ABOUT HINDU DHARMA

351 Indian Messages on Hindu way of management
+ What is Hindu Dharma and what is Hindu Dharma
and What is not Hindu Dharma

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M.Sc (Pharm), M.Sc (Chem), M.A. (Soc), MBA Ph.D., D.Litt.
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Heritage publication series 503
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In the service of the motherland and dharma

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For knowing Hinduism
You should know the scientific meaning of
The Customs and Rituals of Hinduism.
The spirituality and symbolism of Hinduism.
The Literature and Message of Hinduism.
The Scientific and Technological Heritage of Hinduism.

For knowing all these, it will take more than a hundred janma/birth for you!

All the knowledge present in Christianity put together could be printed in one book. - The Bible

All the knowledge present in Islam put together could be printed in one book. - The Koran

But all the knowledge of Hindus could not be printed in one book. So the Hindus have 4 vedas, 19 Brahmanical books, II Arnayakas, 108 Upanishads, 18 books, each under Siksha - Norukta - Vyakarana - Chandra sastra - Kalpa sastra Vedangas, 18 Mahapuranas, 18 uppuranas, 2 itihasas, 6 Darsanas and 5 Upavedas..... an unenduring list of Hindu/Indian heritage.

If one copy each of the above books is placed one above the other, it is said that the pile will have the total height of 4 telephone parts. Hindus knew that the ocean of human knowledge is so fast that it cannot be printed in one book by one man or by one saint. Here presented is an outlines of Hindu knowledge.
INTRODUCTION

The Sanskrit word “Subhashita” literally means (su = good bhashita = messages) “good messages”. Hence subhashitas are the capsulated forms of the messages for a better life. In-fact they are the messages for an integrated management. These messages of classical wisdom are powerful and poetic idioms, unique to every branch of Sanskrit literature. They are the most valuable life-enriching messages given in very attractive way with minute examples seen generally in one’s day today life. Generally the examples are from various Indian spiritual literature or from what is seen around us.

Merely giving valuable moral advice is dull and didactic. Hence that is generally avoided in Indian books on management. While isolated and beautiful quotations which becomes by-heart for the student of management are presented here. In imagery is only sensuality. In the Subhashitas, collections of the management principles, we can see a blending of the top quality messages and practical examples.

Sanskrit has a perennial source of Subhashitas. The Vedas, Upanisats, Smritis, The Ramayana, The Mahabharata, Puranas, Agamas, Darsanas, Epics, Lyrics, Dramas, Sastric, neetisaras, panchatantra, darsanas, Vedas, smruties, texts and many more are primary sources of unforgettable words of wisdom. Added to these, there are numerous independent compendiums, written by visionary poets like Bhartrhari, Bhallata, Visnu Sarma, Sundarapandya, Narayana, Ksemendra and Nilakantha Dixita. Added to this are the contributions of philosophers, dharmacharyas, scholars like
Chanakya, Vidura, Sukracharya, Patanjali, and so on. These apart, many anthologies are available, which contain many a charming Subhasita, culled out from the vast and varied literatures in Sanskrit. Subhasita Ratnakosa, Subhasitavali, Suktimuktavali, Subhasita, Sudhanidhi, Sarngadharpaddhati, Saduktikarnamrta, narabharana, Kavitamrtakupa, Samayochita Padyamalika, Subhasita Ratnakhandagara are but a few significant collections among them. This process of preparing the anthologies of choice Subhasita is still relevant and a few good collections like Subhasita Manjari, Suktimala, Nityanity, Subhasita Sangraha, Nitisara etc., are available in Kannada translations.

Subhsitas are shrowded in ancient Vedic literature, but compilations of Subhasita as such can be traced from the 10th century A.D. Vidyakara of 10th Century A.D., Sridharadasa of 1205 A.D., Jalhana of 1257 A.D., Sarngadhara of 1363 A.D., Sayana of 1323 A.D., Vallabhadeva of 1417 A.D., Sundaradeva of 17th century A.D., Narayana Ramacharya of 1900 A.D etc., are few remarkable milestones in the preparation of lasting treasures of Subhasitas.

The contents of Subhasitas are rich and varied, dealing with righteous conduct through dharmic values, Judicious and sustainable pleasure, wise and shrewd economical concepts, love towards all aspects of nature and natural forces, virtue of the good in what is happening around us/in nature, cautions against all aspects of the words and deeds of the wicked, lasting friendship with the good, significance of learning different type of knowledge from the experienced gurus/teachers, modesty in behavior, charity in life, patience as a great pathway for success in life, compassion to those
who deserve, morality, pride and self respect and prejudice, all sorts of sustainable wealth, psychological and physiological health, universal love and brotherhood which binds the society and nation, human relations and self realization for an integrated growth and existence.

