

Integrated Approaches of Sciences and Music with Spiritual aspects

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Abstract: -

Music and Sciences incredibly called one body and soul. These two disciplines are different with their names but both are interconnected with each other with their internal and external factors in the form of spirituality, philosophy, contextually and fundamentally. The median to connect the soul with super soul are both the discipline strategically in various epitome like meditation, self- concentration/realization through god realization to focus on self-awakening which also helps to activate the pineal gland. The scientific stream flowing in with the practice of mental, physical and emotional, social, educational, cultural and spiritual fitness. The metaphorical journey of Soul to super soul or the human to heaven obliging successfully through interrelatedly universal elements in the form of light, sound, nature, Galaxies, space. All these cosmic objects having sinewy or prominent energies which produce the musical sounds called Naad brahma, The Naad brahma is the cosmic sound through which by practicing music/ yog meditation human can attain the salvation. The sensory receptors in the body like nerves, bones etc. from brain to feet, through the meditation these organs command the brain for psychological, emotional and spiritual awakening. The meditation is the only source to activate our all 7 chakras in the body, The yog posture strengthen our body, mind and soul to get positive and Primordial energies in the universe with long time practices, The chanting "AUM" a cosmic sound is actually the Musical note Shadaj –S, which is base of all notes and also helps to tune the percussion and Non- percussion Instruments. The primordial energy come after activation all the chakras. The psychoneuroimmunology it includes immune, nervous and stress system. All the chakras activation have different colours like the different colours of the planets, the same we have different colours of each musical note as per Indian classical music philosophy. Every note have different emotion with the pitch, frequency, vibrations, resonance and echo scientifically. The emotions automatically connects with the 5 senses which helps to create melodies in classical and semi-classical styles by the recognition of the base note S through which we can make backward and farward note phrases.

As mentioned in the Upanishad Brihadarankaya "Aham-Brahama-Asmi" which means "I am divine" one of the powerful soul of the universe with all the jurisdiction, the 12 law of Universe speaks about the divine oneness which fosters the metaphysical causes written in the Attharveda.

These harmonal changes -----□ Sensory Organs -----□ Five elements

.....□ Nine
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emotions all are interconnected with each other manually and universally.

Keywords: Spirituality, Universe, Harmony, Meditation, Aesthetics

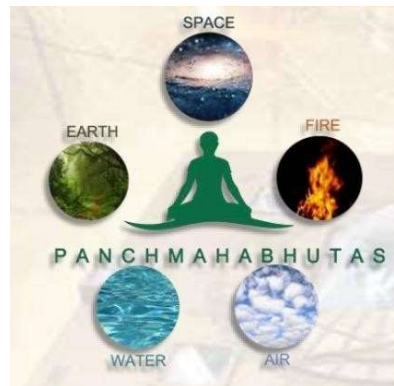
Introduction:-

Music and Sciences have Close relationships and enormously connected with each other, Science and Music are the vehicle to drive each other proportionally which is the substantial derivation of the path to prove and fosters Spirituality. Both the Discipline having their own classifications but with the Integrations they brings new formulations where Spiritual aspects automatically develops and creates the solution of human life. Spirituality is term of Inner peace, it's basically someone belief to the Supreme power who is the creator of the Universe we call God. Different People have their different names to call the Almighty. People do worships in their own styles some do in Yog - Sadhna some do in Swar-sadhna (Music meditation) and many other ways, From Ancient era it's been explained that Music is a major source to connect our soul with Super soul , In this Process Sciences gave benefaction in the form of Physics, Chemistry and Biology. Psychological factors also automatically integrates to reach of Tenth aperture in our body. As we all know that four Vedas which is the oldest sacred text in Sanskrit were written in India named as a) Rigveda b) Yajurveda c) Samveda b) Atharvaveda. The three words metaphysics, astronomy and spirituality was first found in Rigveda, It's showing clearly that how the science proved spirituality i.e The Origin of the Universe and cosmology where all planets dwells, All planets have its own affability to produce the vibrations in the form of Sound, which effects the whole universe, All these planets resonates the cosmic sounds. As per Hindu mythology "AUM" is only cosmic sound which appurtenances the Universe. It sounds in particular notes $i6+ +n$ Indian classical measures called P S S S. these four are the basic notes to tune the Instrument called Taanpura which is a dependable and Instruments for all Indian classical musicians. The word "AUM use to pronounce for awakening the spiritual power into our soul.

