

JUNE 2019



QUARTERLY MAGAZINE OF THE DIOCESAN - MISSION EDUCATION BOARD, BHILAI

SAY  
YES

TO THE LESS.  
REDUCE WASTE.

Silent Valley National Park, Kerala

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## *Floral tributes to our Spiritual Father*

**His Grace Dr. Stephanos Mar Theodosius  
of Blessed Memory**

**H A P P Y  
B I R T H D A Y**

*Prayerful  
Birthday Wishes to*

**His Grace Dr. Joseph Mar Dionysius**

Metropolitan of Calcutta Diocese  
& Director St. Thomas Mission Bhilai

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# SAYING YES TO THE LESS

REDUCING WASTE TO  
SAVE THE ENVIRONMENT?

The UN theme for World Environment Day '2019' is SAY YES TO THE LESS. REDUCE WASTE. The UN has launched a new campaign to improve waste management around the world. Main streaming sustainable resource management including reforming our approach to waste management is a cross cutting issue that is essential to achieving sustainable development priorities in areas such as climate change, health, poverty reduction, food security and sustainable consumption and production.

Our concern towards sustainability of natural environments: is an issue not only to be addressed at the national level, but an issue for all of humanity. The scriptures teaches that the human being is meant to be a steward of planet Earth, to work and to protect. We are told that everything was created by Him, for us and our generations which followed and to follow, He saw that what was created was good. The world and all that is in it, is His." You can't get a clearer message than this.

The Scriptures and the spoken tradition provide environmental legislation. Our people in our country feel an eternal bond to the 'land of Mother India, and therefore a responsibility to protect its environment. This serves as a precedent for humanity today, as we begin to realize that humanity as a whole has an eternal bond to the most beautiful planet we have yet to discover, our planet Earth.

Thankfully, there are many organizations that are working today to build awareness of the message concerning our responsibility to the environment.. our student community must be aware of the environmental concerns at the grassroot level and be the key in effective management of the concerns.

**Fr. George C Varughese**  
Chief Editor





## FROM THE DESK OF **DEO**

In the Schools and Colleges run by Calcutta Diocese and St. Thomas Mission we aim at fostering Creativity, Critical Thinking & Moral Values. We firmly believe that apart from being a centre to develop the intellectual competence, the educational institutions shall be a hub for nurturing the various skills of the students.

The administration of educational institutions under the Calcutta Diocese and St. Thomas Mission is managed by Diocesan-Mission Education Board headed by the Diocesan Metropolitan H.G. Dr. Joseph Mar Dionysius. Under the Diocesan- Mission Education Board, there are 31 Schools, one Engineering College and two Arts & Science College. About 25,000 students are studying in these institutions under the care of about 1500 staff.

Our institutions are commonly referred to as MGM Group, as about three fourth of the institutions are named as MGM (Mar Gregorios Memorial), after the saintly Bishop Mar Gregorios. Hence this quarterly magazine is titled as MGM Darpan. In this globalised world no one is an island and the same applies to education also. Education can be enriched through collaboration among students, between teachers and students and between institutions. MGM Darpan is a humble endeavour to strengthen the collaboration among our institutions. I hope that MGM Darpan shall be a perfect platform to showcase the literary and artistic skills of the students and staff. It shall act as a catalyst in igniting the minds and also be platform for celebrating the innovative spirit of Gregorians. It shall be a medium to stimulate students to think critically, act wisely, and work skillfully to advance the common good.

May God Bless You!

**Fr. Dr. Joshi Varghese**  
Diocesan Education Officer



# STUDENTS LEARNING ROLE IN THE MODERN EDUCATION SCENARIO

**Dr. Joseph Mar Dionysius SST**

*Metropolitan of Calcutta Diocese & Director /  
Manager of MGM Group of Educational Institutions*



**E**ducation is an all-around development of 'Personality' and refinement of 'Individuality'. Personality is the God-given divine nature in man that moulds, controls and influence the human nature and his individuality. The individuality is the sum total of human nature including the behaviour, interactions, intellectual and emotional aspects and even nature of responses to various stimuli. Individuality reflects the identity of a person and the nature of being in him. Human being, thus do have both 'personality' and 'individuality', the latter being controlled and influenced largely by the former, although the genetical and environmental factors exert their influence also.

Let me introduce three terms—'Information, Knowledge and Wisdom'. Today, we are living in an 'age of Information Technology (IT)'. Every sort of information is easily accessible and available at fingertips. Actually there is an explosion of information in the society leading to sometimes a modern phenomenon commonly called 'information neuro-necrosis'. This is characterised by occurrence of neurotic problems due to the accumulation of information beyond the carrying capacity of the brain. Every person requires only certain quantum of information in correlation with the age, sex, locality, profession etc. Information may be positive or negative, of which the former is good while the latter is bad or even sometimes detrimental too. All information is not knowledge, but all knowledge is information. Positive useful information may be considered as knowledge. It

is the duty of the Education system to filter out the negative information from the bulk to collect positive information and to cook it into an absorbable level of knowledge for the young ones in the subsequent generations. The role of the Teacher is, therefore, imparting effectively the knowledge into the young minds of the students. Wisdom is the third factor required for the wise application of knowledge. Wisdom is divine and is obtained only through piousness. Holy Bible says "fear of the Lord is the beginning of Wisdom, fools despise Wisdom and instruction (Proverb 1:7). Wisdom is the potency to distinguish good and virtue from bad and evil, and the influence to keep away from evil. Knowledge without Wisdom is not only useless but also sometimes dangerous and detrimental. Knowledge with Wisdom is advisable as it is useful and blessing. It is my humble advice to all my beloved children that you should try with all your effort to acquire Knowledge through serious education processes and amass Wisdom through moral/pious/spiritual life. You should also avoid purposefully the negative and dangerous information by using selectively and wisely the e-media.

Our education systems should be able to provide the young generation value-based quality Education at the cheapest affordable level to all sections of the society irrespective of cast, creed, colour and economic discriminations. Value-based quality Education means an education system which trains and equips future citizens with sound education characterised by various

quotients such as intelligent, emotional and psychological, values such as ethical, spiritual, moral and the good old heritage-based traditional ones, potency of decision-making and the capability of addressing contemporary challenges in life. Day by day the level of competency for survival and the severity of competition for placement in the society are alarmingly increasing. The modern society is advancing in such a pace that without proper quality education, sound practical knowledge in computer and advanced technological expertise our young generation in future may find difficult to survive effectively. Educational scenario is experiencing the big shift now. Focus has been shifted from teacher-centred to resource-oriented learning, group to individually-paced work, closed to open systems without formal parameters, provider-driven to user-centred curricula, broad to selected provision to optimize relevance, classroom to work and performance-based learning contexts, isolated to networked environments, one-way to interactive teaching, traditional monologue lecture method of teaching to modern e-media smart class method of teaching at different levels, national to global perspectives, change-resistant to change-expectant etc. This change in the field of education has its own merits as it (1) ensures entry to higher education on intellectual merit, (2) pursues knowledge, (3) shows commitment to social development, (3) offers lifelong learning opportunities, (4) links to the world of professional works, (5) promotes social debate and criticism, (6) provides advice and expertise for national decision-makers and (7) upholds academic freedom. To be successful in the new scenario students must acquire Academic, Business, and Personal Skills from the school. I wish every educational institution in our country should become a trend setter and a granary of values to equip the young citizens.

**In the academic sector,** students must have (1) General and Specialised knowledge, (2) capacity in applying knowledge, logical analysis, (3) ability to resolve problems, (4) capacity to communicate effectively, (5) potency to deal with numerical and statistical data, (6) computer skills, and (7) talent to carry outreach. In personal level, students must acquire again seven virtues (Hepta/Saptha Qualities) such as

(1) self confidence, (2) self control, (3) awareness of one's weakness and strength, (4) creativity, (5) autonomy, (6) general knowledge and awareness of national and international matters and (7) desire to continue learning. As business skills students must develop the following ten factors—(1) positive attitude towards job opportunities and risks, (2) ability to determine priorities, (3) interpersonal skills of relationship building, (4) persuasion skills, (5) presentation skills, (6) ability to work in groups, (7) leadership skills, (8) multilingual mastery, (9) motivation and commitment and (10) flexibility and perseverance.

The basic call of students is to seek Knowledge along with Wisdom. Today knowledge is as important as the three basic necessities of life—food, cloth and shelter. One should become a real seeker of knowledge throughout life from cradle to graveyard as 'knowledge is power'. Wisdom-based knowledge will enrich you to think, speak, behave and act properly in every situation, and at the same time provide you enough strength to address any challenge that may happen in your life irrespective of age, position etc. As the Proverb says, it is a treasure and wealth that cannot be inherited by Kinsmen, or stolen by thieves. It remains the same and intact though it is shared with others. Hence you can keep it lifelong with you, able to carry anywhere and everywhere. When shared with others, it gets multiplied and radiated. While a king is honoured only within the confines of his own kingdom, a scholar is respected everywhere as knowledge is great wealth. Seek knowledge as it provides—Power to overcome all blind faith and superstitions, Power to participate in debates and discussions, Power to discover new things, Power to overcome failures, Power to live an environment friendly life. Along with knowledge, the importance of multilingual aptitude and proficiency in vocabulary is needed to be mentioned. Vocabulary is the 'word power', which can be amassed when the person is young and refreshed as it is difficult to grasp words and vocabulary as the person gets old and the brain gets senile. Enriched word power, at least in three languages—(1) mother tongue, (2) Hindi the national language and (3) English the international language—in Indian context is feasible and advisable.



