

Happy Diwali!

"Mamma! Diwali has so much noise and air pollution! I don't want to celebrate Diwali", Vedant announced to his mother as soon as he got back from school. His mother knew that all this was a result of the school teacher's messages about 'saying no to crackers' and so on but she was upset at the thought of a festive occasion like Diwali being portrayed so negatively nowadays. She remembered her childhood when Diwali was such an exciting time with new products to be bought for the house, new clothes to be shopped for, new glittering lights, sweets, lovely Rangoli designs outside every house, vacation time with cousins and family and so much more. She knew she had to change this perception for Vedant and get him to discover the true meaning of Diwali.

Later that evening, she took Vedant with her to the market. They passed by a lane full of Diwali lanterns in all different shapes and sizes. As the road lit up, Vedant's eyes glittered and gleamed with excitement. As they walked through the lane, "Mamma, why do we put up lights only during Diwali?", he couldn't stop himself from asking. His mother told him the story of Diwali – the festival that goes on for 5 days.

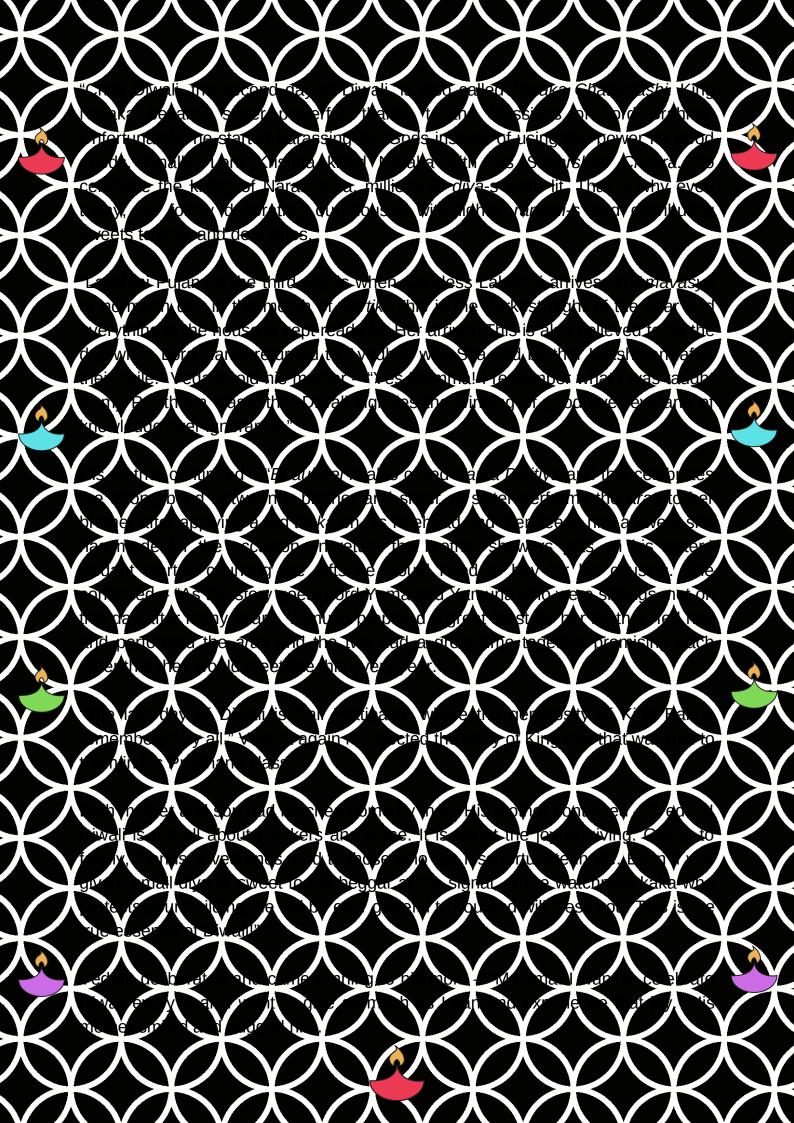
"Diwali begins with *Dhanteras* or *Dhana Trayodashi*. People clean up their homes days before Diwali and make them spic and span in order to welcome Goddess Lakshmi. Rows of *akasha-kandila-s* (lanterns) in different shapes and sizes are hung outside balconies and doorways, traditional *rangoli-s* adorn the courtyard, dozens of *diya-s* are lit near the entrance of houses, baskets of sweets and dry fruits are distributed to friends and relatives. There is joy everywhere! People buy gold on this day because *'dhana'* means 'wealth' and *'tera'* means 13th so this is celebrated on the 13th day in the month of *Ashwina*. Lord Kubera (the Treasurer of all wealth) is also worshipped. Tiny footprints of the Devi are marked outside every home." Vedant remembered these tiny footprints made with *kumkum* on many of their neighbours' doors. His mother continued – "When we were young kids, the *'bhana'* or the water pot was worshipped with a garland of *karita* creeper and flowers after filling it with fresh water. We used to love getting up early morning and enjoy the traditional *abhyanga snana* the following day."

