circumstances.

Teachers encourage, minds to think , hands to create , and hearts to love .

C J DEEPSIGA DEVI I B.ED(PHYSICAL SCIENCE)





கொரோனா

உலகமே உழன்று உயிர்ப்பிச்சைகேட்கின்றது

இன்னுயிரைக்காக்க மானுடத்திற்க்கு நடக்கும் மந்திரப் போராட்டம்

கொத்துக் கொத்தாய் காவுவாங்கும் கொள்ளை நோயின் சூதாட்டம்

கோவிட்டுக்கோ கொண்டாட்டம்

மனிதனின் பொழுதோ நாளும் திண்டாட்டம்

உகானில் தன் ஆட்டத்தைத் தொடங்கிஉலகையே உறையவைத்த

உக்கிரத்தின் மறுபெயர் கொரோனா

ஆண்டிமுதல் அரசன் வரை

முகத்தாட்சணியம் முடக்கி

தன் ஆளுமைக்கு ஆட்படுத்தி

அகில உலகை ஆட்டிப்படைத்தான் இந்தஅரக்கன்

கணக்கிலடங்கா உயிர்ப்பலி கட்டுப்படுத்தி

தன்னிகரில்லா உயிர் பிரியாதிருக்க

பிரியாத வரம்வேண்டி

இனியொரு விதி செய்வோம்...

கெட்ட போரிடும் கொரோனாவைவே ரொடு சாய்ப்போம்

முகக்கவசம் உயிர்க்கவசமாய் ஏந்தி

முழுமையான சமூக நலம் காக்க முத்தாய்ப்பாய் எழுவோம் கொள்ளை நோயின் உக்கிரம் தணிக்க மரணித்த மனங்கள் மறுமுறையும் ஜெனிக்க கண்ணீர்ததும்பிடும் நெஞ்சங்கள் மறைய நல்லதோர் தரணிகாப்போம் கொரோனா இல்லா உலகம் படைக்க....

> ச.ஜெபீலா இன்பென்சியா ராய் I B.ED(PHYSICAL-SCIENCE)

THE NATURE OF PHYSICS

The word physics Comes from Greek Meaning nature. The study of nature came to be Called 'Naturephilosophy''.

Physics is the Study of the fundamental Laws of nature.

Physics deals with the behaviour And structure of the matter.

Physics Is very fundamental And the Most basic of science.

•

Physics can predict how nature will behave in one situation On the basis of the experimental data Obtained in another situation.

J.MARIARUFINA I B.ED(PHYSICALSCIENCE)

அம்மா

பேசியும் புரியாத உறவுகளுக்கு மத்தியில் பேசாமல் புரிந்து கொள்ளும் உறவு" அம்மா"…

கேட்டும் கொடுக்காத தெய்வங்களுக்கு மத்தியில் கேட்காமல் கொடுக்கும் தெய்வம்"அம்மா"…

வார்த்தைகளே இல்லாத

வடிவம்..

அளவுகோளேஇல்லாத

அன்பு..

சுயநலமே

இல்லாத

இதயம்...

அவள் தான் அம்மா..



M.RAMYALAKSHMI I B.ED(PHYSICAL SCIENCE)

POEM

Imagine a pig	
In a big purple wig	
Imagine a car	
In the shape of a star	
Imagine a bear	
Wearing pink underwear	
Imagine a fox	
Wearing red, fluffy socks	
Imagine a shoe	
That always stayed new	
	Just imagine!

V.VINITHA

I BED (PHYSICAL SCIENCE)



P.JASHMINE I B.ED(PHYSICAL SCIENCE)

வியக்கும்விஞ்ஞானம்

செல் என்பது அறிவியல் என் தகவல் சாதன கண்டுபிடிப்பு உங்கள் உடலின் செல்போல் உருமாறியது கண்டு கொண்டேன் நானும் வியப்பு நானோ தொழில்நுட்பம் நாளைய உலகின் நாடிநரம்பாய் விளங்கப் போகிதாம் நானோ! விளையும் அந்தப் புதிய புவியில் நான் இருக்க முடியுமா நானாய்....., என்னைப்போல் ஒருவன் வளிமண்டலம் கீறி, விண்வெளி ஆய்ந்து, ஒளிநீளம் அளந்து, ஒளியைப் பதிந்து, அணுவைப் பிளந்து, கதிர்கள் பிரித்து,