For the success, not only in Education but also in Life, two mutually interacting factors—ambition and aspiration on one side, hard work and the readiness to take risk and toil on the other side—are essential. The process of target-fixing and goal-setting should not be biased and selfish-based, but potency-based and aptitude-based with due maturity and prayer. The aspiration and hard work with proper planning should always be aptly correlated and nicely balanced. Remember that all great people are those who burned the mid-night oil while all others slept comfortably. As far life success is concerned, the need for presentation tactics, communication skills and earnestness and transparency in dealings are not less important. In developing presentation tactics and communication skills, not only oral and body languages, but also clarity, legibility and audibility are also involved. The students should get training in these aspects and make them habitualise at the young stage itself, as delayed training cannot be of much influence. As per the vision of the Indian educational philosophy, notes of an ideal student are five in numbers—(1) with crow's eye that symbolises keen observation, (2) with swan's meditation that symbolises deep concentration, (3) with dog's sleep that symbolises sound sleep without losing presence of mind, (4) with decaying dress that symbolises simplicity and humility and (5) consuming only simple minimum food that symbolises moderation in feeding habit (notes in Malayalam language: Kaka drishti, Bakadhyanam, Shwananidhra, Jeernavasthramand Alppaharam). Observation of Nature and the Environment in which we live are equally important. The environment with all its radiance, created orders, life-supporting systems, togetherness and rhythmicity of life, various dynamic and auto-controlled processes, diversity at different dimensions etc. are the treasures of knowledge and experience to be studied, observed and experienced. Nature is the greatest University and Library.

Learning is not mere information gathering, but a complex psychosomatic neuronal process, involving many factors and stages. There are many biological or scientific theories to explain learning process. The practical aspects of better learning may be explained by a Formula, 'ASQ—RRRRR', in which each alphabet

represents the succeeding stages in the learning procedure. The first section in the formula, ASQ is the pre-requisite stage (A=affinity; S=surveying; Q=questioning). First an affinity should be created towards the learning subject, which in turn, leads to surveying and questioning to know more about the learning subject. This is followed by the actual stages of learning. The first 'R' signifies 'Resource'; first stage of collection of resource literature on the learning subject. This collection should be done with a hunting attitude of increased enthusiasm and sheer interest. The second 'R' signifies 'Reading'; second stage of scanning type reading which is different from the clerical reading or skimming type reading. Commonly it is known as reading 'between lines'. This type of reading should also combine with keen observation. The third 'R' signifies 'Recapitulation' and this third stage involves deeply thinking process on what is read and observed. This, in turn, results in stratum formation of Facts in mind and logical and intellectual agreeing of the Facts. The fourth 'R' signifies 'review' and this IV step involves preparing a proper review on the subject in one's own words. The fifth 'R' indicates retrieving and this final step is meant for using proper person-specific tools and techniques to make the review prepared and the subject learned in proper memory. These five steps are technically called 'pentad—'R' method of learning', which includes (1) Resource collection, (2) Careful Reading and keen observation, (3) Recapitulation and Remembering on the materials read and observed, (4) Review writing and (5) Retrieval in memory using appropriate (individual-specific) tools and technique.

Last but not least, I firmly believe that, apart from the regular curriculum teaching, it is the moral responsibility of every educational institution regarding the orientation and moulding of the young children, the future citizens in certain practical lessons to be followed in their life. These include (1) lessons of civic senseregarding citizen's duties and privileges and the need of patriotism, (2) moral lessons of community life, (3) lessons of healthy hygienic life, (4) lessons of basic financial management and healthy family life and (5) lessons on living environment-friendly life. If these lessons are inculcated in the young minds, they never forget them in their later life.



## MAKING LEARNING ENVIRONMENT MOTIVATING FOR YOUNG LEARNERS

Childhood years are significant for intellectual growth and personality development. It is the period of maximum learning and as such is crucial for education of the child. Every child is endowed with the built-in physiological as well as neurological mechanism for learning. This mechanism is, however, to be exploited fully by providing learning experiences adequately.

The foundation of all values, attitudes and even achievement is laid in the early years for every individual. Further, the development of all kinds of intellectual, emotional, social and physical is very rapid during childhood years and any deprivation or stimulation is most active either causing obstruction or acceleration in the growth process.

Any individual's intellect, values, emotions and attitudes depends upon the environment stimulation during his/her childhood days.

The Research findings in this field reveal that our children when they enter pre-primary or primary schools have serious handicaps in their learning. The vocabulary is very limited, their concept formation is very poor and their psycho-motor coordination is quite inadequate. When these children are forced to respond to certain standard of learning in their schools, they start disliking and develop a kind of aversion. This leads to heavy drop outs and stagnation, particularly at the primary stage. All the attempts made for universalization of primary education are therefore, found mostly not effective and inadequate.

It is, therefore, felt imperative to make primary school an attractive place for children and to make its programmes interesting to them. Learning in the pre-primary schools, should be made joyful and entertaining instead of dry and drab. Gone are the days when the teacher was an autocrat and pupil were the mere mute subjects. No more to accommodate the teacher to only talk in her class and the

learners to hear silently. Now, the situation has to be changed. Children need not be stuffed with only facts and figures and be treated as empty vessels to be filled up with knowledge by teachers. It has been rightly said that an ordinary teacher tells, a good teacher explains, a superior teacher demonstrates and an exceptional teacher inspires. Especially, the teachers in a pre-primary or primary school should love their children and inspire them in their learning activities.

Once children are inspired and motivated, they will take interest in learning from the tender age and that would bring down the present high percentage of wastage and stagnation at the primary stage.

The Education commission 1964-66 have also suggested that children should be provided with suitable environment so that they will be interested in learning and the drop outs from school will gradually get reduced.



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# THE INDIAN BIOLOGICAL DIVERSITY AND ECOLOGY

The Biological Diversity Act 2002 was born out of India's attempt to realize the objectives enshrined in the United Nations Convention on Biological Diversity (CBD) 1992 which recognizes the sovereign rights of states to use their own Biological Resources. The Act aims at the conservation of biological resources and associated knowledge as well as facilitating access to them in a sustainable manner and through a just process for purposes of implementing the objects of the Act it establishes the National Biodiversity Authority in Chennai.

India has tremendous biodiversity, genetic as well as of species and ecosystems. It contains over 7 per cent of the world's biodiversity on 2.5 per cent of the Earth's surface. This diversity can be attributed to the vast variety of landforms and climates resulting in habitats ranging from tropical to temperate, and from alpine to desert. The number of plant species in India is estimated to be over 45,523 representing about 11.8 per cent of the world's flora. These include over 17,500 flowering plants of which 4,950 species are endemic to the country.

It is estimated that 32% of Indian plants are endemic to the

country and found nowhere else in the world. Among the plant species the flowering plants have a much higher degree of endemism, a third of these are not found elsewhere in the world. Among amphibians found in India, 62% are unique to this country. Among lizards, of the 153 species recorded, 50% are endemic. High endemism has also been recorded for various groups of insects, marine worms, centipedes, mayflies and fresh water sponges.

India is also considered as one of the world's eight centers of origin of cultivated plants. India has 51 species of cereals and millets, 104 species of fruits, 27 species of spices and condiments, 55 species of vegetables and pulses, 24 species of fiber crops, 12 species of soil seeds, and various wild strains. Our globally accepted national 'hot spots' are in the forests of the North-East Himalaya and the Western Ghats, which are included in the world's most bio-rich areas. The Andaman and Nicobar Islands are extremely rich in species and many subspecies of different animals and birds have evolved.

The North Eastern States have 1,500 endemic plant species. A major proportion of amphibian and reptile species, especially snakes, are concentrated in the Western Ghats, which is also a habitat for 1,500 endemic plant species. Coral reefs in Indian waters surround the Andaman and Nicobar Islands, Lakshadweep Islands, the Gulf areas of Gujarat and Tamil Nadu. They are nearly as rich in species as tropical evergreen forests.



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# Kaleidoscope

## NANOTECHNOLOGY - SIZE MATTERS

*Nanoscience and Nanotechnology are two areas that have attracted much attention worldwide in the past few years. This article is intended to take the readers on an introductory tour to these two emerging fields, briefly discuss their positives and negatives and also to give an update on the most recent researches happening in this area.*

When Neil Armstrong stepped on the moon, he said that it was a small step for man, but a giant leap for mankind. Nano can be considered as yet another giant leap for mankind, but with a step that's so small in size. For a layman, nanoscience is basically an intersection of multidisciplinary science and engineering, quantum mechanics and some basic processes of life itself. Nanotechnology on the other hand encompasses the creation of materials, machines and devices by harnessing our knowledge of nanoscience.

The prefix “nano” means one billionth and one nanometer is one billionth of a meter. But to get a true understanding of the nanoscale, a few examples would help. The human hair is approximately 50,000 nanometers thick. A bacterial cell is a few hundred nanometers in diameter. Just ten hydrogen atoms in a line make up one nanometer. A loose atom or molecule floating in space as a little speck of vapour is perhaps a nanometer in size. What makes the nanoscale unique and interesting is that, most of the known properties of materials like conductivity, hardness, melting point, colour etc. change when their size is reduced to the order of a few hundred nanometers or less. For example, a nano size wire does not obey Ohm's law which is a well known equation in electronics. Ohm's law depends on the idea of electrons flowing easily through a wire which they cannot do if the width of the wire is only the size of an atom.



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The size dependent properties of nanomaterials do not sustain once the particles join together. For example, gold nanodots can be orange, purple, red or greenish in colour depending on their size, but they start appearing yellow again, if the particles are pushed together. Medieval and Victorian architecture has some remnants of stained glass windows and ancient pottery having different colours made with nanosize particles. However, they were not aware of the reason why materials were showing those different colors at that point of time. Today, nanoscience and nanotechnology has grown to such a large extent that material scientists are exploring and understanding the unique properties of nanostructures and how they can be utilized in the manufacturing of materials that find new applications in medicine, industry, environment and recreation.

