

PRESENTS



20th and 21st Sept

Theme:



# **SOUVENIR**





HDFC BANK

We understand your world



"Vakra-Tunda Maha-Kaya Surya Koti Samaprabha Nirvighnam Kurume Deva Sarva-Karyeshu Sarvada"







# Chairman's Message

It's my honour to present to you the Souvenir of Sargam 2019- A State level intercollegiate Cultural Fest

Sargam, the melody of performance, the music of participation and the ecstasy of indulgence, is organized to promote the latent, hidden and unexplored talents and skills of the students.

The theme for Sargam 2019 is Panchabhoota. The five elements Vayu, Jal, Aakash, Prithvi and Agni play a pivotal role in our lives.

For the students' the Panchabhoota are the parents, teachers, peers, people around them and the path they choose. Before taking any decision, considering the aforementioned helps the students opt for the right way of life to achieve their desired goals.

May the generosity and benevolence of Earth (**Prithvi**), path breaking traits of Water (**Jal**), pressure control quality of Air (**Vayu**), the characteristic stillness and harmony of the **sky** (**Aakash**) and the burning desire of Fire (**Agni**) steer and anchor each and everyone to reach the pinnacle of success.



Dr. Mohan Manghnani Chairman, New Horizon Educational Institution





# PANCHABHOOTA....THE 5 ELEMENTS OF LIFE

The entire universe (The Brahmand) is created by Panchatatva (Panch+Tatva) which means five elements. These are **Prithvi (Earth), Jal (Water), Agni (Fire), Vayu (Air) and Akash (Space).** These elements are also called "Panchbhootas".

The Taittiriya Upanişhad describes the five "sheaths" of a person (Sanskrit: puruşa). From this very self (atman) did space come into being; from space came air; and from air came fire; from ire water, from the water came the earth; from the earth came plants; and from plants came food; and from food, man. Different from and lying within this man, formed from the essence of food is the self (atman) consisting of the breath of life is the soul. Different from and lying within this self, consisting of breath is the self (atman) consisting of mind.... Different from and lying within this self-consisting of mind is the self (atman) consisting of perception.... Differentfrom and lying within this self-consisting of perception is the self (atman) consisting of bliss.... Everything in the creation is created by these elements but they vary depending on the intensity and volume of creation.

**Prithvi (Earth)** keeps everything grounded. This is the base of everything. The Earth teaches us continuous work and discipline.

**Jal (Water)** is the essential source of life. It appears in many forms. More than seventy percent of the earth is water just as it is in the human body. It is flexible and accommodating.

**Agni (Fire)** is the source of heat and light. It makes everything visible to us. It is a symbol of purity. We need it in a controlled form which is vital for our lives. It becomes destructive when it is uncontrolled.

Vayu (Air) empowers all other energies to function. Air may flow from any direction, representing freedom.

Akash (Space) is the first element in creation. It holds everything.

These Panchatatvas teach us discipline, accommodation, purity, freedom and universal approach.

A combination of all these qualities help to make us healthy balanced individuals. They teach us

how to use these elements present in us in the right measure and proportion.



Juhita Kumari MCA Department, NHCE

"Tasmadva etasmadatmana akash sambhutah |Akasadvayuh | Vayoragnih | Agnerapah | Adbhyah prithvi | Prithivya osadhayah |Osadhibhyosnam |Annat purusha||"





# We understand your world



# <u>"YOU ARE IN CONTROL OF THE</u> PANCHABHOOTAS----- SO USE IT WELL!"

Cosmos! What are the images that come to your mind with the sound of the word 'Cosmos'? Do you think of a pitch black nothing extending its arms to hug the infinity? Or is it a happy galaxy with star shine and moon beams?

Until very recently, I believed that the universe was way beyond what human brains were capable of imagining. Believing that the existence of the universe is complicated, learning its ways did not always excite all of us.

We are all so engrossed in our own materialistic lives that we have very little time left to pay attention to facts like these. By default, we are put under an assumption that we all exist as seperate entities but little do we realise that the more we learn about the universe, the more we learn about ourselves, and the more we learn about ourselves, the more we come to understand how each one of us is a part of the other.

Like I said, we all have our own idea about what we believe is infinity, or more precisely, the universe to be. I am presenting to you my own ideas. Maybe this excites some of you, and you may start exploring your own ways to predict the sublime cosmos, and some day we would come to learn about it in full measure.