Vedant remembered how his dad had woken him up early in the morning on Diwali day, applied coconut oil all over his body with a grainy powder which smelt really nice and then given him a nice hot bath.

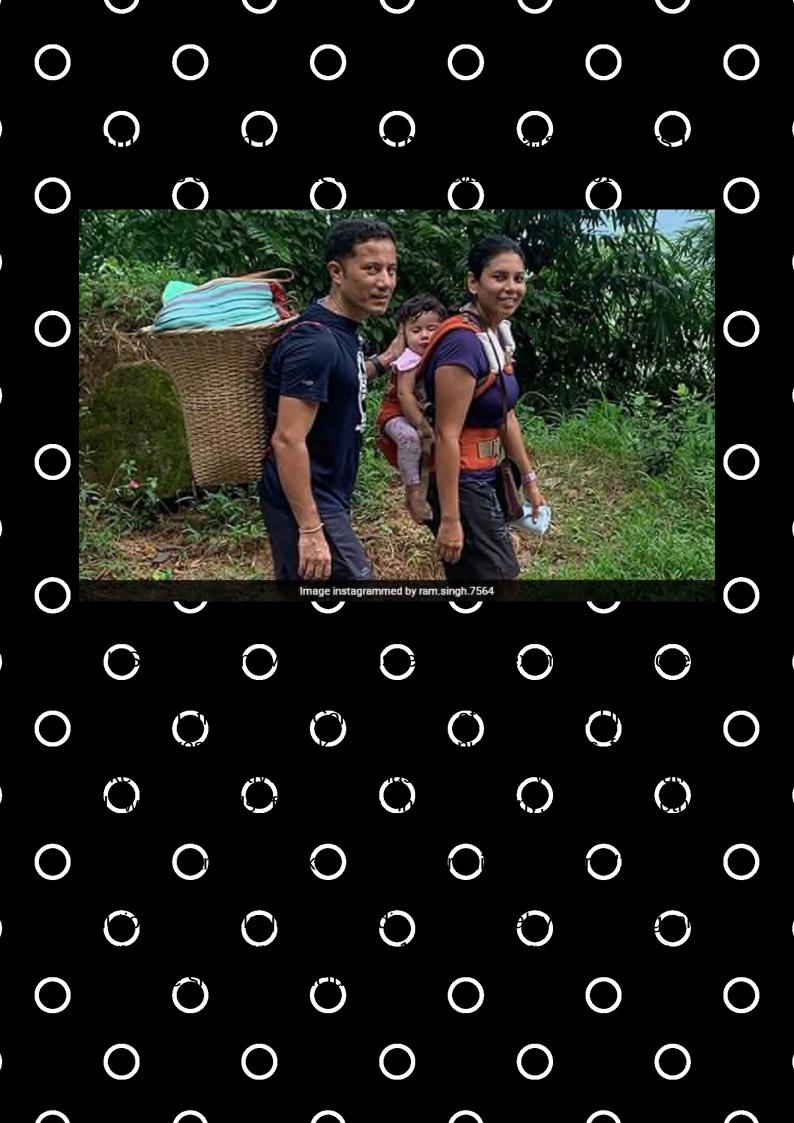


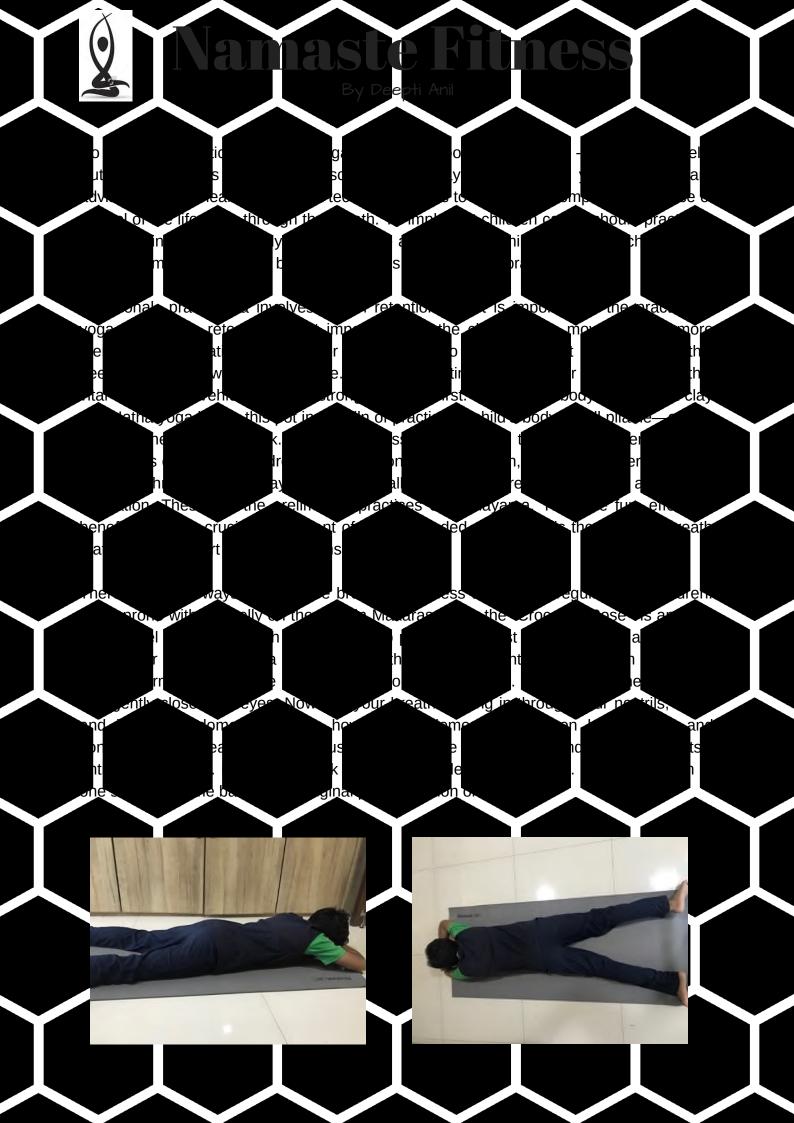




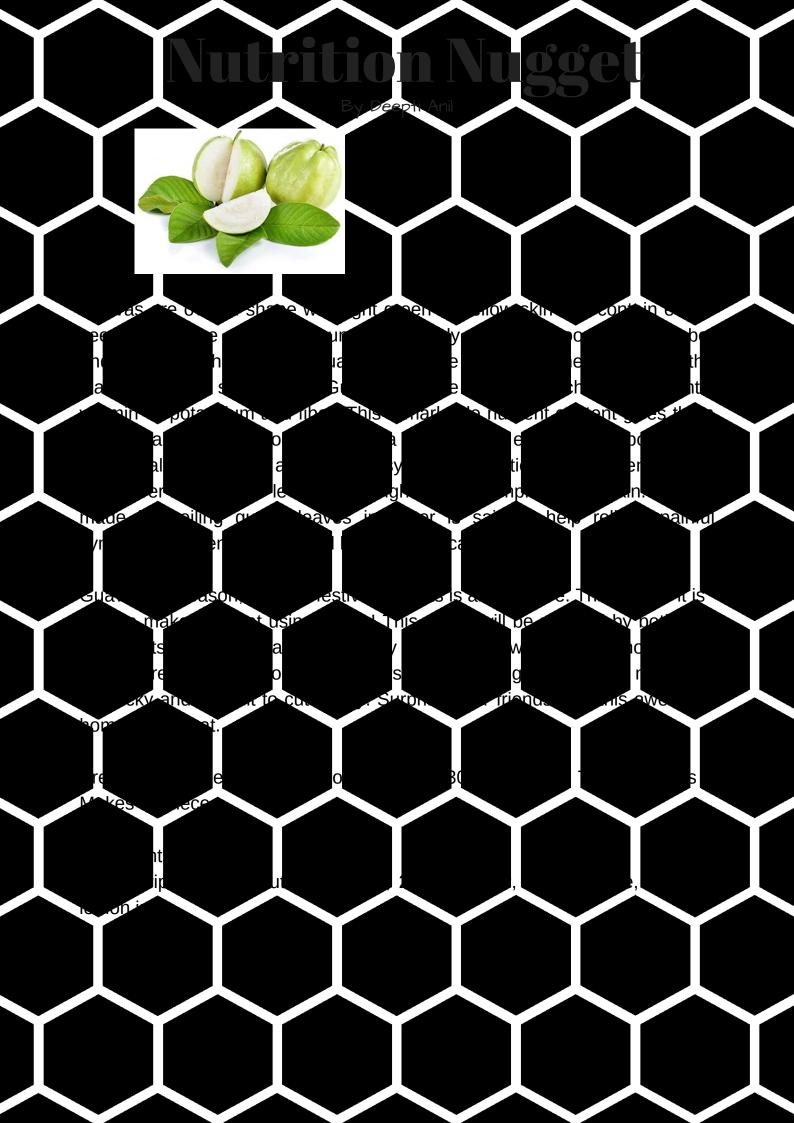














Some famous Indian Scientists

By Dr. Khurshid Bharucha

Sir Jagadish Chandra Bose (1858-1937)

From 1885 to 1919, Sir Jagadish Chandra Bose taught physics at Presidency College, Kolkata. He original scientific work in the did of area and in 1895, microwaves two years before demonstration. Marconi's Bose demonstrated wireless communication using radio waves, using them to ring a bell remotely and to explode some gunpowder. He also suggested the existence of electromagnetic radiation from the Sun, which was confirmed in 1944.



He invented the crescograph through which he measured plant response to various stimuli and hypothesized that plants can feel pain, understand affection and so on. Bose was elected Fellow of the Royal Society, London, (both as physicist and biologist!) The **Bose Crater** has been named after him, in recognition of his achievements in the field of wireless telecommunications. His work on radio and wireless communication effectively make him the father of modern Wi-Fi.

Srinivasa Ramanujan (1887-1920)

Ramanujam was an Indian mathematician. He had almost no formal training in mathematics and was a self-taught mathematician. He made extraordinary contributions to mathematical analysis, number theory, infinite series and continued fractions. He was elected a Fellow of the Cambridge Philosophical Society, a Fellow of the Royal Society of London and a Fellow of Trinity College, Cambridge, all in the same year.



The black hole connection: A new formula, inspired by the work of Srinivasa Ramanujan, is helping in improving our understanding of black holes. Devised by Ken Ono of Emory University in Atlanta, Georgia, the formula concerns a type of function called a mock modular form. These functions are now used to compute the entropy of black holes. This property is linked to the startling prediction by Stephen Hawking that black holes emit radiation.