Despite this progress, questions about the hazards of nanomaterials remain mostly unanswered. One reason for this is that the same characteristics that make nanomaterials unique also make it hard to understand their risks. For instance, particles with nanoscale dimensions can reach places that might otherwise be difficult to reach making it advantageous for applications in device monitoring and medicine. As attractive as these attributes are, they also open up a Pandora's Box on the possible impacts on health and environment. Many of the materials are synthesized from toxic chemicals and also using complicated and hazardous methods of synthesis. During a November 2016 Nano EHS



workshop on the environmental health and safety of nanomaterials (2016 Env. Sci.: Nano 3 15), Boris Lau, an environmental engineer at the University of Massachusetts at Amherst, US, and other participating researchers stated that “simplifying complexity is no easy feat when the simple itself is complicated.”

Green Nanotechnology took birth keeping these impending hazards in mind and has grown to be an interesting area of recent research. Many research groups working on “green” nanotechnology are trying to develop alternative synthesis methods that produce more consistent nanomaterials that do not rely heavily on toxic substances and extreme synthesis conditions. In 2018, Jaime Santoyo-Salazar of Mexico's Centro de Investigación y Estudios Avanzados del Instituto Politécnico Nacional and colleagues used *Cinnamomum verum* and *Vanilla planifolia* (sources of the familiar cinnamon and vanilla flavours used in cooking) as both the reducing and capping agents to produce iron oxide nanoparticles that can be used in treatments for cancer. The researchers point out that not only does their method minimize harm to the environment, but they also do not have to separate the product from any harmful chemicals used to produce it which is a significant advantage for nanomaterials used in medicine.

For advocates of green nanotechnology, the next question that arises is how we can safeguard against potential harm from materials, if we are not sure whether they are what we believe them to be. The answer lies in better techniques for characterizing nanomaterials. Advances in scanning-probe techniques based on atomic force, tunnelling currents and electron beams; Raman, infrared and mass spectroscopy; and X-ray diffraction show that it is now possible to study a nanomaterial's vital statistics (morphology, composition, electronic and mechanical properties, and so on) with atomic resolution. These and a plethora of other techniques provide good quality assessments about the synthesized nanoparticles. Here again, the problem arises when manufacturers do not necessarily report details or quantities of the manufactured nanomaterials used in products.” The bottom line is that, investigators need to observe a nanomaterial's whole life cycle – from synthesis to disposal – before determining its safety.

Nonetheless, the recent advancements in the field of nanotechnology are worth big mention. Researchers at California Tech University have designed a way to levitate and propel objects using only light, by creating specific nanoscale patterning on the objects' surfaces. With this new research, objects could be manipulated with a light beam by creating

specific nanoscale patterns on an object's surface. This pattern interacts with light in such a way that the object can return to its original position when disturbed by creating a restoring torque to keep it in the light beam. This work is a step towards developing a spacecraft that could reach the nearest planet outside our solar system in 20 years, powered and accelerated only by light.

All in all, while nanotechnology holds a lot of promise for the future and has already stepped on to centre stage in our lives through our computers, home appliances, even our bodies, much needs to be achieved in terms of actually manufacturing and marketing them in our country. Perhaps, Make in India, Start up India projects and the like would lead the path to manufacturing nanomaterials for our use in the near future. However, at the same time, there will be several issues of safety, public policy and social responsibility which need to be tackled effectively. We may then be able to boast of bringing fruit to a myriad of research taking place in this field.

### **Career Options in Nanotechnology**

Although nanotechnology industry is in its nascent stage in our country, there are many career opportunities for students pursuing their higher studies in this field both in India and abroad. Specialization in nanotechnology holds a very high potential for employment in research and development, academics and industries.

A professional in the field of nanotechnology can work in the field of nano-medicine, bio-informatics, stem cell development, pharmaceutical companies, nano toxicology, nano power generating sectors, food and beverages, space research, product development and advising, genetics, biotechnology, communication & media, forensic science etc.

Some of the companies in India that provide job prospects in nanotechnology are Cranes Software International Limited, Monad Nanotech Pvt. Ltd, Velbionanotech, Qtech Nanosystems Ltd, Innovations Unified Technology, etc.

Several Indian institutes have introduced degree courses in nanotechnology at both the UG and PG levels. In order to become a nanotechnology specialist, aspirants must ideally be equipped with a post graduate qualification in the subject. Generally speaking, M. Tech and M.Sc degrees are being offered by various institutions and universities, for which the criteria is generally set as a B.E./ B.Tech degree in any discipline and B.Sc. degree in physics, chemistry or biotechnology.

There is classic story out there Jack and the Beanstalk. In the story there is character named Jack. Jack is a young, poor boy living with his widowed mother and a dairy cow. The cow's milk was their only source of income. When the cow stops giving milk, Jack's mother tells him to take her to the market to be sold. On the way, Jack meets a bean dealer who offers magic beans in exchange for the cow, and Jack makes the trade. During the night, the magic bean begins to grow into a beanstalk and gives out huge leaves. The next morning, Jack climbs the beanstalk by using these leaves to make up his way on the bean stalk. This is how the beanstalk became famous as it allowed Jack to use it like a ladder. This is one part of the story.

The part that we don't hear about is what was going between Jack and the beanstalk. Jack was climbing up the beanstalk and so he was actually producing lots of carbon dioxide which is a waste product. The beanstalk was not only helping him physically but was also taking in the carbon dioxide and providing him with very special oxygen. If the beanstalk did not do that he may have not made it. As we know that the event was happening during daytime sunlight was also involved in the important for the process of formation of oxygen and this process is called photosynthesis. Beanstalk needs water and carbon dioxide and it is going to produce oxygen and glucose. These are the inputs and outputs of Photosynthesis. On the other hand Jack takes in these glucose and oxygen processing them and gives out carbon dioxide and water and this process is called respiration. This looks perfect, everything is balanced. We can now see how Jack needs the beanstalk and it sounds like beanstalk too needed Jack.

What is really happening out there between Jack and the beanstalk is happening between all plant and animals including human. This is really kind of interesting symbiosis. That is the two are kind of relying on each other. Remember none of this would have happened without light and water. In photosynthesis light energy is converted to chemical energy. Whereas by respiration Jack gets the energy to climb up the beanstalk. So the whole purpose of these two reactions is getting energy.

This is not the full story. There is something else going on as well. The beanstalk is also capable of respiration and produce energy just like Jack. Plant use this energy not to move from one place to another but to form new roots, branches, leaves, flowers and fruits. So actually photosynthesis is happening during the day but at all times plants are capable of respiration just like humans. So human and plant actually have more in common than you might think.

This brings us to an obvious question – Why in the world would a plant give its glucose and oxygen to human and other animals when it needs it itself? Answer will be dealt in the next issue.

## PEOPLE & PLANTS

### Did you know

- Jack and the Beanstalk is a fairy tale
- Beanstalk is stem of bean plant
- Beans are seeds that are used as food
- Sometimes beans are actually the whole pods of a bean plant with its seeds still inside example string beans.
- Beans are generally classified as neither a fruit nor a vegetable.
- Most beans are classified as a type of food called “legumes”
- Some other examples of legumes are peas, lentils, and peanuts
- Some beans like snap peas (with pods) are used like vegetables.
- Beans are very healthy to eat, being full of both fiber and protein, as well as lots of flavour! Yum!!!!
- Some people are allergic to beans or members of the legume family. Peanuts, for instance, are a legume and a common allergen.



*Dr. Vinita Thomas MSc MPhil PhD Botanist working as HOD & Dean of Academics at St. Thomas College, Bhilai. Very fascinated with plants and is silently and diligently working towards environment conservation.*





## Principal's Corner



*Prof. (Dr.) B. L. Handoo has a Master's Degree in English Language & Literature (U.K.), B.Ed. M.Ed. Gold Medalist and PG Diploma in Distance Education (IGNOU). He researched extensively on Piagetian Theory of Cognitive Development at RCE Ajmer for his Ph.D in Cognitive Psychology. Prof Handoo was awarded a Doctorate in Educational Psychology by Cosmopolitan University in USA. Prof Handoo has taught in a Degree College, been Founder Principal of a Teacher Education college, Principal of Reputed Public Schools, Director, Dean of Studies, Consultant and Educational Advisor to Groups of Schools. He is a Quality Management Professional, having worked with and for NABET, QCI New Delhi. He is a mentor, assessor and has trained over 4000 Principals and 50,000 teachers in India & Abroad. He is a voracious reader and has travelled extensively to study Educational systems of other countries.*

## SUCCESS TIPS FOR NEW 21<sup>ST</sup> CENTURY PRINCIPALS

### Congratulations!

You are a 21<sup>st</sup> Century Principal. The next academic year is on.  
How exciting! I bet you're feeling great.

But what now?

What about the things you don't know!

What about the difficulties you'll face!

I started my first principal's position in 1977 and I was very excited. A new beginning for me, I thought. Well, I made my share of mistakes along the way but luckily I had a growth mindset most of the time and learnt a great deal.

I was offered a new principal's position in 1979 and at first I was very reluctant to accept it. Having a growth mindset made me realize I still had a lot more to learn about leadership and life so I accepted the position. It was really hard at first, but I loved it and of course continued to learn.

In 1991 I was forced to take up a new leadership position and of course I accepted it, because by now I had realized I loved learning and I knew I could make a difference to the students and teachers at my school.