If you ask me, I believe that the entire universe has been condensed into a beautiful being of transcendental quality that flows through our very veins. Yes! The universe starts from within. We are the universe. The unimaginably huge extra terrestrial body is an extended part of our very self, being mysteriously at play in every cell, and we are a part of it.

And this is where the concept of the atoms and the micro-particles come into the picture. Life is an exquisite, or more precisely, a flawless system of connections and networks running throughout. Now the wires that keep everything interconnected are the Panchabhootha.

Panchabhootha! The five basic elements that make you realise that nothing is as complicated as it seems. The glorious beginning of the entire cosmic creation! The first element to come into existence was Akash (ether), followed by Vayu (air). Then came Agni(fire). Varuna (water) followed Agni, who in turn was followed by Prithvi (earth). These five elements, although stable individually, manifest themselves in a binding manner to form the life force. Each one of us is just a unique combination of the Panchabhootha. What you call "myself" is just a play-game of these five elements. A slight imbalance even in any one of these masters is bound to bring about a macrocosmic disaster! The five fingers that we have are said to symbolise the five elements.

We have been provided with an excellent system of mudras (gestures of hand), each mudra having its own meaning and way of balancing the five elements within ourselves. In yoga, perfection is said to be attained when one has complete mastery over one self. Like I said, you are just another mood of these elements. So controlling yourself is a way of learning and mastering the ways of the Panchabhootha. This process of cleansing and perfection is what we call "Bhootha Shuddhi".

Being just another escape from our materialistic lives, the concept of the Panchabhootha is far more interesting than we might think it is. An imbalance in any of these bhoothas in our bodies, is the sole basic reason for sickness. When anything goes wrong with your body, or the entire universe, all you have to remember is that the bhoothas are just playing with you. Hence bringing them under your control is the only solution. SanjanaSatish

SanjanaSatish NHPUC

<mark>"Vishyambharaa V</mark>asudhaanii Pratisstthaa Hirannya-Vakssaa Jagato Niveshanii | Vai<mark>shyaanaram Bib</mark>hratii Bhuumir-Agnim-Indra-Rssabhaa Dravinne No Dadhaatu ||"





## **BASICS OF THE BASIC ELEMENTS**

Five elements, five fingers. five human sense organs. Notice a pattern? Yes, each of the masters is associated with a sense perceived by the sense organs. Here is a list of the sense and the fingers in relation to the bhootha. Akash - bhootha associated with the sense of hearing (ear) symbolised by the middle finger. Vayu - bhootha associated with the sense of touch (skin) symbolised by the index finger. Agni- bhootha associated with the sense of sight (eye) symbolised by the thumb finger Varuna - bhootha associated with the sense of taste (tongue) symbolised by the little finger Prithvi- bhootha associated with the sense of smell (nose) symbolised by the ring finger.



Also, did you know that these elements represent a few characteristics and attributes that we show? Akash stands for trust, creativity and dignity. Vayu is compassion. Agni, as you guessed it, symbolises power and wisdom. Varuna is another way of assuring joy and well being. And Prithvi stands for stability and support.

So every part of you, be it the physical, or emotional state is just a mixture of these components. They combine to create reaction that can be reversed and this is what is transcendental chemistry. Quit believing that you stop living once you die. Every part of you, every single bit, is still alive. The elements within you today are going to disintegrate and reintegrate just to form something new tomorrow. So technically, you don't die. The universe never dies because the constituents within you are still alive.

There you have it. Basics of the basic elements. The idea of something mysterious always fascinated me, and I found my happy escape learning about the Panchabhootha.

And to know that this was just the beginning of how much exists, is simply intriguing and fascinating The authenticity of what our ancestors wanted us to learn is immeasurable. The depth of everything starts with something just as crude and primitive as the Panchabhootha. This was yet another way of getting you enlightened about the sophisticated Indian science and its superiority.

The truth is, today, in Kaliyuga, when we say we think about ourselves, we think, its high time we realise that we are far more than what we think we are. To learn our relationship with the universe is about learning everything. And to think about the whole universe is what is really, thinking about ourselves.

If this article triggers you to move, then get up and start exploring. There is far more than what meets the eye and it is extremely blissful learning about them. Be the one to start your seventh heaven just by learning what goes on inside of you. Panchabhoota. The beginning and the end!