அறிவியல் உலகில் ஓ! முடிவிலி ஆய்வுகள்! ஒளிரும் விளக்கு, சுழலும் விசிறி, குளிர்ப்பதன துழல், செயற்கை மழை, மடியில் கணினி, நிழற்பட கருவி, என முடிவின்றி தொடருது விஞ்ஞான அதிசயம், தொலைதூர கிரகத்தில் நீராராய்ச்சி! அலைகடல் நீரையும் குடிநீராக்க முயற்சி சோதனைக் குழாயில் உயிர்க்கருவின் வளர்ச்சி

சாதனை சிகரம் நோக்கிய விஞ்ஞானப் புரட்சி! விண்வெளியில் நடந்து, வெண்மதியில் கால்பதிக்கும் நுண்விஞ்ஞான மாண்புகளை ஒருவேலை வியந்து இன்தமிழில் கவிநவில - உங்கள் கண்முன்னே நிற்கலாம்.....

P.JASHMINE I B.ED(PHYSICAL SCIENCE)

THE WOMB

Life starts In a womb.....

The symbol of Love

The womb swells

Where a life dwells

For the whom is the shell

That protest the dweller

Is now sold by the seller

The scarlet sacred womb

Sold as a surrogate mother

For infertility rate is high

No neigh in labour ward

Artificial insemination was once a dystopia

Fertility will become a utopia.....!!!!

SOWMIYA PUSHPA. J

I B.ED (PHYSICAL SCIENCE)

வெற்றி

மரங்களின்மரணத்தில்

காகிதம்பிறக்கும்

ஆயுதங்களின்மரணத்தில்

அமைதிபிறக்கும்

கரும்புகளின்மரணத்தில்

சர்க்கரைபிறக்கும்

பூக்களின்மரணத்தில

கனிகள்பிறக்கும்

அதுபோல

தோல்விகளின்

மரணத்தில்

வெற்றிபிறக்கும்

DARTHY PUNITHA. A I B.ED(PHYSICAL SCIENCE)



Time

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Time is too slow for those who wait Time is too swift for those who wear, Time is too long for those who feel grief, Time is too short for those who feel joy, But for those who Love, Time is endless.

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CHILDREN'S DAY

14th November is celebrated as children's day (also called Bal Diwas) in our country and

the occasion also commemorates the birth anniversary of Pundit Jawaharlal Nehru, the first

Prime Minister of India. After his demise in 1964, his birth date, November 14, was decided

to be celebrated as children's day every year. Pundit Nehru had a great love for children. He

wanted to be among them, talk to them and play with them. The children also love and

respected him and called him "CHACHA NEHRU".

School children organize cultural programmes to celebrate the day. They sing national

songs and stage show dramas. The leaders, who attend the celebration, deliver speeches. They

advise the students to be patriots and follow the footsteps of Nehru.

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NASTIC MOVEMENTS

Nastic movements are non-directional response of a plant or part of a plant to stimulus. Based on the nature of stimuli, nastic movements are classified as follows.

Photonasty:

Movement of a part of a plant in response to light. E.g.*Taraxacum officinale*, blooms in morning and closes in the evening. Similarly, *Ipomea alba* (Moon flower), opens in the night and closes during the day.



Thigmonasty:

Movement of a part of plant in response to touch. E.g. *Mimosa puidica*, folds leaves and droops when touched. It is also known as Seismonasty.



Normal condition (before touch) Thigmonasty shown by Sensitive Plant (Mimosa pudica)

After touch

Thermonasty :

Movement of part of a plant is associated with change in temperature. E.g. *Tulip* flowers .



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MY FAVOURITE FRUIT

My favourite fruit is papaya. The papaya is a large, tree-like plant, with a single stem growing from 5m to 10m (16ft to 33ft) tall with spirally arranges leaves confined to the top of the trunk. The lower trunk is conspicuously scarred, where leaves and fruit were borne.