Every one of my leadership positions provided me with many challenges and difficulties. When I reflect, it was through my most difficult times that I learnt the most.

**So here's my success tips for you as you start out as a new principal:**

1. Your personal values and integrity are paramount. Know what they are before you start in the position.



2. Build trust and confidence within your school community. Be confident and approachable. Spend time to learn the school's culture, mission and vision. Be visible, ask questions, value what you see and give praise for effective teaching and learning practices.

3. Be human. Establish caring, professional relationships with teachers, students, parents and Board Members. Listen carefully to what they are saying to you. Always show you are interested and try to discover if there is an underlying problem or issue that you or your team can solve. Immediate action taken to solve problems is always seen as positive by the school community.

4. Be inspiring! In your first weeks address teachers, students and parents with speeches about noble educational possibilities, highlighting the school's vision and mission. Create an enthusiasm and optimism to work together in creating future directions for the school. Continue this focus all through your principal-ship.

5. Value the past. Take the time to learn all that has gone on at the school before you arrived. Learn about the traditions, initiatives, successes and failures of the school. Value the actions of your staff. Handwritten notes of appreciation or a quiet personal word of praise are always appreciated and help build team morale.

6. Remember that you are responsible for everything that happens in your school. Don't use 'blame' in any situation, instead ask yourself "What is my responsibility with this problem and what strategic thinking or strategic actions can I take to improve the situation?"

7. Understand that the bottom line in any school is learning and the #1 reason you are there is for the students. Make decisions based on what is best for the students and student learning at all times.

8. Develop highly effective teams; look for unseen talents in your teachers and utilize them. Empower formal and informal leaders. Trust and delegate responsibility.

9. Establish a professional learning community in your school and always model learning. Research best practices for 21st Century teaching and learning and ensure the school has a professional development plan in

place for teachers and parents. Quality teaching is the best way to improve student learning so help your teachers be their absolute best.

10. Ensure your focus on what is important rather than what is urgent every day. Research the school's strategic plan and focus on what needs to be achieved to improve student learning including student engagement, student motivation and student well-being.

11. In your first month, collaborate with your executive team to create a one-year action plan based on the school's strategic plan. Plan 90-day reviews, celebrate your successes and reschedule those goals that were not achieved. It's ok to be agile and flexible as long as you focus on what is most important.

12. Surround yourself with "can-do", forward thinking people. Do not be afraid to employ people more intelligent than you or with a different personality or learning style to you. Different thinkers often see issues/solutions from different perspectives, which can be very helpful.

13. Define your own personal and professional goals each year. Revisit these goals weekly to keep you focused. Include health, fitness, rest, renewal and planned adventures in your personal goals as these will help you be alert, focused and creative. You can't lead others if you can't lead yourself!

14. Consider enlisting the support of a Leadership Coach who you admire and trust. It can be lonely at the top!

15. Remember your ultimate goal is to leave the school in a better place than you found it. Be strategic, work with your School Board to create an innovative new strategic plan to drive the school successfully into the future.

Good luck to you as you start your new academic session.

Remember that there is no substitute for Planning, Hard work and Collaboration.

# A COUNSELLOR'S HELPING HAND

Children with mental health challenges sometimes experience difficulty at school for a variety of reasons. A psychologist receives frequent calls from parents whose children are struggling to be successful and trying to cope with pressures of the curriculum and society. Accessing the services that children may need to help them better manage and support their mental health needs at school can be quite challenging.

## Why Are Mental Health Issues Important in Schools?

Addressing mental health needs in school is critically important because 1 in 5 children have a diagnosable emotional, behavioral or mental health disorder and 1 in 10 young people have a mental health challenge that is severe enough to impair their work at home, school or in the community.

Many estimates show that even though mental illness affects many of school children aged 6-17 most of them do not receive the mental health care they need. In today's world of competition and fast paced life it becomes very easy to fall prey to mental maladies and support is required to get back to normality. A counsellor's helping hand can do wonders.

## Common challenges faced by the school children

**Impaired motor coordination-** Many a times it has been seen that the children are not able to use pencil/pen as well as other students of the class. Their writing speed is slow compared to their classmates. This is a common problem seen among the early school children.

**Slow perceptions-** The understanding process is a bit slack and hence the reactions of the student is slow.

**Peer pressure-** When the peer influence is negative and detrimental for the growth and happiness of the student the peer influence becomes peer pressure.

**Confused future goals-** Many a times the parental expectations clash with the students own need. Many times the societal pressure also doesn't match with the students need. Unclear perceptions regarding vocations and choice of subjects also cause confusions in a young mind.

**Unhealthy competition-** Competition among students should be of knowledge and learning not grades and positions.

**Aggressive behavior** – Last few years in school are the aggressive years for a student. This aggression can be due

to biological, social or familial reasons. For instance, aggression stems out of clash in parental and personal ideologies. Interest in the opposite sex and various blockages enroute to the fulfilment of that. Insecurities a teenager faces and many such reasons.

**Parental pressure-** This can have both positive and negative impact but when we talk of the word pressure, the underlying meaning denotes negativity. There may be many reasons for this pressure that can be explained in terms of defense mechanisms like transference, projection, denial of reality etc.

**Impaired teacher- student relationship-** Teaching is a two-way process. No teaching is possible from the side of the teacher if the teacher is himself not ready to learn from the students.

## From the Counsellors Desk

A trained counsellor is needed at such times when a school student faces any of the above-mentioned trauma.

## Being able to recognize and support a child's mental health in schools matters because:

- a) Mental health problems are common and often develop during childhood and adolescence
- b) They are treatable
- c) Early detection and intervention strategies work. They can help improve resilience and the ability to succeed in school & life.

Students as well as the parents are invited to send their queries related with any mental health issue to [mgmdarpan@gmail.com](mailto:mgmdarpan@gmail.com)



*Dr. Debjani Mukherjee is a practicing psychologist heading the department of psychology at St. Thomas College, Bhilai for the last 28 years. She is an active member of the international positive psychology association and has been using the concept in her interventions in counseling. Dr. Debjani has presented papers at many national and international conferences to the psychological fraternity across the globe.*



अक्सर छोटी उम्र में छात्र विषय का चयन कर लेते हैं लेकिन 92 वी के बाद उनके मन में ये सवाल उमड़ते हैं कि इस विषय से संबंधित किस क्षेत्र में उनके लिए ज्यादा स्कोप है। कई बार जानकारी के आभाव में वे गलत दिशा में आगे बढ़ जाते हैं। किसी भी कैरियर का चुनाव करते समय ज्यादातर युवा कन्फ्यूज रहते हैं कि आगे चलकर इसमें अच्छी सैलरी मिल पाएगी या नहीं। जाहिर सी बात है कि अच्छी नौकरी के साथ-साथ हर कोई अच्छी सैलरी भी पाना चाहता है। यहाँ जरूरी ये भी है कि कोर्स करने के तुरन्त बाद आप ढेर सारा पैसा कमाने लेंगे। कई बार नौकरी मिलने में समय लगता है लेकिन उसमें लगा समय नौकरी की सही अहमियत बताता है इसलिए निराश न हो उपरी कोशिशों में लगे रहें, सफलता की कोशिश करते रहें एक न एक दिन सफलता आपके कदम चूमेगी। सफलता के लिए जूनूर जरूरी है।

## सफलता

### १. प्लान का होना जरूरी है

अगर आप सफल होना चाहते हैं तो आपके पास भविष्य के लिए एक प्लान का होना बेहद जरूरी है। उद्यवस्था और असफलता एक सिक्के के दो पहलू होते हैं। अगर आप व्यवस्थित नहीं हैं और आपको टूटू नोट्स लिखने की आदत नहीं है तो इसे तुरंत अपनी जिंदगी का हिस्सा बना लीजिए। साथ ही छोटे छोटे लक्ष्यों से अपने प्लान की शुरुआत करें। जैसे अगर आप 90 हजार लोगों को इंटरटेन करना चाहते हैं तो शुरुआत 90 लोगों से करने से भी कोई बुराई नहीं है।

### २ हर दिन कीजिए प्रैक्टिस

अगर आप असंभव चीजें प्लान कर रहे हैं तो थोड़ा रुकिये। उन्हें जांचिए और देखिए कि रोजमर्रा की जिंदगी के तमाम काम करते हुये आप अपने पैशन के लिए प्लान कर सकते हैं याद रखें आप 24 घंटे के दिन को 9 सेकंड के लिए भी नहीं बढ़ा सकते इसलिए प्रैक्टिकल हो जाइए और अपने असंभव लक्ष्य को संभव मकसद में बदल दीजिए।

### ३ . खुद से पूछिए सवाल

कोई भी काम आप क्यों करना चाहते हैं यह महत्वपूर्ण सवाल होता है जिसका जवाब आपको स्वयं ही खोजना है। आपका इंडिया आपको किस तरह सफल बनाने वाला है यह जानना सबसे अधिक जरूरी है। गलतियाँ तो हर इंसान से होती हैं और आपसे होने वाली गलतियाँ भी इस प्रक्रिया का हिस्सा होती हैं। याद रखें छोटी गलतियाँ से ही आप बड़ी मंजिल तक पहुंचेंगे।

### ४ . अपना पैशन पहचानिए

डसी मकसद के लिए काम कीजिए, जो उपायों में जीतने का जूनून पैदा करें। आपका जूनून ही आपकी सफलता का ईंधन है अगर ऐसा नहीं है तो कामयाबी की गाड़ी भी नहीं चलने वाली। लेकिन अगर ऐसा है तो फिर आपको अपने पैशन को सही दिशा में विकसित करने के लिए कई महत्वपूर्ण कदम बढ़ाने होंगे।

### ५ . खुद पर भरोसा करें

अगर आप खुद पर ही भरोसा नहीं करेंगे तो दुसरे आप पर कैसे यकीन कर सकेंगे। इसलिए पहले अपनी योजना पर खुद ही विश्वास करना सीखिए या फिर विश्वास करने लायक योजना बनाईए। इसके बाद काम पर लग जाईए हा, लेकिन यह भी याद रखें कि आप सब कुछ अकेले नहीं कर सकते, इसलिए एक टीम को प्लान का हिस्सा बनाएं। इस टीम की प्रेरणा भी बने।

# समय पर ही मिलती है सफलता

Rita Singh

MGM Hr. Sec. School, Bhopal



# THE IMPORTANCE OF VALUE EDUCATION IN SCHOOLS



“Education is an ornament in prosperity and a refuge in adversity.” -Aristotle

The importance of value education at school level is our country's supreme need today. Its values are essence of human life, they must be integrated with education which aims at ensuring full sided development of individuals.