SanjanaSatish NHPUC

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"Yasyaam Samudra Uta Sindhur-Aapo Yasyaam-Annam Krssttayah Sambabhuuvuh | Yasyaam-Idam Jinvati Praannad-Ejat-Saa No Bhuumih Puurva-Peye Dadhaatu ||"

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# THE FOUR TEMPERAMENTS OF PERSONALITY AND THE ANCIENT GREEK THEORY OF HUMORISM

All things are combinations of 4 basic elements: EARTH, AIR, FIREAND WATER.

The qualities of these elements can be found in 4 corresponding humors (FLUIDS) that affect the functioning of our bodies. It is said, historically, that these humors also affect our emotions and behavior-that is our temperaments.

According to the Roman philosopher and physician Claudius Galen formulated a concept of personality types based on the ancient Greek theory of Humorism. It attempted to explain the workings of the human body.

The roots of humorism go back to Empodocles (C 495-435 BCE), who was a Greek philosopher. He suggested different qualities of the 4 basic natural elements. He could explain the existence of all known substances.

1. Earth - cold and dry 3. Fire- warm and dry

2. Air-warm and wet 4. Water-cold and wet

Hippocrates (460 - 370 BCE) - The father of medicine, developed a medical model based on these elements attributing their qualities to four fluids within the body. These fluids were called "humors" from Latinumor meaning body fluid.

200 years later, Galen a Roman physician, surgeon and philosopher expanded the theory of humorism into one of personality - He saw a direct connection between the levels of the humors in the body and emotional and behavioral inclinations- or "temperaments". Galen's 4 temperaments are based on the balance of humors in the body. If one of the humors develops excessively, the corresponding personality type begins to dominate. According to Galen the 4 temperaments are-

1. Sanguine - a sanguine person has too much blood; pertaining to water- Liquid (sanguis in Latin) - confident but can be selfish.

2. Phlegmatic - a phlegmatic person suffers from excess phlegm (phlegmatikos in Greek or mucus; from air) is quiet, kind, cool, rational, consistent but can be slow and shy.

3. Choleric - the choleric (from Greek khloe, meaning bile) personality is fiery; that of fire suffering from excess yellow bile.

4. Melancholic –(from the Greek melaskhloe) the melancholic suffers from an excess of black bile; as a cause of Earth related consumption. He is recognized by poetic and artistic leanings, which are often accompanied by sadness and fear.

v Since temperamental problems are caused by imbalances of the humors, Galen claimed they can be cured by diet and exercise.

Galen's doctrines dominated medicine until the renaissance, when they began to decline in the light of better biological research. Although humorism is no longer a part of psychology, Galen's idea that many physical and mental illnesses are connected, form the basis of some modern therapies.



Tamanna Wara NHCE

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"Aapah Prnniita Bhessajam Varuutham Tanve Mama | Jyokca Suuryam Drshe ||"

# PANCHABHOOTA- SMART CONNECTIVE <u>TECHNOLOGY</u>

According to Hindu philosophy, the five great elements: **Earth, Water, Fire, Air and Sky** (Aether) are the basis of cosmic creation. The Ayurveda, science of medicine says the human body is also considered to be of these five elements. In today's world, the 'Internet of Things', is an interrelated modern scientific technique, which connects all these five elements in a great scientific manner irrespective of domains to prove the philosophy. This kind of technique has become a common and highly essential requirement and the need of the hour. Thereby we are able to transfer the data to any nook and corner of the world of things. In this article, we annotate how the sensing of these great elements and its influences in the research world help to safeguard human lives.

Earth sensors help to sense the soil moisture, nutrients, plant growth, time to harvest and weather conditions.

Water sensors are the IOT water valves in the distribution system which controls the flow, monitors and performs the required quality measures. These water sensor valves transmit and communicate through gateways.

Air sensors have become essential protectors for providing quality air for the purpose of breathing, with good accuracy. Since air pollution is inevitable in today's environment, the air sensor microcontrollers in connection with internet facilities emphasize the need of quality air for living.

Fire sensors or detectors play an important role in big industries, residential complexes and other places wherever it can help in saving lives. With the help of IoT sensors, the smoke levels in an environment can be detected and this information could be passed to the alarming systems to fetch remote help.

Sky sensors are the collection of servers and sensors which provide services on a pay-per-use or pay-asyou-go model. Cloud and IOT enable the sky sensors to support infrastructure, platform and software as a service.