Through subhashitas high quality management principles are given in such a way that the quotations are remembered for ever. The student is expected to remember the sloka/stanza and quote whenever it is required. So that it gives a correct direction for the person and also a psychological relief on selecting the correct pathway. Dry preaching is boring. If instruction is wedded to striking analogy and charming illustrations, it will be joyfully received. Hence Subhasitas are always associated with poetic fragrance and verbal melody. This is the traditional tact of prescribing bitter medicine with honey. While doing so, many techniques are employed. Satire, hyperbole, smile, metaphor, wit, fun, image and many more are the modes effective communication and interaction. Listening to Subhasitas, therefore, is always a refreshing experience and it is sure to bring light an delight to the listeners.

Here is a compilation of Subhasitas culled out from the rich mines of Sanskrit lore. Majority of the collections are presented here from Dr. S. Ramaswamy’s work.

Bhagavth geetha, yogavasishta, Bharthruhari’s upadesa sataka and neetisataka Chanakya neetisara, Sukra neetisara, Bhisima upadsa, Vudura upadesa are also excellent books gives messages on the Indian approach to management.
1. Given over egotism, brute force, arrogance, lust and anger, some people always behave in their life leading to terrible negatives for themselves and for others.

   Bhagavath geetha—16/18

2. Over ambition anger and greed are the triples gates for the hell and they will ruin everything in one’s life if not properly controlled.

   Bhagavath geetha 16/21

3. There are three type of qualities for everything and every type of approach. They are saatwika, rajaseeka and thaamasika. This can also be called as three level of the human beings. At the lowest and most negative level is thaamasika, at a higher level it is rajaseeka and the best and top quality level it is saatwika.

   Bhagavath geetha chapters 17 & 18

4. There are satwika, rajaseeka and thaamasika types of temperaments, personalities, focus, aims, pathways, results, processes, methods, foods, nature, etc. hence if you are in the thamasika level, try to grow higher to rajaseeka first and then to satwika. Bhagavat geetha Chapters 17 & 18

5. Treating alike the victory and defeat, gain and loss, pleasure and pain, get rady for facing the life. You will attain happiness

   Bhagavath geetha 2/38

6. Whose mind remains unpurturbed amid sorrows, whose thirst for pleasures ahas altogether disappeared and who is free from over passion, fear and anger heattains the goal faster.

   Bhagavath geetha 2/56

7. There is not a single merit of the virtuous which is not branded as a defect by wickcd men, modesty is counted as dullness. Religious practice ostentation, honesty as dissimulation, valour as mercilessness, meditation as lack of intelligence, gentleness of speech as feebleness, prowess as arrogance and strong power of expression as garrulousness.

   Bhartruhari neetisataka
8. Obeisance to that effulgent spirit who transcends space and time, who is infinite, who is the very personification of consciousness, who is tranquil and who can be known only through inner experience.

Neetisatakam-1

9. Obeisance to Sarada Devi the Chandrakaladhara who has transformed the bliss of knowledge into beauty in herself. She is reflected in the mirror of our mind according to the quality of its cleanliness.

Nityaneeti-2

10. He who is taught by the Sages, he who has inherited the Vedas and the Sastras and does not contradict them and he who has been initiated to discriminatory logic; he only is to be recognized as a Dharma-jna. Not anybody else.

Manusmruti -12-106

11. Mind is the master of the entire army of senses. Hence winning over the mind is the real victory. A person with leather footwear feels as though the whole earth is covered by hide.

Subhashitavali 3-347.

12. Just as a ball thrown at the wall rebounds back, the evil that is done to another boomerangs to the perpetrator.

Kathaasartsagara 3-6-213

13. Money can be spent in three ways-by giving in charity, by enjoying it, or destroying it. He who neither gives it to another nor enjoys it himself-the third alternative is inevitable.

Neetisatakam-34

14. What are the defects of philanthropist? What are the merits of a miser? There is no defect greater than stinginess. There is no merit greater than charity.