All the planets produces different frequencies level of sound which resonates in the Universe. These sound Collides with each other and creates Universal sounds. Spiritual aspects are related to feel, enchant and meditate these sounds for the well beingness and connect the soul with the Supreme power. As mentioned in the Holy Scriptures In the whole universe only humans has beings has the sightedness to recognize the supreme power with the spiritual practices where sciences plays a major role in it the we feel the nature, meditate and practice the universal sounds in the form of chanting "AUM" as per Hindu mythology, here five senses are being driven by these scientific perspectives. The body organs has sensibility to maintain the social & emotional wellbeing parallel scientifically and spiritually. The nine doors openings of the body with the help of meditation i.e- a) Music-meditation (Swar-Sadhna) b) Yog-Meditation (Yog-Sadhna).Both are simultaneously associating with each other, As Science is the bridge to show direction to become spiritual. The biological factors are directly generating the meditating characteristics through human body where chemical factors also involved in the form of various chemical messenger which operates harmonically. These scientific prospective integrates with the Psychological aspects too. The concentration and fostering the energy incorporated with the body, mind & soul to be produced with the biological factors and demonstrates the devotions/Spiritualism. One can introspect to their journey of life, how productively and fruitfully have to utilize each second of life, Like the two banks of the river compares as Birth and Death but the importance has been given to the flowing water whether it is Dirty or clean ,the same is human life where every deed / karma matters a lot. The five elements which are consecuted with the human body also embroiled with the Karma where our brain commands to do good or bad also the meditating certitudes in the form of music. Human body is actually composed of these elements named as: 1) Earth 2) Air 3) Water 4) Fire 5) Space, Here these are specifies the body organs, which plays a cardinal role to foster the Spirituality. As per Hindu philosophy these are also called "Panch Mahabhoot".

Earth	Body
Air	Breathing
Water	Blood
Fire	Heat

Sky	
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These elements are incorporated with the Three Gunas of hindu mythology called a) Sattva gun b) Tamasgun c) Rajas gun and from these three gunas nine emotions formed which erected the Music and fosters the scientific attitudes. The nine emotions demonstrates/showcase the Aesthetical aspects of Performing/non-performing arts both.

- 1) Adhbut
- 2) Bhayanak
- 3) Shringaar
- 4) Veer
- 5) Raudra
- 6) Karuna
- 7) Shanta
- 8) Hasya
- 9) Bibhatsa

All these emotions where the Music stands, These all jointly approaches the Sciences, which is directly related to the Time theory of the Indian Music system and Integrating to the Physics.

Integration with the Biology:- The Word “Bio” in itself is a spiritual word which means the occurring life ,It's a Greek word, where all the living beings are alleviating. Biology is an integrated discipline where all the disciplines major representors. The biological philosophies are basically the evolution of living beings with various stages. These stages are aligned with the music in every step of life and the Introspections are flowing with the self-realizations which embarks the spirituality because self-realization is only possible through the God-realizations.

Self-realization
realization

God

It integrates with the Psychological factors where the mindfulness actives for positive attitudes/deeds/karmas/responses in our day-today life. In the Psychological factors the neuro system is interlinked with the emotions which switches from negative to positive and all energy becomes spiritual and creates a saintly Aura. To convert the positivity music plays and important role in every step in the form of tone and rhythm. The heart beats in rhythm, where cardio factors includes, river flows, Leaf falls down earth is moving around the sun in particular period of time all these examples of rhythm. Birds chirping, Wind blows, Lightning strikes, Rain falls all in tone, which includes the environmental components. According to Neuro studies the transformation of brain cells to really gets impacted by Music where sensory and motor nerves plays an important role.

Sensory nerves is all about the sense organs which is directly related to five elements, these sensory nerves

gets command from the sense organs. These organs flows signal to brain nerves for sensing the taste, hearing, touch, smell and feel, these all aspects ultimately connected with the music where the feel of compositions helps to calm the mind also to heal injurious median by meditating and concentrate in oneself, The hearing sense of listening compositions in the form of all types of music, which helps to recognize the slow and fast rhythmic and tonal perspectives.

Sensory nerves in the brain plays an important role to feel the music and connects with the spirituality.

Motor nerves: Motor nerves is all about the muscles and glands which helps to move and function. Motor means to drive something, whereas the electrical energy converts into mechanical energy which means the motor nerves commands the nerves to move our organs and function as per the given command, which includes to sing, dance, write, run etc. In this scientific factor the motor nerves helps us to sing various musical composition, to play the Instruments, to demonstrate the body postures in various aesthetical movements by functioning and moving the muscles and glands. The relationship of motor nerves with music is deeply concerned which connects the spirituality by chanting “Aum/mantra/singing hymns/bhajans, by performing the various spiritual dance forms such as Indian classical styles where the Krishna vandana, Shiv-Tandava, Devi-stutis as per Hindu mythology. All these characteristics are helpful for the movements & functioning glands and muscles by the carrying signals from Motor nerves.