Dr. B. Meenakshi Sundaram Associate Professor MCA - NHCE

With Best Compliments From



"Yasyaam-Aapah Paricaraah Samaaniir-Ahoraatre Apramaadam Kssaranti | Saa No Bhuumir-Bhuuri-Dhaaraa Payo Duhaam-Atho Ukssatu Varcasaa ||"







# <u>'WITH DEEP REVERENCE TO MOTHER EARTH</u> <u>AND IN TOTAL HARMONY WITH THE</u> <u>PANCHABHOOTAS'</u>

#### 'Never does nature say one thing and wisdom another'-Juvenal

Esssentially, what you call as 'myself', what you call as the human structure, is the work of a certain 'software', says Sadhguru Jaggi Vasudev. According to him, 'software' means memory. Whether it is the individual human body or the larger cosmic body, essentially, they are made of five elements—earth, water, fire, air and space. All the five elements have a memory of their own'.



Ancient Indian traditions have always respected all

elements of nature. The Yajur Veda also asserts that living beings are composed of Panchbhootas, five elements-air, fire, earth, water and space. These collectively form the environment and provide conditions sustaining human life.

Just as a mother gives birth and takes care of her child, the earth also carries the burden of mountains, rivers, oceans and living beings residing on it, and we should revere it always. Indian traditions have always believed in harmony with nature, as evidenced by the daily rituals linked to nature.

Turning our attention to the most basic condition for our life on this planet—the air we breathe—we see that we cannot be separated from our physical environment. Even if we could manage some time without food or clothing, we cannot survive more than a few minutes without oxygen. A vast number of conditions need to come together to yield the uninterrupted supply of oxygen that is indispensable to keep us alive, yet we make no conscious effort to bring those conditions. Contemplating this basic fact can spark a sense of wonder and gratitude towards the planet itself. What's more, we ourselves form part of this vast system of symbiotic exchanges.

As trees and plants take in sunlight and carbon dioxide to produce the oxygen we so vitally require, we are continually reciprocating with carbon dioxide, which plants use as they produce more oxygen. Once we inhale, that oxygen is carried by our blood to cells throughout the body. Thus, we can say that trees and plants and the sun itself are present in every cell, just as our breath may be present in the plants' cells. Viewing our place in the world in this way, we see more fully that everything required for us to come into being, all that we turn to in order to define who we are, and everything we need to survive in life is connected to other people and to resources outside of ourselves.

Likewise, we are resources that others depend upon for their existence. Who and what we are is inextricably and reciprocally linked to others. Maintaining this awareness as we live our lives can help us move beyond a merely intellectual understanding of interdependence.

As we increasingly apply this lens to our experiences, the awareness moves from our head to our heart, and we can begin to actually experience ourselves as interconnected. Our observations become the basis for new understanding and new feelings. This in turn can spark a fundamental reorientation towards others and our place in an interdependent world.

Sudha Manjrekar Education Program Analyst NHQASDC

"<mark>Prthvii Sa-Gandha</mark>a Sa-Rasaas-Tatha-Apah| Sparshii Ca Vaayur-Jvalitam Ca Tejah | Na<mark>bhah Sa-Shabda</mark>m Mahataa Sahai[a-E]vaKurvantu Sarve Mama Suprabhaatam ||"





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# TERRA FIRMA



There is nothing as important as the soil, As far as life prolongs. For the soil is dawn, the soil is dusk, It is where we belong. In hot summer it cracks, The farmer, he is deep in angst. When the first drops fall from the heavens, The hard times are over, it smells like freedom. And in the rain he rejoices, He never frets, its all at its best. But when it outpours, He drowns in the calamity, its lost. The soil is the great connector of lives, Source and destination of all.

Joel Joseph Mampilly NHPUC,

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*Vishvasvam Maataram-Ossadhiinaam Dhruvaam Bhuumim Prthiviim Dharmannaa Dhrtaam* |"

## **PANCHABHOOTA- THE DIVINE HIGH FIVE**

It all began with a touch of the Supremes' hand; The creation of AIR, SKY, WATER, FIRE AND LAND. Each one different, each one unique; The desire to control is what they seek. Soaring and blazing was FIRE; Wild and impulsive filled with desire. Cunning and quick was the AIR, Turbulent and too arrogant to care. Lurking deep was the WATER swift, Serene yet perilous -causing a drift. Stood the EARTH dignified and passive; Filled with pride, aplomb and massive. Mysterious, chaotic and vast, The sly SKY decided to attack at last. Oblivious to the war raging, God decided to continue creating. Not able to find any inspiration, He looked back at his earlier creation. Disappointed by their actions, God decided to reunite the fractions. He created humans with a balance so rare, Ropes all sown together, never to tear. This balance is how life survives, Similar to what we humans need in our lives.