Sabharanjanasatakam 36

15. He who maligns the good maligns himself. The ashes that are thrown at the sky falls on one’s own head.

Dushtantakalikasatakam-27
16. One should visit royalty and meet its close associates. Even if there is no benefit from it, one can at least avoid their hindrances. Neetidwisheshtika - parisishtam-19

17. Some were ruined by ignorance. Some were destroyed by carelessness. Some were ruined by the pride of their supposed knowledge and scholarship; yet others were ruined by these ruined peoples. Subhashitam-153/14

18. The wise should learn to accept wisdom from anybody, even from a child. Doesn’t the small nightlamp shine things which the sun can not? Subhashitam –153/25

Charitable nature, the art of pleasant speech, courage of conviction, right conduct – these are not the results of cultivation; they are inborn. Subhashitam 158/213

19. For the poor man sensual enjoyment is like poison. For the coward, battle is like poison. For the uninitiated, knowledge is like poison. For one who has indigestion, food itself is poison. Hitopadesa-10

20. The frog proudly keeps croaking though it drinks filthy water. The cuckoo doesn’t feel proud though if feeds on delicious mango juice. Nityaneeti -28

21. The doer, the promoter, the instigator and the approver, all the four share the responsibility equally in good or bad deeds. Nityaneeti-30

22. Dharma destroys him who destroys Dharma. Dharma does protect him who protects it. Dharma therefore should not be abandoned. That Dharma, which is going to perish shall not destroy us. Nityaneeti - 14

23. The wise could never launch anything which bears no fruit, which ends tragically, which has no gain over the expenditure and which is impossible. Subhashitavali-2720
24. Earning money is tribulation; protecting it is problem. If money is lost it causes sorrow. Even to spend it is painful. Down with money, the cause of all! Nityaneeti-37.

25. One who has no merit cannot appreciate merit. However, a merited person is jealous of another meritorious person. Thus a simple man of merit who appreciates the meritorious is very rare. Subhashitam - 45/13

26. Nobody trims the hair on the eyelids, but the hair on the head is regularly cut. In the world, only those who are growing and productive, face impediments. Nityaneeti-40

27. In order to understand the golden streaks-the ups and downs of friendship, a knowledge of what the friends say behind one’s back is the measuring instrument. Nityaneeti-42

28. The capricious tongue slips easily because it is in the wet region. It needs to be bound firmly by the rope of discrimination. Nityaneeti- 44

29. The virtuous perceive their virtues through the others. The shall perceiving eye perceives itself only through the mirror. Nityaneeti -46

30. Even the week, when they are in good number, gain strength. A rope that is made a strands of grass can bind even an elephant. Nityaneeti- 47

31. Merely because a bamboo grows in the Malaya mountain, it does not becomes sandalwood. Who can install quality in one who is hollow? Nityaneeti-48

32. An evil person, though learned should be avoided. Though a serpent is adorned by a jewel does it not strike terror? Hitopadesa- 1/82

33. What is the purpose of parrot-like learning devoid of practice? It may, as best, entertain people. Darpadalananam- 3/31
34. When a mean person maligns a noble person, the noble one does not retaliate. When a dog bites a man, the man does not bite the dog in return. Neetidwishaashtika –63.

35. The anger of the noble, like the friendship of the low, does not easily occur; if it occurs it is only momentary and the result is different. Bhojacharitam- 285

36. The faulty who tries to find fault with the faultless cannot sleep in comfort as if in a snake-haunted house. Nityaneeti- 76

37. Good people, even when they are angry, melt if occasion arises; not the mean ones. Solid gold can melt but not a blade of grass. Neetiswishtika -101

38. A mild person can derive benefit in the association of the strong, just as the soft tongue enjoys different tastes because of strong teeth around. Kavitamrutakoopam-33

39. Just as mere ploughing of the fields without sowing does not bear fruit, mere faith will not yield anything. Nityaneeti- 86

40. Familiarity, breeds contempt! Though dwelling in the holy sangam of Prayag, don’t people bathe in well-water? Neetidwishaashtika parisishtam -16

41. By kinetic movement, even an ant covers hundred of miles; but a static kite doesn’t move a step forward. Nityaneeti- 98

42. A wise person must give happiness in whatever manner to whatever living being; that itself is the worship of God. Nityaneeti- 100

43. When the sorrow is confided to a friend, it lightens the mind. Those who are carrying weight do transfer it from one to another shoulder, don’t they? Subhashitasudhanidhi - 131

44. Mental repetition is definitely better than mere hearing of the sastras. However, practicing it is even better than mere repetition of the same. Nityaneeti 108
45. Truth is my mother, Knowledge is my father. Dharma, righteousness is my brother. Compassion is my preceptor. Peace is my friend. Forgiveness is my sister. These six are my true relatives.

Nityaneeti - 110

46. It is only hard work and effort that result in fruitful achievement — not mere idle speculation. Animals do not fall into the open mouth of a sleeping lion of their own accord.

Panchatatram - 2/138

47. There is always a difference between the good and the evil. The cow eats grass and gives milk. The serpent drinks milk and generates poison.