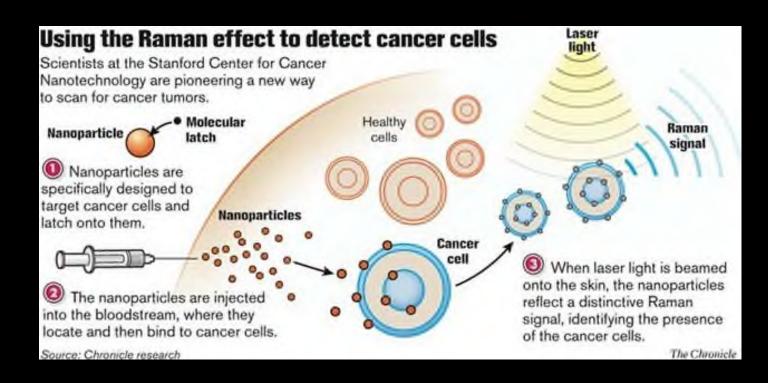
Sir C. V. Raman (1888-1970)

He made enormous contributions to research in the areas of vibration, sound, musical instruments, ultrasonics, diffraction, photoelectricity, colloidal particles, X-ray diffraction, magnetron, dielectrics and much else.

His work on the scattering of light brought him worldwide recognition. He discovered that, when light traverses a transparent material, some of the deflected light changes in wavelength. This phenomenon is now called the Raman scattering and is the result of the Raman Effect.



He is the first Asian scientist to be awarded the Nobel Prize for Physics for his discoveries relating to the scattering of light (the Raman Effect).



The Masai Mara

By Dilip Basrur

The Masai Mara is a large game reserve in Narok County, Kenya, next to the Serengeti National Park in Tanzania. It is named in honour of the Masai people (the ancestral inhabitants of the area). Mara is the landscape. It is world-renowned for its exceptional populations of lions, leopards, cheetahs and elephant. The annual migration of the wildebeest, zebra, Thomson's gazelle and other antelope, to and from the Serengeti every year known as the Great Migration.

The Masai Mara National Reserve covers some 1,510 sq km in South-Western Kenya. It is the Northern-most section of the Mara-Serengeti ecosystem, which covers some 25,000 sq km in Tanzania and Kenya. It is bounded by the Serengeti Park to the South.The terrain of the reserve is primarily open grassland with small seasonal rivers. In the south-east region are clumps of the distinctive acacia tree.

Altitude: 2000 metres, Rainfall: 83 mm/month; Temperature range: 12-30 °C





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As in the Serengeti, the wildebeest are the dominant inhabitants of the Masai Mara, and their numbers are estimated in the millions. Around July of each year, these animals migrate North from the Serengeti plains in search of fresh pasture, and return to the South around October. The Great Migration is one of the impressive most natural events worldwide, involving some Wildebeest, 1,300,000 500,000 Thomson's gazelle, 97,000 Topi, 18,000 Eland, and 200,000 Zebra.

Other animals found in this area include Antelope, Grant's gazelle, Impala, and Giraffe. More than 470 species of birds have been identified in the park, many of which are migratory. Birds that call this area home for at least part of the year include: vultures, marabou storks, secretary birds, hornbills. crowned cranes. ostriches. long-crested African pygmy-falcons eagles, and the lilac-breasted roller, which is the national bird of Kenya.