Remeka Majumder NHPUC



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# THE BEAUTY OF THE SKY

"See, the sky is in love with you, And Now it's your turn to fall in love"

In this world, there are two very beautiful things that have no beginning or an end. One is LOVE and the other one is SKY. They are both endless and boundless. The beauty of the sky and love is divine and indescribable.

I want to reach out to the BLUE SKY not so much to reach for the stars, but just to whisper to the BLUE SKY "O, how beautiful you are".

In my view, the most beautiful moments that happen daily, are SUNRISE and SUNSET, that make the SKY all the more stunning and beautiful. And of course, viewing the majestic starry sky at night, is truly a magnificent experience to behold!

Then I make a wish to the stars. I say,

'Stop twinkling my dear, for every moment you twinkle,

The glow from your luminous eyes reaches the sky';

'No my dear', says my faithful friend from her celestial home,

'Let me be the only one who receives the light!

For I just twinkle only for ME"

Binitrushna Nayak

With Best Compliments From



*"Ambhasya-Paare Bhuvanasya Madhye Naakasya Prsstthe Mahato Mahiiyaan* | Shukrenna Jyotii[ngu]mssi Samanupravissttah Prajaapatish-Carati Garbhe Antah ||

# <u>Kritis in praise of Pancha Bhoota Temples of Southern</u> <u>India by Muttuswami Dikshitar</u>

India is a land of divine spirituality and uniqueness. The legends of this mystical land attracts devotees from around the world in pursuit of enlightenment and salvation.

As per the Taittriya Upanishad, Pancha Bhoota-Five Elements came from the Supreme source of all creation. In South India, on the same lines, there are five important temples, all dedicated to Lord Shiva, each one of them representing him as one of the five elements. Temples refer to sacred places where Lord Shiva is worshipped as the five elements of Mother Nature.

Chidambaram is the shrine where **Shiva is worshipped as Space**. The sanctum has the world-famous icon of Nataraja, the dancing deity beside which is an empty space referred to as Chidambara Rahasyam or the secret of Chidambaram. The very word Chidambaram is full of cosmic symbolism for it refers to the space within the heart of the devotee where the Lord is said to be in cosmic dance as depicted by Nataraja.

Shrikalahastisha is Shiva as Vayulinga. A lamp that keeps flickering in the rather airless sanctum shows the manifestation of Shiva as air here. Shiva is the life breath of the Gods and is like the soft gentle breeze to his devotees.

The lord manifests as fire at Tiruvannamalai called Arunnachalanatha, simply thinking of Arunachala is said to grant salvation, the Lord is like many suns at dawn.

Shiva as water is worshipped at Tiruvanaikka near Trichy. The sanctum of Shiva always has water from the Kaveri seeping in and in the rainy season it floods the shrine. Shiva is, worshipped by Brahma who is seated on the lotus (that floats on water) and with this water he quenches the fires (sorrows) of the heart. Then it states that he is the Lord of the rivers Sindhu, Ganga, Kaveri, Yamuna and Goddess Akilandeshwari who has a throat like a conch (which is of water origin).

Shiva in the form of earth is worshipped at Kanchipuram. Here He is Ekambaranath, residing at the root of the mango tree. Here Shiva's feet provide empires, an indirect allusion to the Pallya Empire that flourished from here. An empire is also an earthly possession.

Muttuswami Dikshitar (1775/6-1835) is a great composer who visited each one of these shrines and dedicated songs to them. These are today referred to as the Pancha Bhuta Kritis (songs on the five elements). All the five songs have the standard kriti structure of pallavi, anupallavi and charanam. All kritis incorporate the raga mudras, a characteristic of many Muttuswami Dikshitar kritis.

Dikshitar's Pancha Bhuta Kritis are fascinating musically and otherwise. Pancha Bhuta Kritis of Dikshitar are a treasure.