Gandhiji throughout his life followed the ideal truth and non-violence. He observed “Education is the preparation for complete living, adjustment to environment , perfection of one's nature, character building and harmonious development of personality. Thus the proper inculcation of value and development of character is the responsibility of school.”

Value education aims to achieve two basic outcomes: Helping students to understand better, the values that guide their own daily lives and contributing to changes in values held collectively by communities and personally by individuals.

Value education is important for everything we do in life. It is an education where learners learn value from educators and implement them in future to lead a better life, the life of humanity where religion has no importance, the thing that value most is your character. It starts from home and it continues throughout the life, but value education in schools plays a major part in a man's life so it should be taught in each and every school to add values to the children for their better tomorrow.

The areas that come under value-based education are – Character development, personality development, citizens education, social development, spiritual development and cultural development. All these come under one roof and are known by the term “value education”.

“Intelligence plus character – that is the goal of true education”

The school is a model of the world so the goal of value based education in school is to nourish the learners with moral values, virtues based on which their actions will reflect their behavior. So, by educating the children with value education, you are creating a better world for tomorrow to live in.

It is only by educating children with value-based learning that we can make a better country and live together in peace.

**Sindhu Manoj**  
(PGT BIO), MGM Bhopal

# PROCRASTINATION

**ANUPRIYA MITTRA**

PGT ( ENGLISH)

MGM Hr. Sec. School, Bhopal

**P**rocrastination is a challenge, we have all faced in our lives. It is a mental stage when we start delaying or avoiding any essential task, we need to do for our betterment or as a necessity. Human beings have been procrastinating for centuries. Infact , the ancient Greek philosopher like Socrates and Aristotle developed a word to describe this type of behavior: Akrasia.

Akrasia is the state of acting against your better judgement. It is when you do one thing even though you know you should do something else. Loosely translated, you could say that Akrasia is procrastination or lack of self-control. A mentally strong, human being has a firm grip over himself. He succeeds in controlling himself in such way that he overcomes a procrastination. The best way to understand this term is to imagine that you have two selves: The Present self and the future self. When we set a goal and we are likely to get the outcome after a long time in future, we tend to become disinterested and therefore procrastination creeps in. And if we tend to reward ourselves within short time period, we get easily interested and motivated to start the job assigned. Another common example to understand this term can be the aim of weight loss. People start their diet plan in order to lose weight for which they achieve their desired result after a year or two. This long term reward demotivates most of the people who end up diminishing their struggle.

Procrastination not only affects the adults but is also a common factor among children. The school going children are gravely affected by this. It takes no time for them to plan out their schedule to acheive good result at the end of the session. But when the actual time comes to execute their plans, they start delaying and postponing. To a major extend they may also give up.

The most vital question that arises among all is, how to avoid procrastination. The first and foremost method can be to fix short term goals, so that the



interest may remain intact, and become easier to avoid procrastination. When we will be rewarded frequently then our inclination towards the job will be more intense. Secondly, we can listen to our favourite songs while doing the household chores , thus making it enjoyable, Conducting your monthly meeting with a difficult colleague can be dull and tiresome which can again promote procrastination. Hence, this situation can be avoided by eating in your favourite restaurant while dealing with your colleague or client. Thirdly, one can even find a partner or friend to accomplish any task. This way one can surely feel interested and entertained while fulfilling one's job. Another common strategy is to throw a challenge to yourself. If you don't fulfill the desired task in a desired time, then you shall lose your pocket expenditure for a month or so.

To win over this state of procrastination can be challenging for one and all but it is very essential for our personal development and growth. Life is insignificant without a goal or an aim, We can only achieve it, if we value time and do not waste it by postponing our task. Success will come to us if we avoid procrastination.



- Goals are something you are acting on. Dreams are something you are just thinking about. Goals require action. Dreams can happen without lifting a finger, even while you are asleep.
- Goals have deadlines. Dreams are just, well, dreams. Goals must have a deadline. They have a time limit. Dreams can go on forever. In fact, many people maintain dreams their entire lives without ever reaching them.
- Dreams are free. Goals have a cost. While you can daydream for free, goals don't come without a price. Time, money, effort and sweat. How will you pay for your goals?
- Goals produce results. Dreams don't. Want to change your life? Your job? Your status in life? Goals can do that. A good friend of mine made six-figures on the eBook he published. He did that. Had it stayed as a dream, his life would have been as it always was.
- Dreams are imaginary. Goals are based in reality. You may dream of being Superman, but that is probably not going to happen. Goals are about what you can actually accomplish. They are grounded in the reality of our world. Goals should be big, but not supernatural.
- Goals have a finish line. Dreams never have to end. Dreams can go on forever. They don't have to have an ending point. Goals must have a specific outcome.
- Dreams can inspire you. Goals can change your life. Dreams can bring you motivation. They can inspire you. But, goals can change your life forever.
- Goals must have focus. Dreams don't. Dreams can be drifting, ever-changing thoughts. Goals must be laser-focused. They must be specific and they must be always on your mind.
- Goals require hard work. Dreams just require your imagination. Dreaming is easy. Almost everyone has a dream. But, fewer people have goals. Goals are hard and they require hard work.
- Dreams stretch your imagination. Goals stretch you. Dreaming leads to bigger dreams. They stretch the limits of your imagination. But, goals stretch you. They increase your skills, your abilities, and change you forever.



## DIFFERENCES BETWEEN GOALS AND DREAMS

**Pavan Kumar Patel**

(PGT-Computer)

MGM Hr. Sec. School, Bhopal

# BENEFITS OF CO-CURRICULAR ACTIVITIES FOR STUDENTS

A new school year is about to start and as students everywhere are getting ready for classes, many are also looking forward to participating in co-curricular activities at school. Co-curricular activities take place before school, at lunch, or after school. They complement what students are learning in school and support intellectual, emotional, social, moral, creative and physical development. Examples of co-curricular include sports teams, art club, science club, student council, debate club and the student newspaper. Participation in co-curricular activities benefits students in many ways. Here are five key benefits of co-curricular activities:

**Mrs Richa Parmar**  
(PGT Economics)  
MGM Bhopal

## 1. Social Skills and Relationship-Building

Students often participate in co-curricular activities with students in other grades which helps to develop relationship skills and, in many cases, lasting friendships.

## 2. Time Management Skills

Students participating in co-curricular activities learn to manage their time effectively, prioritize among different competing commitments, and be proactive and creative problem-solvers. Often, the students most engaged in co-curricular also have the strongest time management skills.

## 3. Exploring of Interests

Co-curricular activities offer a nearly infinite range of possibilities for students wanting to develop and nurture various interests from athletics to the arts and beyond.

## 4. Developing Self-Esteem

Not all students excel academically. Experiencing success or being recognized for a contribution to a co-curricular activity can greatly improve students' self-esteem. Oftentimes, this can have a positive impact on performance in the classroom.

## 5. Commitment

Participation in co-curricular activities requires students to make a longer-term commitment to something and see it through. Many students stay involved in the same activities year after year and can eventually take on a leadership role.

Encouraging both personal and academic achievement challenges students to excel in their studies and in their personal development. Co-curricular activities give students opportunities to be active in their communities and to take their learning beyond the classroom. This, in turn, helps students do better academically and be better prepared for the next stage in their life.





## MY SCHOOL

M.G.M school has two branches in Bhopal. One is situated in Subash colony and another one is situated in Awadhपुरi , Canaan garden . I have studied in M.G.M school of Subash colony from class nursery to 8 and then got transferred to Awadhपुरi for higher studies . I had wonderful learning experience in both the school. The school is affiliated to C.B.S.E and fully english medium. Teachers in both the school are trained and well experienced . The school has peaceful , disciplined as well as competitive atmosphere . School focuses on physical as well as mebtal development of child. School is fully equiped with Chemistry , Biology , Computer and various educational labs. Smart classes are also there for interactive learning. M.G.M is a place which understands the children from inside and prepares them as the world wants them to do. M.G.M aims at developing each child into a whole personality. So , my experience in both the branches of M.G.M in Bhopal was fantastic.

**Prashu Deshmukh**

Student (Class X Topper 2018-19)  
MGM Hr. Sec. School, Bhopal

## ENVIRONMENTAL EDUCATION

The World Environment Day -26th January ,emerged in 1775 during the International Environmental Education workshop in Belgrade (capital city of Serbia) attended by experts from over 70 countries.

Establishing environmental education principles within the United Nation's programs framework and publishing the Belgrade Charter are some of the outcomes of the meeting in the latter fundamental vindications of environmental education are established.

Today we are facing various types of problems relating to environment such as depletion of forests, pollution of water, air, land and soil. There are various factors which are responsible for environmental degradation which basically involves human activities.