Giraffe

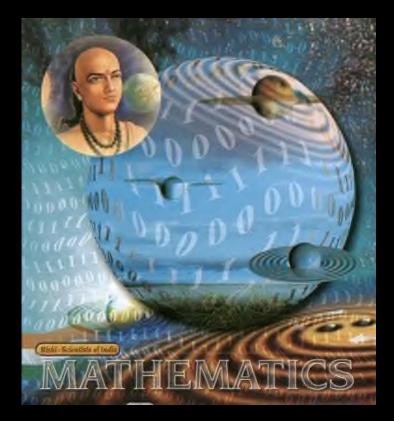


Secretary Bird

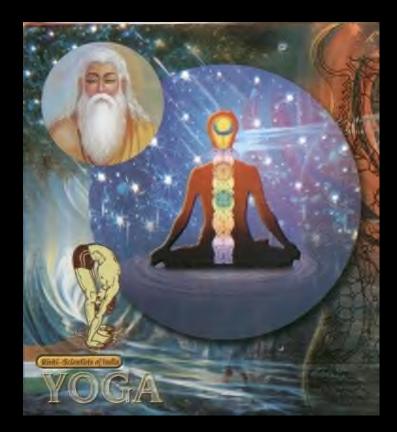


Great Indians

By Sadhana Kaikin



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Falling in line

Discipline is the first behaviour cultivated by a soldier during basic training. He is drilled and drummed with punctuality, being properly dressed, respect hierarchy, listen and obey and so on. It is done under orders, threat and punishment till he "falls in line".

Disciplining starts from home from adolescence till it becomes a habit e.g. respecting elders, cleanliness, dressing properly and the rest. Each stage and place of life and living, however, needs different disciplines e.g. Waiting a queue at ticket counters.

Disciplines framed by families, government, society and others can be divided into three types ·

Preventive: These are rules, regulations, protocols, social/religious/ cultural practices aimed at providing a fair treatment to all the members.

Supportive: Additional measures are imposed due to lack of basic discipline of falling in line by a few, resulting in inconvenience to the rest of the members and therefore creating a sense of over imposition.

Corrective: These are disciplinary measures taken to correct those who continue to break rules and regulations.

Most recruits, hailing from rural areas with government education, are young, humble and simple with limited opportunities of gaining gainful employment, making it relatively easy to train them to become disciplined. Once discipline turns into a habit, life in uniform becomes quite easy as everyone adheres to the expected form of life, living, and duty. Few, who do not fall in life continue to create disharmony to the group. They are either sorted out by their colleagues, or the system takes care of them through supportive measures and in extreme cases through corrective measures.

Discipline is the foundational behaviour for the uniformed forces. Imagine a soldier refusing to attack the enemy position when ordered, or a soldier refusing to stand guard on the border post, or a soldier running away from battle. Lack of discipline can be disastrous in the armed forces. In order to support its imposition, they are bound by a special Military Law which can try breaches of conduct on its own.

A big salute to every soldier!

The least that we as good, caring and responsible citizens, can do to express our solidarity with the sacrifices of our soldiers is to lead a disciplined way of life by being:

- punctual, meaning not to make any one wait for you.
- polite and respectful to all without discrimination of caste, creed, colour, gender, religion and status.
- adhering to rules and regulations at all times.
- not breaking any law of the land.
- being just and honest.

Jai Hind!

Gems of Ancient India

By Chandrima Kalbag

Iron Pillar: Amidst the ruins of the ornate structures at the Qutb Minar complex in Delhi, meant to glorify Qutbud din Aibak and the tomb of Iltutmish, stands an iron pillar, tall and majestic.

The iron pillar, estimated to weigh over 6 tonnes, had been constructed in a single forge. Such a massive undertaking is a feat of engineering, not easy even in this day and age. It was probably erected around 350AD, atop the Vishnupada hill, somewhere in current-day Madhya Pradesh. The Sanskrit inscriptions in Brahmi script suggest that it had been dedicated to Lord Vishnu. Inscriptions at a later date glorify Gupta Kings. At some point, this pillar was relocated to Delhi. It is not certain when or by whom. It has stood testimony to time and history for over 1500 years, through all the wars have been fought to capture the "Dil" of India, that is Dilli. It is considered to be one of the wonders of Ancient India and portrays their exemplary knowledge and technical skills. The height of the pillar, from the top of its capital to the bottom of its bell pattern base, is 7.21 m (1.12 m of which is below ground). The base rests on a grid of iron bars soldered with lead into the upper layer of the dressed stone pavement. The diameter varies from 420 to 306 mm.