Dr. Girija N Srinivasalu Director, NHQASDC

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<mark>"Pitaro V</mark>asavas-Saadhyaah Hy[i]-Ashvinau Maruto Manuh | Vaayur-Vahnih Prajaa-Praannaa Rtu-Kartaa Prabhaa-Karah ||"







# PANCHABHOOTA..... ESSENCE OF THE UNIVERSE

You were asked not to play with them, you were asked to keep them safe, You were asked not to ruin them, because if you ruin them, they will avenge their destruction and bring you to nought'. First came the queen of all. Whose amber is truly spellbinding, and the spark in her, magical. You might remember your parents asking you to stay away from her, Even though you were only playing and having fun with her around. But your parents knew better (even though they used her a lot). They knew that she was the queen of the universe, The sun was made from her, and so were the stars Up in the heavenly skies above. Your parents know that messing with her could reduce one to ashes. In a molten form, she has been named - LAVA But in her best and most original form she is called **'FIRE'** 

Then came the most serene of 'em all. The turquoise in her, a blessing to the eyes. Just as she quenched your thirst, She provided shelter to every living creature That knew how to swim and survive Even when she was at her angry best We think not twice when we waste her Knowing all too well that she's hard to get, Yet we care not when we waste her. Gold and diamonds buried deep inside her watery belly, Along with the long-lost ships of the greedy Who underestimated her power, and now lie buried, deep inside her. Though you are completely made up of her, you need her the most.

She has varied names and forms, and in her solid best she is called ice, When she's vapour she is named gas, As a chemical equation she's H2O, at her worst she's a flood, a tsunami, A chilling blizzard that can freeze you to death, Her anger so bad that she could swallow you alive,

But when she's these tiny droplets falling on you, we call her rain,

But by origin, she is "WATER".



"Yo No Dyessat-Prthivii Yah Prtanyaad-Yo -bhidaasaan-Manasaa Yo Vadhena Tam No Bhuume Randhaya Puurvakrtvari ||" Contd.

Then comes the coolest of all, you cannot see her, but you can feel her. You can feel her when your hair sways along in the direction she blows in. You know that she is there when the delicious smell of mum's freshly baked cookies waft from the kitchen You know she is there because without her there would be no life Yet when she needed our protection, we did not protect her, but polluted her instead. And yet though she is one of the main contributors of our lives She's gradually posing a threat to our lives, only because of our own mistakes, Global warming is what we call IT And yet we still continue to pollute her! So calm yet, dangerous is her paradoxical personality, like a welcome cool breeze bringing relief to us on a hot summer's day, And when that gust of wind becomes a storm, she is transformed into a tornado, A cyclone of sorts that could destroy and finish all that came in its way. In its purest form, this substance, on which our very living breath depends, is named 'AIR'. Oh how can we forget her? The very origin of life? The mother of the universe, Mother Nature indeed, on whose wondrous body we built our lives, our families. From her we got the food we eat, from her we got the shelter we need. She gave to us so much, that we've never failed to take her for granted, And only hastened her desecration and final destruction She gave us so much, that now she is left with very little, Oh we humans are so naïve; we used and misused her given resources (trees, water, metal, etc.) But we think not twice about what will happen to us once these resources are gone How are we going to survive those landslides and earthquakes That could finish us in seconds? All because we're too greedy and callous to care for the damage we are causing to her and ourselves. And how can we forget that once there is no life left in our bodies, our corpses are going to be buried deep inside her, And that from her were we made, And to her we shall go back. So beautiful does she look as a planet, As a place where life blossoms and blooms, Where the whole world lives, so beautiful is she as the selfless mother, Made of soil, water and life, none other than our very own "MOTHER EARTH" Last comes the king of all, the oldest and the most powerful. All the planets including our earth, and all the stars, the sun and the moon, The whole galaxy and a billion more galaxies, just like our galaxy reside in him. He embraces all including us the humans. Its beautiful, amazing as well as very scary when we realise how microscopic we are in comparison to him. When we realise that we can do him no harm, no one wants to risk ones precious life by disturbing the peace and harmony that surrounds the... Magnificent "King of Kings" "SPACE" But we also know that all of the above are created by someone greater than all creation -

D-best artist and creator of all. We call him by different names,

But in common all of us refer to this divine, supreme being of all, 'AS, GOD- THE SUPREME THE ALMIGHTY'