Environmental education plays an important role in creating an awareness among the people on environmental problem and conservation .This involves protection of atmosphere, land resources and biological diversity. Environmental education promotes the value and necessity of local, national cooperation in prevention and solution of environmental problems. It creates an atmosphere so that people participate in decision-making and develop the capabilities to evaluate the developmental programs. A developmental program can be successful when it begins from the participation of the local people. More than 60,000 Green schools are established in the world. Swachh Bharat Abhiyan is a nation-wide campaign in India for the period 2014-2019 that aims to clean up the streets, roads and infrastructure of India's cities, towns and rural areas.

We should take a step ahead by introducing three R's in our daily life.

"RECYCLE" waste products

"REDUCE" the use of pollutants such as fossil fuels

"REUSE" the household items

Let's educate for life-to preserve our home for future generations.

Let's each one of us not only learn but celebrate this Environmental Education.

"Every individual matters,

Every individual has a role to play,

Every individual can make a difference."

**Varsha Pradhan**

(TGT Social Science), MGM Bhopal



# ACHIEVEMENTS



**Suhana Begum**

State 1<sup>st</sup> Rank Class XII-Commerce  
MGM HSS Dimapur



**Shingke Poangmai C**

State 2<sup>nd</sup> Rank Class XII-Arts  
MGM HSS Dimapur



**Vatsal Awadhiya**

(Class X) - **95.6%**  
MGM School, Raipur



**Sneha Yadav**

(Class X) - **95.4%**  
MGM School, Itarsi



**Sandeep Singh**

(Class X) - **95%**  
MGM School, Itarsi



**Nishant Soni**

(Class X) - **95%**  
MGM School, Raipur



**Mayank Jangid**

(Class X) - **94.8%**  
MGM School, Raipur



**Prashu Deshmukh**

(Class X) - **93.6%**  
MGM School, Bhopal



**Kritika Gour**

(Class X) - **97.2%**  
MBVB, Bhilai



**Vasundhara Rajput**

(Class X) - **93.8%**  
MBVB, Bhilai



**Shirin Firdaus**

(Class X) - **93.4%**  
MBVB, Bhilai



**Krishna Dev Pandey**

(Class X) - **92%**  
MBVB, Bhilai



**Aman Sahu**

(Class X) - **91.8%**  
MBVB, Bhilai



**Aakriti Sahu**

(Class X) - **91.4%**  
MBVB, Bhilai



**Garima Agarwal**  
**96.4%** (Class XII- Commerce)  
 MGM School, Raipur



**Sonal Rajpal**  
**96.4%** (Class XII- Commerce)  
 MGM School, Raipur



**Shruti Agarwal**  
**96%** (Class XII- Commerce)  
 MGM School, Raipur



**Siddesh Pandey**  
**94.2%** (Class XII- Maths)  
 MGM School, Raipur



**Shruti Halder**  
**91.2%** (Class XII- Bio)  
 MGM School, Raipur



**Bhumika Raghvani**  
**91%** (Class XII- Commerce)  
 MGM School, Raipur



**Tanya Soni**  
 (Class XII) - **95%**  
 MBVB, Bhilai



**Kanchan Rai**  
 (Class XII) - **89%**  
 MBVB, Bhilai



**Ankit Shende**  
 (Class XII) - **88%**  
 MBVB, Bhilai



**Vaibhav Singh**  
 (Class XII) - **85%**  
 MBVB, Bhilai



**Md. Fahad Akhtar Khan**  
 (Class XII) - **83.3%**  
 MBVB, Bhilai



**Sukhpreet Kaur**  
 (Class XII) - **83%**  
 MBVB, Bhilai



**Chhaya Sahu**  
Gold Medals (*International Level*)  
& CM Award  
Karate  
MBVB, Bhilai



**Soujanya Pandey**  
Gold Medals  
(*International Level*)  
Karate  
MBVB, Bhilai



**Anushtha Mittal**  
Gold Medals (*National Level*)  
Judo  
MBVB, Bhilai



**Vishal Kushwaha**  
Two Gold Medals  
(*Open National Level*)  
Karate & Kata/kumite  
MBVB, Bhilai



**Raunak Behera**  
Gold Medals (*National Level*)  
Kick Boxing  
MBVB, Bhilai



**Harsh Tambe**  
Bronze Medal  
(*International Level*)  
Karate  
MBVB, Bhilai

## ACHIEVEMENTS OF MGM HSS BOKARO

- Bokaro district Rope skipping championship was held at MGM HSS bokaro on 29th July 2018 and the school bagged 14 gold medals, 7 silver medals and 4 bronze medals.
- Bokaro district Judo championship 2018 was held at MGM HSS BOKARO on 4th and 5th August 2018 and the school bagged 21 gold medals, 17 silver and 8 bronze medals.
- CBSE east zone (Allahabad Patna region) Judo championship was held at Baldeo public school, Mathura, UP on 6-9th October and the school got 1 gold, 1 silver and 8 bronze medals.
- Bushikan national karate championship 2018 was held at Dhanbad and school got 2 gold, 4 silver and 3 bronze medals.
- MGM HSS Bokaro won the third place in CBSE Cluster III Basketball tournament for boys under 17 held at Jamshedpur.
- Our school won the 1st position in interschool Basketball tournament held between 26th and 28th April 2019.
- Our school won the Jr. N.B.A Championship basketball 2019 held at Ranchi.
- 10th Jharkhand State Rope Skipping Championship was held at Bokaro Public School, Bokaro on 7th May and our school bagged 18 Gold, 5 Silver and 2 Bronze medals.



# HIGHLIGHTS



**WORLD ENVIRONMENT DAY  
MGM COLLEGE, DIMAPUR**



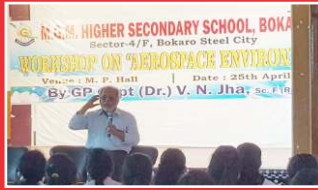
**ETHNIC DAY CELEBRATED  
AT MGMHSS, DIMAPUR**



**GRADUATION CEREMONY  
IN MGM PUBLIC SCHOOL  
BHILAI**



**WORLD EARTH DAY  
MGM BOKARO**



**WORKSHOP  
AEROSPACE ENVIRONMENT  
MGM BOKARO**



**VOTING- A WAY TO  
EXPRESS OPINION  
MGM BOKARO**



**MGM KIDS, Itarsi - a new Pre-primary School inaugurated by  
His Grace Dr. Joseph Mar Dionysius  
*Manager Bishop of M.G.M. Group of Institutions***

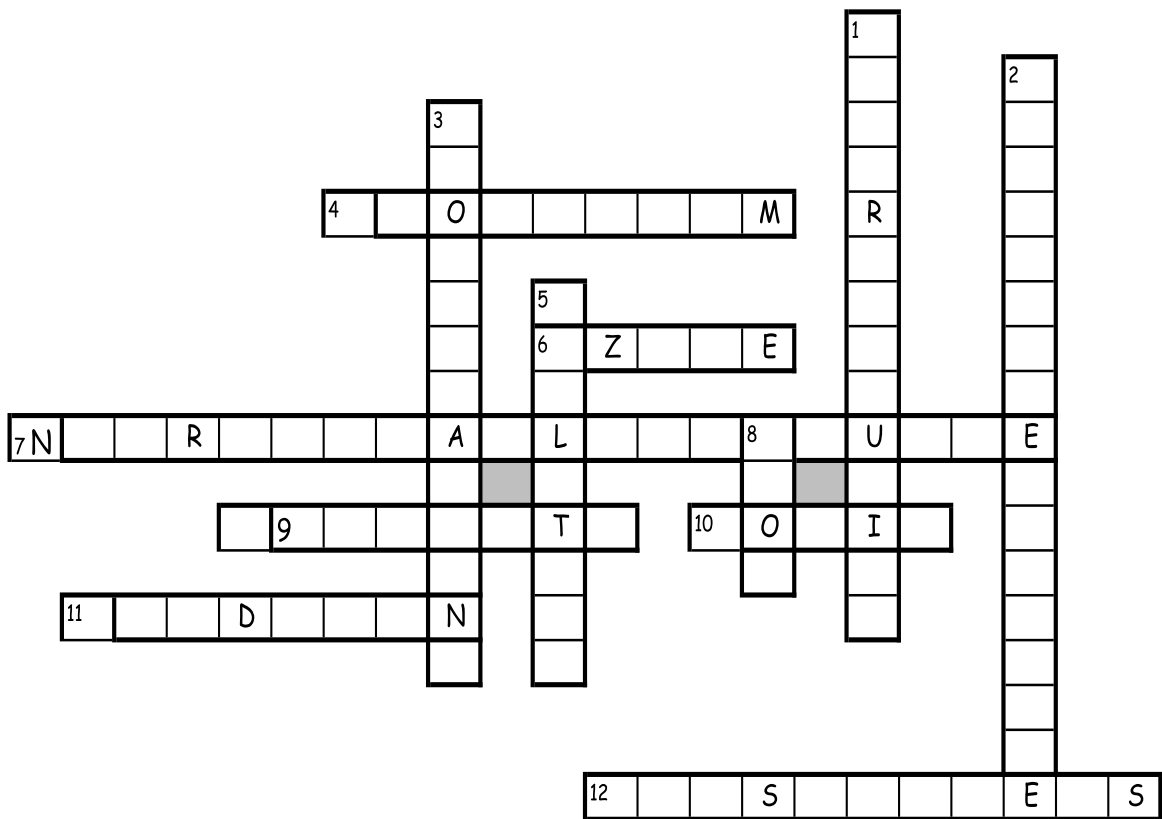
**MGM HSS BOKARO WON  
MAXIMUM MEDALS IN DISTRICT KARATE COMPETITION**



## MGM SCHOOL, ITARSI

*Apart from improved academic results from the previous year as a part of silver jubilee celebration school conducted inter school sports and cultural competition. About 8 schools of Hoshangabad district participated in various events.*