What is truly unbelievable is that it has not rusted in 1,600 years, in spite of being made of 98% iron. Some scientists have attributed this phenomenon to the low humidity of Delhi, while some others consider "Misawite" (a compound constituted of iron hydrogen and oxygen) to be the corrosion resistant component. Yet others commend the metallurgy involved. The ore was purified using wood, not limestone and coal, thereby giving it a high phosphorus content. The most critical corrosion-resistance agent being iron hydrogen phosphate hydrate building up as a thin layer next to the interface between metal and rust. In 1,600 years, the film has grown just one-twentieth of a millimetre thick.

Still not impressed? Then let's look at the Dhwajastambha at the Mookambika temple at Kollur. This iron pillar has withstood wind, rain, storm and salt from the Arabian Sea, for about 2,300 years, without rusting. This pillar is about 14m high and weighs about 5 tonnes.

Legend says that it is the upper part of the trident that the Devi used to banish Mookasura, into the annals of the Earth. Daniken surmises that the Delhi pillar must have been a relic left behind by super intelligent aliens.

Are these stories more believable than the truth? The Ancient Indian Adi-Vasis have forged these pillars. They had the skill, ability and technology (unfortunately lost thereafter) which enabled them to construct such huge, rust-resistant pillars in a single forge. Impossible today, even with modern technology and machinery.



Iron Pillar at Qutu Minar Complex



Kollur Mookambika temple Iron Pillar

Brahma tad vanam, Brahma sa vrikshaha Forest is God, a tree is God

By Dr. Gaurish Padukone

As Indians we have been worshipping trees and plants since time immemorial and this is done as a matter of gratitude because we know that life cannot exist without trees. Indian culture believes that trees have life like human beings as they can feel pain as well as happiness like us. Trees and their products are a part of our rituals and ceremonies. Our wise ancestors decided to attach 'sacredness' to trees and plant produce, knowing very well that, otherwise, people would not protect forests and take care of trees and plants. It is human psychology to develop respect and affection for anything deemed 'Sacred'. Mountains, rivers, animals, plants, rocks, planets and even stars are considered divine. Trees are revered for the following four primary reasons: for their medicinal qualities, for their economic value, for ecological importance and for their socio-cultural role.

With the passage of time different trees like *neem* (Azadirachtaindica), banyan (Ficusbengalensis), *bel* (Aegle marmelos) and plants like the *tulsi*, grass like durva and many others have been declared sacred. Even various Gods and Goddesses have been associated with different trees. For example, *bel* and *rudraksha* (seeds of Elaeccarpus) are dear to Lord Shiva, *peepal* to Lord Vishnu, mango (Mangiferaindica) to Lord Hanuman, *durva* grass to Lord Ganesha and so on.Tree and plant worship is inherent to all religions originating in India. Literature, temples and various art forms all show the worship and glorification of trees. We should try our best to grow more trees. The shade from trees slows down water evaporation from lawns and open places. As we all know, water is costing us more than ever before even as it is becoming an increasingly scarce resource.

Planting a tree is no less than a festival according to our Vedas and Puranas. Vedas stress the need for protection and development of forests and assert that plants and trees are verily the treasures for generations to come.

Be it the oldest rock paintings or seals of the Indus Saraswati civilization, we see a tree inscribed everywhere with reverence. The Vedas and Puranas have praised trees and given them utmost importance. There is a long list of trees, plants, shrubs and even grass listed in the Vedas as sacred. You can see women worshiping the *tulsi* (Ocimumtenuiflorum) or the *peepal* tree even today. *Tulsi* is known to be a very sacred shrub dear to Lord Vishnu and planting it in a house is said to bring good luck. Even Jain and Buddhist scriptures have named many trees as sacred and all Tirthankaras and Buddhas are known to have attained enlightenment under a specific tree. Many trees find place with stories of Lord Krishna; like the *kadamba* (Neolamarckiacadamba) is always seen with him in most of his pictures. It is said that Lord Vishnu lives in the *peepal*, Goddess Lakshmi in *neem* (Azadirachtaindica) and Lord Shiva in the banyan. Thus, the implication was that killing trees or cutting a live one is a crime against the Divine!



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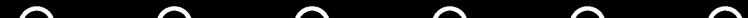
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