Riyah Fatima NHPUC

Raajantam-Adhvaraannaam Gopaam-Rtasya Diidivim | Vardhamaanam Sve Dame ||







# **Apoorva Raj Painting works** M : 9986412999

### Vignahartha - Lord Ganesha







Abhisek Bedant NHCE

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"Yasyaam-Aapah Paricaraah Samaaniir-Ahoraatre Apramaadam Kssaranti | Saa No Bhuumir-Bhuuri-Dhaaraa Payo Duhaam-Atho Ukssatu Varcasaa ||"

# RENEWABLE ENERGY SOURCES USING THE 5 NATURAL ELEMENTS

The United Nations framework convention on climate change is an international environmental treaty that was adopted on 9 May 1992. It entered into force on 21 March 1994, after 55 countries including India had ratified it.

Its objective is to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous human interference with the climate system. The framework outlines specific agreements or protocols that may be negotiated to specify further action towards objective of the UNFCC.

In 2015 The Paris Agreement was adopted, governing emission reductions from 2020 by commitments of countries through intended nationally determined contributions whose target was that future global warming should be limited to well below 1.5 degree Celsius by 2100. The Paris agreement entered into force on 4 th November, 2016.

Let us look at the commitments /aims made by our nation to save and rejuvenate the 4 natural elements that are fundamental to us-EARTH, FIRE, WATER, and AIR.

### 1. Towards Mother Earth:

To create a carbon sink (trees/forests that can absorb Co2 from the atmosphere) of 2.5 to 3 billion tonnes of CO2 equivalent.

A commitment that 40% of India's power capacity should be based on non-fossil fuel sources, nuclear energy and hydro energy sources.

India's target is that 175 GW of energy should be achieved through renewable energy sources by 2020 alone, out of which currently 77 GW of renewable energies have already been implemented on ground and 52 GW are in force in different other stages.

### 2. Towards The Power Of Fire:

The target for renewable energy is 175 GW out of which solar energy has been given a weightage of 100GW –out of which 28 GW worth of solar energy production & implementation has already been achieved.

India proposed International Solar Alliance in the Paris Agreement, the features of which is – If solar parks are being set up in India by private sectors, then the government is providing various schemes to help them such as-

Viability Gap funding- which makes sure the producer gets funding by the government for the implementation of solar power plants as they are expensive to set up and also are known to bring less profit.

Other schemes include Kissan Urja Suraksha Evam (KUSUM)- whose proposal is instalment of grid connected solar plants in rural areas of at least 2 megawatts.

Scheme sustained rooftop transfiguration of India (SRISTI) scheme allows for financial assistance and incentives to be given to people who want to implement rooftop solar systems.

### 3. The Yet To Be Realized Power of Water:

India's potential is around 40-60GW of wave power that can be harnessed from ocean energy alone. Renewable energy can be produced from waves, tides, oceans, currents, salinity, and temperature of oceans (ocean thermal energy).

Some of the regions with the highest potential of tidal energy generation include the Gulf of Kutch, Sundarban Deltas and Western Ghats- That have a potential of generation of 125GW worth of renewable energy source. Other potential locations for wave power development include Goa, Karnataka, Kerala and Kanyakumari located at the southern tip of Indian peninsula that has the highest power owing to effects of refraction and strong winds.

### 4. The Power of Air:

Wind power accounts for nearly 10% of India's total installed power generation capacity and generated 62.03 TWh in the fiscal year 2018-19, which is nearly 4% of total electricity generation.

As of 31 March 2019, the total installed wind power capacity was 36.625 GW, the fourth largest installed wind power capacity in the world.

Wind power capacity is mainly spread across the south, west, north and east regions.











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### WATER: SUSTAINABLE EARTH



Clean Water is essential for life, but most people in the developed world don't think much about the water they use for drinking, food preparation, and sanitation. In developing nations, however, the search for safe drinking water can be a daily crisis. Millions of people die each year, most of them children, from largely preventable diseases caused by a lack of access to clean water and proper sanitation. Freshwater scarcity presents a growing problem.

"The intersection of water scarcity, food security, and a changing climate on top of it all raises a suite of water concerns that urgently need to be addressed". Due to the dedicated efforts of governments and NGOs since the 1992 Earth Summit, safe drinking water has been made available to some 1.7 billion people around the world. But an estimated 880 million people still don't have regular access to clean water. About 5,000 children die each day due to preventable diarrheal diseases such as cholera and dysentery, which spread when people use contaminated water for drinking or cooking. A lack of water for personal hygieneleads to the spread of totally preventable ailments like trachoma, which has blinded some six million people.