# POLLUTION AND ENVIRONMENT



## Across

4. A community of organisms that depend on each other and the environment they inhabit.
6. destroyed by CFCs
7. can only be used once
9. The pattern of weather in a particular region over a set period of time, usually 30 years.
10. another word for poisonous
11. Rain that contains a high concentration of pollutants
12. Fuels - such as coal, gas, peat and oil

## Down

1. Caused by oil spills and factory waste
2. one that can be used again and again
3. An increase in the earth's average atmospheric temperature that causes changes in climate that may result from the greenhouse effect.
5. Contamination of the earth
8. smoke and other pollutants combined with fog

Answers on Page 35

# ENVIRONMENTAL EDUCATION

**E**nvironment is a place which is provided as a gift to all organisms living in this blue planet. It includes not only mankind but also flora and fauna and every living and non-living things such as air, water, land etc. Environment provides us all the life supporting materials such as oxygen, water and most importantly the place or the land in which we are living. But the mankind is overusing the resources provided by the environment. This overusing of resources leads to ecological crisis. With the increase in ecological crisis all the environment activities such as global warming are disturbed which led to the disturbance of the environment by various factors such as temperature or water.

There are many issues which are included in this ecological crisis or we can say that the mankind disturbs the environment in many ways such as land degradation. Land degradation can be increased with the increase in population and also by wasting lands such as by putting chemical fertilizers for better produce which results in reduction of fertility of that land. Another major topic can be deforestation. Deforestation refers to cutting of trees recklessly. People cut trees for cultivation, building roads and for other purposes but they don't plant a single plant in return of that. For example recently the work of Bhopal-Nagpur highway is in progress and for the construction of that highway many trees are being vanished but not a single planted anywhere. This results in the imbalance between the two. If we are cutting trees then it is our responsibility to plant that much amount of trees in any other place. If we plant and care a single tree in a year then after ten years the no. of trees will be ten and if two persons are planting then it will be twenty and if thirty people are planting then we will get three hundred trees after ten years. By this gradual processes many trees can be planted. if 21crores of population of India do this activity every year then there will be many trees in a year.

Another problem can be of water crisis. Water which is very important for the survival of all the living organisms

in this world has been being wasted by us. There is only one percent drinking water left on the Earth which is also being wasted by us. Taps are left opened, overusing of water in washing cars and roads, etc. are the activities which led to water scarcity. These activities leads to water crisis and gradually this blue planet is becoming water less.

Another major problem can be of pollution. Pollution can be of any type whether noise, soil, water, air etc. but it affects our beautiful Earth and Environment very badly. Among this air pollution is known as gradual killer. It mixes all the chemicals of factories and industries in oxygen which is present in air and that polluted oxygen is being inhaled by all organisms which causes several lungs and heart problems which can led to death. Beside all these problems cleanliness has its own importance. But the environment is not so cleaned also. People used to keep their house clean and throws garbage in public places like theater, streets, parks etc. environment should be cleaned so that many diseases can be prevented.

Sustainable development and environment education can be a key solution for all these problems. Environment education refers to understanding the environment and protecting it from all these problems. This protection can be done by sustainable development. sustainable development refers to a development which doesn't harm the environment or in other words the present pace of development should not compromise with the needs of future generations. With this sustainable development another better solution can be awaring the population by environmental education about this ecological crisis. To tackle all these problems we have to be united and be active and protective towards our mother Earth.

So keep your environment clean and pollution free. Save water and plant and care not more but at least one plant in a year.

**SOUMYA DWIVEDI**  
Class : 10th 'C'  
M.G.M. Hr. Sec., Itarsi



# ENVIRONMENTAL EDUCATION

*Environmental education just tells every responsible human of this planet the right way to live and progress without damaging the resources and the planet and saving it for the future generations.*

Environmental education refers to the efforts that are being done just to teach human being that how they can save the planet just by their small but effective efforts so that they can live sustainably. It is a field integrating subjects like biology, physics, chemistry, ecology, earth science, atmospheric science, mathematics, geography. Environmental education plays an important role in imparting an inherent respect for nature and mother earth and in enhancing public environmental awareness. It involves development of societal quality of life, with protecting the environment too. It also involves removing poverty, inequality and safeguarding a sustainable future for the planet. It does not imply just for school system but also includes all efforts to educate all human through print material, mass media etc.

***"we have not inherited the earth from our forefathers but have borrowed it from our children."***

## **Environmental education focuses on:**

- Thinking critically and smartly when evaluating environmental issues.
- Making proper judgment about those environmental issues.
- Developing independent perspectives for sustainable development.
- To enhance the appreciation of the environment, resulting in positive changes.



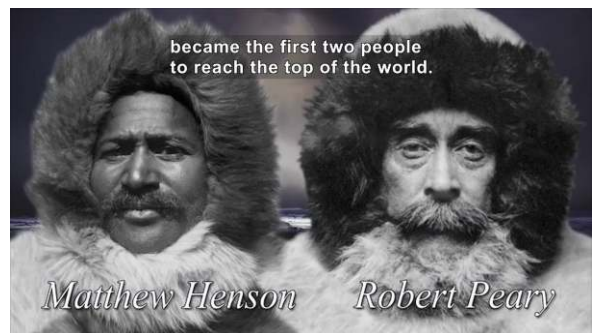
**Samarth Singh**  
Class-12<sup>th</sup> A  
M.G.M. Hr. Sec., Itarsi

# AMAZING FACTS ABOUT POLAR REGIONS

Ever Since the discovery of North Pole by Robert E. Peary, Matthew Henson, and four Eskimo companions in 1909 has been a place of international interest due to the vast underground oil reserves in the Arctic Circle. North Pole is situated in the Arctic Circle and the South Pole is in Antarctic Circle. There are actually two North Poles on Earth. They are called north magnetic pole and north terrestrial pole. North Magnetic Pole is said to be magnetic phenomena that change on the daily basis as our Earth crust changes. The average location of the Magnetic North Pole is called Geomagnetic North Pole. North terrestrial pole is a fixed point which points the top of the earth.

North Pole is created by the accumulation of floating ice pieces coming from Arctic sea. The latter has an area of 9 to 12 million square kilometers, and thickness of 3 to 4 meters, with ridge height of 20 meters. In contrast, Antarctic sea is spread in around 14 million square kilometers. It is covered by 3 kilometers wide thick layer of ice on South Pole. North Pole's peak is created by the top thick layer of ice present on Arctic sea, whereas South Pole's peak, is created from Antarctic region's deep embedded ice layer present in the Antarctic Iceland.

The average temperature of South Pole has been observed to be - 28° C (during summer) and -60° C (in winter). Sun shines for about six months continuously; however, sun rays are never warm For man of Polar Regions enough to provide enough heat to the living beings in those regions. Rest of the six months, it is dark there. Similar situation has been observed in the Arctic region of North Pole, with average temperature of 0° C (in summer) and - 40° C (in winter).



These seemingly barren landscapes are home to a rich diversity of wildlife-both on land and under the sea surface that has evolved to survive these harsh conditions. The outer reaches of the Arctic Circle are a great place to see polar bears in the wild. Other Arctic dwellers are Orca, Humpback, and Beluga whales, and the arctic fox. Several species of flying penguin-like birds called auks, guillemots, and puffins can also be seen in the Arctic Circle. Penguins are not found in the North Pole. They live in the South Pole.

Despite the freezing-cold temperatures, millions of indigenous people, called the Intuits" live in the Arctic region. They've found ingenious ways to survive in one of the harshest environments on our planet. They have traditionally inhabited the northern circumpolar region from eastern Siberia to across Alaska. People live in semicircular house made of ice blocks, which is known as Igloo. Their major food for survival, are fish. Reindeer is their main pet animal and is used for drawing sledges and as a source of milk, flesh, and hide.

This demonstrates that one can survive in any situation with wisdom, confidence and courage For determined people, nothing is impossible.

For humans, the Arctic is a harshly inhospitable place, but the conditions there are precisely what polar bears require to survive – and thrive. "Harsh to us is 'home' for them -

**Anurag Diwan**  
M.G.M. Hr. Sec., Itarsi



# ECO-AWARENESS

The readiness to assume the guilt for the threats to our environment is deceptively reassuring. We pull the strings of catastrophe and assume the role of a passive observer who sits and watches what our fate will be: Destroying and abusing our natural resources on the pretense of increasing its usefulness, is a frantic and exhaustive effort which will undermine the days of our children.

Landscapes of great wonder and beauty lie under our feet and are for us to preserve. Environmental education allows individuals to explore, analyze and introspect environmental issues to better the environment. It helps students to understand how irresponsible human decisions and actions can affect the environment and enhance its health and sustainability.

The guiding principles of environmental education are varied and intrinsic. Firstly, it should be continuous and compulsory – from preschool to all the formal and non formal higher levels. Secondly, it must have an interdisciplinary approach. Thirdly, it should promote the necessity of examining major environmental issue which encompasses the totality of the environment. Lastly students should be made aware of the complexity of the environmental problems and their skills and critical thinking should be developed to thwart the environmental damages in proposed developmental projects.

Thus the need of the hour is a strategic Environmental Impact Assessment which bases its finds on a significant amount of primary and secondary data. An extensive study of the data can be well used to understand the existing environmental scenario of the concerned area.