Cardiovascular system: In Cardio system the heart arteries and veins gets oxygenated for metabolism and removes Carbon dioxide, it helps to maintain the blood pressure also the smooth respiration flows. Through the meditation process our respiration system gets more influential, The pranayama a Part of Yog-sadhna where we inhale and exhale for long breath helps to enchant the musical notes prayers in a proper meter of rhythmic and tonal tempo. The singing compositions in multiple notes helps to increase the breathing process where cardio system works inactively. Singing with the long breath also includes the best quality of a vocalist, Out of 7 chakras from Yog- Sadhna the heart chakra activates and produces the positive energy in the form of love, compassion and forgiveness. These deeds fosters the saintly aura in oneself.

The three deeds Love, Compassion and forgiveness ----- □ enhances Spirituality.

These three deeds makes a pure human by implementing all three in life. Also these are interlinked with nine emotions which demonstrates through the aesthetic movements in the form of compositions such as Classical, semi-classical and fusion. The nine emotions named as

a) Joy- Hasya b) Fear-Bhayanak c) Anger-Raudra d) Love-Shringaar e) Courage-Vir f) Sadness –Karun g) Amazement-Adhbut h) Disgust-Vibhatsaya i) Calmness- Shant. As per Indian musical scriptures Natyashastra it's mention-Relishable state of dominant emotion- which fosters the Satvik bhava which speaks about the positivity, calmness and full of good deeds. Satvik bhava describes about the spirituality where the inner peace awakes and integrated with the nine emotions these emotions reacts and drives hormonal effects, it grows with the various scientific effects i.e-mood swings, depressing state, anxious level etc. all these negative factors vanishes and converts into the calmness, positivity-Satvik bhava. The Satvik bhava promotes spirituality which scientifically manages our emotional balance to make us resilient. The positive attitude commands the body to perform good deeds which transforms our thoughts and enhance the love, care, and compassion.

Phonation:-The major source of respiration through the glottis and inserted with the Pharynx which helps to produce the sound. The melody and rhythmic progression flows out from voice- box in the form of humming, speaking, and singing. The stretching of opening and closing of glottis through vocal chords produces sound. Scientifically and spiritually it describes about “YOG-NAAD” in music it calls Naad-brahma which means to the sounds comes out of human body through pharynx a source to bring out the various sounds in the form of speech, sing, whistle and beat boxing etc. Oxygenating through respiration the flowing air from mouth through pharynx to esophagus then to the lungs for smooth functioning of other parts of body. The two types of sound Aahad naad and Anahat naad represents all sounds in the universe including musical and non-musical sound. The conscious sound which is adequately audible is known as Aahat naad and the unconscious sound which resonates inside the body and out too in the nature is known as Anahad naad. Anahad naad is deeply concerned into the meditation which called out Yog-naad where aesthetically yog is another source of worshipping and to connect our soul with super soul, Naad-yog also effects our body mind and soul like music, it also enhances spiritual, physical, mental as well as emotional stability. Every body part functions appropriately to collaborate with the music, spiritualism and scientific logics reciprocally. The amplitude, resonance, frequencies,

loudness, pitch, timbre all depends on the level of force coming out from the voice box, For instance if there is need of speech the loudness might not require to through the voice, but if there is need of humming or singing the voice through or frequencies level might be increased as compared to the speech or if there is just whispering the voice through will be more decreased even then the level of speech.

1. Muscular system functioning to plucking the string Instruments and stroking the percussion Instruments: Muscular means the proper functioning of muscles in the various system in body systems like cardiac, digestive, neuro and urinary etc. All the systems have their own role for movements of body, the stretching of muscles with the workout which galloping the parts through actions, In our day-today life the several types of works i.e :- Cooking, driving, running, walking, washing, writing, eating and playing etc. all these activities mandatorily comes in action to concomitant each system, Aligned with the same plucking String Instruments and stroking the percussion instruments also interlinked with cardiac system and Neuro system for understanding the notational structures and rhythmic essence of the compositions by concentrating through Smooth muscles, As per physiological factors too smooth muscle helps to reduce the stress and get the body relax, Plucking string Instruments and stroking percussion Instruments makes the cardiac muscles strong with the fingering ,elbow, shoulders, chest movements linking with the cardiovascular system too, Long time practices of Instruments strengthen our muscles. The rhythmic aspects of the Instrumental reverberations interconnected with the smooth heart pumping which could be measured with the Taal beats/bars, the beating of taals/beats simultaneously goes with the heartbeat. The normal heartbeat rate of human is 40 beats per minute which pertains the vilambit /slowest beat of Indian Taal- Teentaal (king of taals).