The leaves are large.50cm-70cm (20inches-28inches) in diameter, deeply palmate labed with seven lobes. Unsually for such large plants the trees are dioeciously. The tree is usually un brached, unless lopped. the flowers are similar in shape to the flowers of the plumeria but are much smaller and wax-like.

They appear on the axis of the leaves, maturing into large fruit 15cm-45cm (5.9 inches-18 inches) long and 10cm-30cm (3.9 inches-12 inches) in diameter. The fruit is ripe when it feels soft (as soft as a ripe avocado or a bit softer) and its skin has attained an amber to orange hue.

Two kinds of papayas are commonly grown.

- 1. One has sweet, red or orange flesh.
- 2. The other has yellow flesh.

In Australia, these are called "Red Papaya" and "Yellow Papaya" respectively. Either kind picked green is called a "Green Papaya".

Types of Papaya's

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- 1. Ripe Fruit
- 2. Unripe Fruit

Allergies and side effects:-

Papaya is repuently used as a hair conditioner, but should be used in small amount. Papaya realeases a latex fluid when not quite ripe, which can cause irritation and provoke allergic reaction in some people.

The latex concentration of unripe papaya is speculated to cause uterine contractions, which may lead to a miscarriage. Papaya seed extracts and large doses have a contraptive effect on rats and monkeys. But in small doses have no effect on the unborn animals.

Excessive consumption of papayas can cause carotenemia, the yellowing of soles and palms, which is otherwise harmless. Papaya contains about 6% of the level of beta carotene found in carrots. (The most common cause of carotenemia).

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KULANDAI THERSE.J I B.ED (HISTORY)



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கவிதை

கோவில் மணியோசையில் கண்விழித்தபெண்ணே இன்றுநீகைப்பேசிஒலியில் கண் விழிப்பதும் என்னே! வீட்டின் முற்றத்தில் மாகோலமிட்டபெண்ணே இன்றுநீஅலைபேசியில் அழகிய கரங்களால் வட்டமிடுவதும் என்னே! ஆதிகாலைஎழுந்தவுடன் துளசிதொடும் பெண்ணே! இன்றுநீதொலைக்காட்சியால் தொழுவதைதொலைத்ததும் என்னே! முகவரி இழந்தமுகங்களுக்கெல்லாம் தாயானபெண்ணே! இன்றுநீமுகநூலில் உன் முகவரியைமறந்ததும் என்னே! ஆழகியகுழந்தையைமடியிலிட்டுமகிழ்ந்தபெண்ணே இன்றுநீமடிக்கனிணியைமடியிலிட்டு அழகுபார்ப்பதும் என்னே! ஊரெல்லாம் சுற்றிவிளையாடியகுட்டிபெண்ணே இன்றுநீகனிணிஎன்னும் பெட்டிக்குள் வுளையாடதுணிந்ததும் என்னே! மானத்தைஉயிரினும் மேலாய் மதித்த இளம்பெண்ணே இன்றுநீதொலைக்காட்சிப் பெட்டிக்குள் மானத்தைமறந்ததும் என்னே! புத்தகங்களைபுரட்டி உன் புத்தியைவளர்த்தபெண்ணே இன்றுநீவலைதளத்தில் சிக்கிதவிப்பதும் என்னே! இணையைதுணையாகஏற்றுமதித்தபெண்ணே

இன்றுநீ இணையதளத்தால் துணையைமறந்ததும் என்னே! கதைகளைகுழந்தைகளுக்குஅள்ளிவீசும் முதுமைப்பெண்ணே இன்றுநீதொலைக்காட்சியில் தொடர்கதையைப் பார்ப்பதும் என்னே! கனிணியில் கனவுகளைஅழித்து தொலைக்காட்சியில் இலட்சியத்தைதொலைத்து முகநூலில் முகவரியை இழந்து அலைபேசியில் உறவுகளைபறிகொடுத்த இளம்பெண்ணேவிழித்துக்கொள்! வாழ்வைபிடித்துக்கொள்!