Environmental education goes far beyond simple identification of tree and animals to a much richer tactile and spiritual level, something we pine for in today's concrete –covered indoor world. It develops our stewardship that reiterates while the earth is ours to use, it is also ours to understand, hold, conserve and replenish. This magnificent creation of the universe is delicate but restorative too. If we are educated about it and if we care, we can make a huge difference in maintaining and restoring nature .Our lives and our future generations depend upon it .What we are waiting for? Lets tune in together to connect with this beautiful ,grand and wonderful natural world .The greatest threat to our planet is the belief that someone else will save it.

**Mrs. Sayantani Chattopadhyay**  
M.G.M. Hr. Sec. School  
**Bokaro Steel City**



# Moving 10 years down the lane of our lives; what are we craving for? Water..... maybe; Food, not that much; But the green cover; the trees.

The rate of trees count is dwindling at a whopping rate of 31.6 percent per annum. More than a quarter of our global forest cover loss has been registered since 2001. The forest restoration programs undertaken by the government are also moving at a very slow pace which cannot compensate the loss of the treasure from which we are losing our grasp on. Stepping out of the nutshell, we can see how fast we are losing our natural shelter due to the so called “development of manmade shelter”. Moreover, increase in population has masacraed the trees which in turn has led animals and humans in jeopardy. In short, we are digging our own graves and falling into it is inevitable.

Thus, as the new generation and for the generations to come, we need to take steps to restore our natural wealth and the imbalance created by our ancestors. We should not forget that this world around is a gift and we must try our best to preserve it. Let's take a step which is in the favor of humanity as well as all other life forms before Mother Nature changes her way of teaching us a lesson.

**Adarsh Kumar Keshri**

**XII - A, M.G.M. Hr. Sec. School , Bokaro Steel City**

**MGM DARPAN**



# ENVIRONMENT EDUCATION IS MORE THAN JUST INFORMATION ABOUT **ENVIRONMENT.**



If not just information, what else does environmental education aims for? Well, environmental education aims to develop a population that is aware of the environment and its constituents. It aims at teaching how nature functions and how humans can manage to live sustainably. Knowing about and conserving the environment is not our deed, it's our need.....our necessity.

The earth is where we all meet, what we share in common and if we do not take actions, the future can even be not at all. And hence, environmental education is a must in today's generation. It is a very simple process of recognizing values and clarifying concepts in order to develop skills and understand the inter-dependent relationship between human beings and the environment.

Therefore, we need to be taught about nature.....not as its savior, but as its borrower.

Besides providing information about the environment, environmental education provides:

- Awareness and sensitivity: to environment and related challenges.
- Knowledge: about the world beyond us.
- Attitude: to concern selflessly.
- Motivation: to maintain environmental quality.
- Skills: to identify and help conserve environmental challenges.

**A little bit of everyone's effort and concern to these little sentences can bring about a big change in the society, which we won't be having if we destroy the environment.**

**So, SAVE THE ENVIRONMENT.**

**SAVE THE ENVIRONMENT ????**

**NO.....**

**SAVE THE ENVIRONMENT IF YOU WANT TO SAVE MANKIND.**

**Lipika Dutta**

**10-B, M.G.M. Hr. Sec. School , Bokaro Steel City**



# PLEA TO LEARN!

Environmental Education (EE) is defined as the education that helps individuals to become more knowledgeable about their environment and to develop responsible environmental behavior and skills, so that they can improve the quality of the environment.

The importance of environmental science and environmental studies cannot be disputed. The need for sustainable development is a key to the future of mankind.

Continuing problems of pollution, solid waste disposal, degradation of environment, issues like economic productivity and national security, global warming, the depletion of ozone layer and loss of biodiversity have made everyone aware of environmental issues.

The United Nations conference on Environment and development held in Rio de Janeiro in 1992 and World Summit on Sustainable Development at Johannesburg in 2002 have drawn the attention of people around the globe to the deteriorating condition of our environment.

It is clear that no citizen of the earth can afford to be ignorant of environment issues. Environmental management has captured the attention of health care managers. Managing environmental hazards has become very important.

**Shreya Gupta**

**10-B, M.G.M. Hr. Sec. School , Bokaro Steel City**

MGM DARPAN





# A REZENDVOUS WITH **NATURE**

Under the water,  
In the lap of the Ocean.  
The silence around me,  
Breaks my oblivion.  
How? , What? and Why?  
It compels me to ponder.  
How magical it is!  
It's a miracle, I wonder.

There is nothing around me,  
Except the serenity, so musical.  
In that bluish world,  
There are no limitations, I can see.  
Whispering in my ears,  
Tiny droplets pass by,  
Making me realize,  
What I am and what I can be.

It proclaims my presence,  
in this world.  
The feeling is ineffable.  
Something I had neither felt nor heard.  
I can feel my breath,  
The proof that I'm alive.  
I can feel my heartbeats,  
The proof that I'm alive.  
But I still have a doubt,  
Whether I am alive.

With no words, no sound, the Ocean,  
Managed to give me the answer to my question.  
Yes, you're alive,  
If yourself is what you are  
And not what the world has made you so far.  
And not what the world has made you so far.

**AASHI TIWARI**

**10 /B, M.G.M. Hr. Sec. School , Bokaro Steel City**

**MGM DARPAN**



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(Everyday Spoken English, Collage making, Dance, Sports, Craft, Massy Work, Painting, Rangoli, Greeting Card Making, Best out of waste, Fireless Cooking)

### Puzzle Answer

#### Down

1. WATERPOLLUTION
2. RENEWABLERESOURCE
3. GLOBALWARMING

#### 5. POLLUTION

#### 8. SMOG

#### Accross

#### 4. ECOSYSTEM

#### 6. OZONE

#### 7. NONRENEWABLERESOURCE

#### 9. CLIMATE

#### 10. TOXIC

#### 11. ACIDRAIN

#### 12. FOSSILFUELS



# MGM GROUP OF INSTITUTIONS

<b>Bhilai, Chhattisgarh</b>	<b>Estd.</b>	<b>Itarsi, Madhya Pradesh</b>	<b>Estd.</b>
M.G.M. Sr. Secondary School	1965	M.G.M. Hr. Sec. School	1993
<b>St. Thomas College</b>	<b>1988</b>	<b>Jabalpur, Madhya Pradesh</b>	
Mar Baselios Vidhya Bhawan	1983	M.G.M. Hr. Sec. School	1978
<b>Christian College of Engg. &amp; Tech.</b>	<b>1999</b>	St. Mary's Hr. Sec. School	1978
M.G.M. Public School	2016	<b>Dawakala, Madhya Pradesh</b>	
<b>Raipur, Chhattisgarh</b>		M.G.M. Hr. Sec. School	1994
M.G.M. Hr. Sec. School	1992	<b>Sagar, Madhya Pradesh</b>	
M.G.M. Model School	2017	St. Gregorios School	2013
M.G.M. Public School	2017	<b>Rourkela, Odisha</b>	
<b>Rajnandgaon, Chhattisgarh</b>		M.G.M. English School	1972
M.G.M. Public School	2016	M.G.M. Kindergarten School	2013
<b>Bilaspur, Chhattisgarh</b>		<b>Patna, Bihar</b>	
M.G.M. Hr. Sec. School	2001	M.G.M. School	2000
M.G.M. Public School	2018	<b>Bokaro, Jharkhand</b>	
<b>Korba, Chhattisgarh</b>		M.G.M. Hr. Sec. School	1986
M.G.M. Hr. Sec. School	1979	St. Mary's Nursery School	1976
M.G.M. Nursery School	2007	<b>Jamshedpur, Jharkhand</b>	
<b>Jagdalpur, Chhattisgarh</b>		St. Mary's Nursery School	2011
M.G.M. Hr. Sec. School	2002	<b>Ranchi, Jharkhand</b>	
<b>Bhopal, Madhya Pradesh</b>		St. Mary's Nursery School	2010
M.G.M. Co-Ed School	1992	<b>Dimapur, Nagaland</b>	
M.G.M. Hr. Sec. School	1992	M.G.M. Hr. Sec. School	1985
<b>Bagdona, Madhya Pradesh</b>		<b>M.G.M. College</b>	<b>2017</b>
M.G.M. Hr. Sec. School	1994	<b>Calcutta, West Bengal</b>	
<b>Dhanpuri, Madhya Pradesh</b>		St. Gregorios School	2006
M.G.M. School	2017	<b>Itanagar, Arunachal Pradesh</b>	
M.G.M. Hr. Sec. School	1999	St. Mary's Mission School	2014





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**B.Sc.** (Microbiology, Zoology, Chemistry)

**B.Sc.** (Microbiology, Botany, Chemistry)

**B.Sc.** (Biotechnology, Botany, Chemistry)

**B.Sc.** (Chemistry, Industrial Chem. & Maths)

**B.Sc.** (Chemistry, Industrial Chem. & Zoology)

**B.C.A.**

**B.Com.**

**B.Com.** (Computer Application)

**B.A.** (English Literature, Economics, Psychology)

**B.A.J.M.C** (Journalism & Mass Comm.)

**B.B.A.**

**B.Ed.**

**M.A.** (English)

**M.A.** (Economics)

**M.A.** (Psychology)

**M.Com.**

**M.Sc.** (Botany)

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**M.Sc.** (Biotechnology)

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#### FOR C.G. STUDENTS

- I) **Class 12th** – Physics, Chemistry & Mathematics (PCM)
- II) Appeared Engineering Entrance Exam (**CGPET**)

#### FOR OUTSIDE C.G. STUDENTS

- I) **Class 12th** – Physics, Chemistry & Mathematics (PCM)
- II) Appeared Engineering Entrance Exam **CGPET or JEE** (All India)

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