The silver lining, Postel noted, is that many opportunities exist to use the water we do have more productively. Change begins with more efficient management of water resources. The United National General Assembly has recognized the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights. Making that right become a universal reality, and providing each person on the planet with affordable access to the 20 to 50 litres of daily water required to sustain life, is a clear goal for the decades ahead.

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# **TECHNOLOGY FOR CHALLENGER-Bionics**

Technology is the knowledge or set of tools used to resolve problem or make the things easier. Challenger is one, who suffers disability in a specified respect. This article elevates how the technology is giving helping hand to a challenger. The evolved term in the health technology is Bionics (Biology + Electronics), means the replacement or enhancement of organs or other body parts by programmed electro mechanical versions. Bionic implants differ from mere prostheses by mimicking the original function very closely, or even surpassing it.

#### Artificial heart

As we all know each one of us is just a unique combination of Panchabhoota, Prana is located in the heart, Apana in the anus, Samana in the Nabhi (navel)Udana in the throat and Vyana all over the body. Heart plays a vital role in running the human body like how water plays in life. The way natural water bodies are being replaced similarly is the heart.

An artificial heart is a prosthetic device that implanted into the body to replace the original biological heart. It is distinct from a cardiac pump, which is an external device used to provide the functions of both the heart and the lungs. Thus, the cardiac pump need not connected to both blood circuits as shown in figure.



A cardiac pump is only suitable for use not more than a few hours, while for the artificial heart the current record is 17 months. This synthetic replacement for an organic mammalian heart (usually human), remains one of the long-sought goals of modern medicine. Although the heart is conceptually a simple organ (muscle that functions as a pump), it embodies complex subtleties that defy straightforward emulation using synthetic materials and power supplies. The obvious benefit of a functional artificial heart would be to lower the need for heart transplants, because the demand for donor hearts greatly exceeds supply.

#### **Bionic Ear**

For the sound to travel the main medium is Air. The function of ear depends on movement of the air which helps in the ear to transform the waves into sound.

Bionic ear is an electronic device that implanted into the inner ear and used to restore hearing in patients who have severe to profound hearing loss. In patients with normal hearing, sound collected by the external ear and funneled down to the eardrum as shown in figure-2.



The sound waves then carried through the middle ear by the middle ear bones (the ossicles). The sound pressure waves then converted to nerve signals within the inner ear (the cochlea). A bionic ear bypasses the normal sound conduction mechanism through the external, middle, and inner ear, and directly stimulates the auditory nerve.

"Asambaadham Badhyato Maanavaanaam Yasyaa Udvatah Pravatah Samam Bahu | Naanaa-Viiryaa Ossadhiiryaa Bibharti Prthivii Nah Prathataam Raadhyataam Nah ||"

### **Bionic eye**



The sky is a combination of many celestial objects which gives us the scope of vision and helps us define the hues of various colours.

The eye plays the role of transformer of light into vision. If there is any problem with eye like,

If you are unable to see properly or visually impaired or not being able to see even the basics of light, it makes a big difference. Dr. John Pezaris, Harvard Research Fellow record basic visual information via camera, process it into electronic signals and send it wirelessly to implanted electrodes. The electrodes implanted in the eye, which could help people who've lost some of their retinal function as shown in figure



Dr. Pezaris' system, still in the early stages of research, would bypass the eyes entirely, sending visual data straight to the brain. Both systems will work best with people who could once see because their brains will already know how to process the information.

### Artificial kidney

To burn and generate fire plays a major role. Whether it is burning of coal and generating electricity or digesting and generating energy for the human body survival.

For people with failing kidneys, basic necessities of life like removing toxins from the blood and keeping fluid levels balanced requires hours hooked up to a dialysis machine the size of a clothes dryer. A new, portable artificial kidney, small and light enough to fit on a belt system, could change that. Despite its small size, the automated, wearable artificial kidney (AWAK), designed by Martin Roberts and David B.N. Lee of UCLA as shown in figure-4, AWAK actually works better than traditional dialysis because it can be used 24 hours a day, seven days a week, just like a real kidney.



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### **The Five Elements**





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