Prasankabharanam -5

48. He who speaks gently, thoughtfully, sparingly, truthfully, discerningly, beneficially and pleasantly is rare indeed.

Neetidwishahtika -36

49. One achieves greatness only by good qualities and not because he is seated in a position of power. Just because a crow sits on the top of a palace, it does not become a garuda, the holy kite.

Chanakyaneeetisatakam -16/6

50. How can sastras help one who doesn’t have innate discrimination of intellect? How can spectacle help a blind person?

Nityaneeti - 117

51. One cannot avoid one’s fate by running away; fire that has caught the tail feather of a birth follows it wherever it fled.

Rajatarangini - 7/222

52. Only truth must be spoken, and in a manner relished. Unrelished truth should not be spoken, nor relished untruth. This is wisdom eternal.

Manusmruti - 4/138

53. A fundamental quality cannot be changed by advice. Water however hot does become cold once again.

Panchatatram - 1/201
54. One would find those who know ethics, those who know the rule of Fate, those who know the Vedas, those who know the Sstras and even those who have knowledge of the Brahman. But very rarely one finds people who are aware of their own ignorance. 

Variagyasatakam - 26

55. One should be prepared to meet difficulties even before they arise. Staring to dig a well when the house is one fire is not wise. 

Sarngadharapaddati -1440

56. Poverty is better than ill-gotten wealth. It is better to be lean and healthy than obese and unhealthy. Sarngadharapaddhati -1441

57. Good looks is the adornment for man. Character is the adornment for good looks. Wisdom is the adornment for character. Forgiveness is the adornment for wisdom. 

Naraabharanam -2

58. When our mind is at peace, everything becomes pleasant. For the contented, even the disagreeable becomes agreeable. For the unhappy even pleasant things become unpleasant.

Ramayanamanaanaji -3/1136

59. For the self-respected ones, there are only two ways, as for a bunch of flowers-adorning the heads of others or withering away in a forest.

Neetisatakam -25

60. By heating it up and melting in fire, by cutting it rubbing it etc., gold is not unhappy; but it becomes sorrowful, when it to be weighed against “gunja” (A precatious-small seed used to weigh gold against). Subhashitasudhanandalahari 10

61. Of what use is learning scriptures for a person who doesn’t have the talent to adjust according to the situation? Of what use are lovely flowers for a bald person? 

Sabhanjanasatakam 13

62. Dependence is sorrow. Self dependence is happiness. This discrimination shows the difference between happiness and sorrow.

Manusmruti - 4/159
63. A bad man who is stupid, like a fangless snake is better than an evil genius who is tarrying like a black cobra with wings.  
Desopadesa – 1/18

64. Good health, sound body, freedom from debts, sinlessness, independence, lack of worry and unassailable belief in God – if these are present, it is heaven itself.  
Nityaneeti – 157

65. Love and friendship with the wicked should not be cultivated. Charcoal burns when alive and dirties the hand when cold.  
Kavita Mrutakopak - 84

66. It is easy to find flattering people. But rare are those who speak unpalatable truths and rarer, a listener.  
Ramayananam- 3/37

67. Over-eloquence generates contempt. Silence generates esteem. The noisy anklet is fixed at the feet while the silent jewel adorns the neck.  
Nityaneeti - 165

68. ‘Tapas’ is according to the wise; non-violence, truthfulness, generosity, control of the senses and compassion-not mere punishment of the body.  
Nityaneeti - 166

69. Knowledge brings modesty; from modesty comes worthiness; worthiness would bring wealth; from wealth flows charity. This is the path to happiness.  
Nityaneeti - 167

70. There is no letter which has no potential of mantra. There is no herb which has no potential of medicine. There is no man who is worthless. But one who can identify these is rare.  
Nityaneeti-175

71. Alteration, monetary transaction, begging, excessive talk, borrowing, hankering after position, these break friendship.  
Nityaneeti- 182

72. Nobody knows that happens tomorrow. The wise, therefore would not postpone anything indefinitely. Nityaneeti- 191
73. The test of friendship is during one’s misfortune. The test of valour is in the battlefield. The test of a servant is by his loyalty. The test of charity is in indigence. Nityaneeti- 197

74. The word that is uttered by the good even casually is like an inscription etched in stone. Even the sworn words of the evil are like what is written on water. Nityaneeti- 206

75. The good qualities of even an enemy have been mentioned. The shortcomings of even a preceptor have to be mentioned. However, good taste and propriety should not be abandoned while doing so. Nityaneeti- 213