Skeletal muscles:- Skeletal muscles are directly related to the hands and elbow elasticity which majorly helps to stroke the percussion Instruments and plucking the string Instruments. The two main groups of skeletal muscles of hands are Intrinsic and extrinsic muscles-The extrinsic muscles placed in the elbow part which controls the speed of hand and fingering movements.

Extrinsic muscles are helpful for placing the correct fingers of playing Instruments for instance- To play table we use to stroke with the index finger on the edge and ring finger to fix on the chatti / Syahi (black inky part) & the left hand middle and ring fingers to fix on the center part of the dugga/left table. The exact force for sounding perfectly on the Tabla or the other percussion Instruments depends on the extrinsic muscles of hands.

Intrinsic Muscles of hand are actually interconnected with the lumbrical muscles, transverse carpal ligaments etc. where both hand internally commands each other to function equally at the same time, These commands fosters the required energy to play the Instruments accordingly.

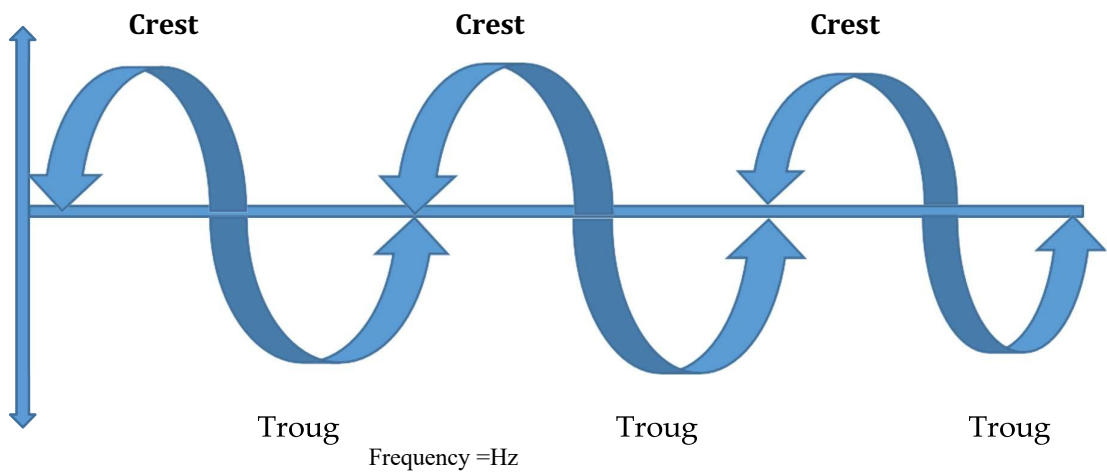
These are divided into 4 parts a) Thenar b) Hypothenar c) Lumbricals d) Interossei, These muscles gets strengthen by playing percussion instruments majorly while stroking the black and white skin part, the finger stretching of the wrist, palm and opening-closing with various beats 4/4,3/3 etc.in multiple speed. The various speed of beats/Taals to play with the different bars/In Indian Taal system with kayda/paltas, chakrdaars with teehai/Tri cycle of taals to indicate the ending part of the taal. In this manner skeletal system of hands workouts the plucking and stroking the String and Percussion Instruments adequately.

Integration with the Physics: Physics is itself stating the physical connections of the objects, In the same manner music is universal and present in every object of the universe directly or Indirectly, The sound its frequencies, resonance, amplitude, acoustics, electromagnetic components, level of energy etc. all these matters are directly connected with the music, Sound waves plays an important role to integrate with the musical phrases like naad & types of naad. Energy, motion, force the three components of physics presents the way of playing Instruments (percussion and Non-percussion) both. Sound waves is the major concept which consists of motion where longitudinal wave forms the sound travel in compression and rarefactions to become audible to the ear:

Sound travelling: -----

Compressi on	Rarefacti on	Compressi on	rarefactio n	Compressi on	Rarefactio n	Compressi on	Rarefactio n
				on			

2. C+R= 1 wave



F α P=Shrill-High octave

Low pitch-base depends on the male/female sound qualities For Instance Male voice is full of base while singing and talking both same as female voice is full of treble which sounds in high octave and shrilled while singing or talking.

Frequency=Pitch, Timbre, Magnitude and amplitude.

Frequency of particular Instrument/Vocals could be measured with help of pitch, its timbre, magnitude and amplitude where sound also travels, In this way the frequency of string Instrument depends on the length of the wire where the sounds resonates accordingly.

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