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கவிதை

தூணிலுமிருக்கும் துரும்பிலுமிருக்கும்

ஞாலம் வளர்ந்த ஞானிகளும் சொல்வழுத்த கவிகளும் கொரோனா சொன்னதும் குத்தவைத்து கேட்கிறீர்கள் உலக சுவாசத்தைக் கவ்விப் பிடிக்கும் இந்தத் தொண்டைக்குழி நண்டுக்கு நுரையீரல் தான் நொறுக்குத்தீனி! அகிலத்தை வியாபித்திருக்கும் இந்த தட்டுக்கட்ட கிருமியின் ஒட்டுமொத்த எடையே ஒன்றரைகிராம்தான் இந்த ஒன்றரை கிராம் உச்சந்தலையில் வந்து உட்கார்ந்ததில் உலக உருண்டையே தட்டையாகிவிட்டது. சாலைகள் போயின, வெறிச்சோடி போக்குவரத்து நெறிசல், முச்சுக்குழாய்களில், தூணிலுமிருப்பது, துரும்பிலுமிருப்பது கடவுளா? கொரோனாவா? இந்த சர்வதேச சர்வாதிகாரியை வைவதா? வாழ்த்துவதா? தார்சாலையில் கொட்டிக்கிடந்த நெல்லிக்காய் மனிதர்கள், இன்று நேர்கோட்டு வரிசையில் சட்டத்துக்குள் அடங்காத ஜனத்தொகை இன்று வட்டத்துக்குள்

உண்ட பிறகும் கைகழுவாத பலன் இன்று உண்ணும் முன்னே! புதைக்குள் புதைக்கப்பட்ட இமயமலை இன்று தான் முகக்கவசம் களைந்து முகம் காட்டுகிறது. பாதமெல்லாம் சோதகமான கங்கை மங்கை அழுக்கு தீர குளித்து அரைகூந்தல் உலர்த்தி நுரை பூக்கள் சூடி கண்சிமிட்டுகிறான் கண்ணாடியாடைகட்டி குஜராத்தி கிழவனின் அகிம்சைக்கு மூடாத மதுக்கதவு கொரோனாவின் வன்முறைக்கு முடிவிட்டதே! ஆனாலும் அடித்தட்டு மக்களின் அடிவயிற்றில் அடிப்பதால் இது முகலாளித்துவ கிருமி! மழையின் தலையில் எரிந்த நெருப்பை திரியில் அமர்த்திய திறமுடையோன் மாந்தன். இதையும் நேர்மறை செய்வான் நோய் என்பது பயிலாத ஒன்றை பயிற்றும் கலை உறுதி கூட்டும் போர் உடல் உண்ணும் பசி நொய்யச் செய்யும் நோய் உய்யச் செய்யும் மரணம் என்ற நான்கும் தான் காலத்தை முன்னெடுத்தோடும் சரித்திர சக்கரங்கள் பிடிபடாதென்று தெரிந்தும் யுகம்யுகமாய் இரவை பகல் துரத்துகிறது பகலை இரவு துரத்துகிறது ஆனால் விஞ்ஞான துரத்தல் வெற்றி தொடாமல் விடாது மனித மூளையின் திறக்காத பக்கத்திலிருந்து

கொரோனாவை கொல்லும் அமுதம் கொட்டப்போகிறது கொரோனா மறைந்து போகும் பூமிக்கு வந்து போனதொரு சங்கமமாகும் ஆனால் அது கண்ணமறைத்து சொன்ன கற்பிதங்கள் மறவாது! இயற்கை சொடுக்கிய எச்சரிக்கை மறவாது ஏ! சர்வதேச சமூகமே! ஆண்டுக்கு ஒரு திங்கள் ஊரடங்கு அனுசரி கதவடைப்பை கட்டாயமாக்கு துவைத்து காயட்டும் ஆகாயம் குழித்து முடிக்கட்டும் மானுடம் முதுகளுக்கு மட்டுமல்ல மூளைக்குத் தேரவும்

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