76. Is it enough to declare that one is born in a noble family? Don’t briars and thorns grow and flourish in the fertile ground?
Mruchaktikam – 8/29

77. Sterile enmity is not to be indulged in. It is like chewing the horn of a cow. It pains the teeth and gums but produces no juice. Nityaneeti- 220

78. The jewel for the hand is charity. The jewel for the neck is Truth. The jewel for the ear is listening to Sastra. Such being the case, when is the need for other jewels?
Nityaneeti- 204

79. He who gives away whatever is requested, and he who doesn’t ask anything of anybody, has not been in the past, nor will be in the future. Subhashitavali –2973

80. The wind becomes a friend of the burning fire that destroys a whole forest. The same wind mercilessly extinguishes a small flame. Where are friends for the humble?
Saarnghadharapaddhati –488

81. One should not lament over the past. There is no use in dreaming of the future. The wise live for the present.
Chanakyaneetisatakam-13/2
82. Those who are slaves of desire remain slaves of the entire world. But those who have enslaved desire, the whole world is at their feet. kavita mrutakopakam -27
83. No harm will come to him who speaks in accordance with the situation, who acts in accordance with his mental equipment and who gets just as angry as he can afford to. Nityaneeti- 234
84. Though the pain of getting the ears pierced in order to wear ornaments and bearing their weight bothers the ears, the cheeks enjoy the beauty. This is the way one is happy in another’s unhappiness. Nityaneeti- 235
85. What is sorrow? Discontentment. What is lethargy? That which has been learnt but not kept in touch. What is the basis for respect? Not asking for any favours. Prasnotararatnamaalika -14
86. An evil not done is good, for, sorrow inevitably follows an evil deed. It is good if only the good is done. That alone is good which does not bring any regret. Dharmapadam-2/9
87. Desire is a strange bondage. Those who are bound by it keep continuously running after it. Those who are not bound will stay, but like the lame. Subhashitam-76/10
88. That which is considered abusive from an unfriendly source, become good natured raillery if it comes from a well wisher. What is thick smoke from firewood becomes fragrant ‘dhupa’ from the aguru wood. Aryasaptasati -13
89. Never should one cultivate intimacy with wealth. If it is lost all status is lost. If it is gained, it is spent away. Nityaneeti- 254
90. However high the buzzard flies, its sight is focused on the rotting flesh. No matter how high a position is occupied by a wicked man, he indulges in despicable acts. Nityaneeti- 260
110. Good people don’t give up their goodness even if they are occasionally angry just as curds yield only butter when churned.

Narabharanam -30

111. A wise man should not antagonize people thinking that they are weak and helpless, for, a multitude of ants can eat up even an angry serpent.

Panchatantram –3/119

112. It takes a great deal of effort to get a rock up the hill. But it can be dropped down in no time. Similarly it takes a lot to build up good reputation but one wrong step is enough to bring infamy.

Hitopadesa –2/16

113. Cheap and hollow things make more noise than the worthy. Brass makes more noise than gold.

Yasastilakachampoo-1/35

114. Just as water flows faster in a canal, good natured people tread only the good path; treading the path of the good becomes even better.

Abharanasatakam - 22


Garudapuranam –1/115/74

116. He who travels extensively and he who confers with the learned, will see his mind expanding like a drop of oil in water.

117. Strong-willed, self-respecting individuals would accept death rather than humiliating existence. Fire dies away but never gets cold.

Hitopadesa –1/45

118. Pray for good conduct, not good looks. Pray for cultured behaviour, not high birth. Pray for achievement, not mere education. Pray for contentment and happiness, not mere wealth.

Subhashitam-167/645

Subhashitam-17/-769

120. The wise learn and earn leisurely as if they are immoral, but do the righteous act forthwith as if seized by death.

Sarangadharapaddhti -669

121. While consuming darkness, the lamp emits stain. Likewise, activity reflects the quality of the food consumed.

Vruddhachanakya 8/3

122. I would tell you in a sentence what is contained in a million volumes. To help is Punya, to hurt is Papa.

Samayochitapadyamaalika -95

123. Where there are no seekers what can a scholar do? In a land of naked Sanyasins, what can a washerman do?

Subhashitavali -2790

124. An artisan can carve out a golden lotus but can he fill it with fragrance? It is only Mother Nature that can create a beautiful and fragrant flower.

Subhashtam-156

125. One should place the foot forward after scanning the place; one should drink water after filtering it; one should speak according to the dictates of shastras; and one should act after consulting the conscience.

Sarngadharapaddhati - 4551

126. All effort must be put in to acquire good qualities. There is no use in indulging in noisy demonstrations. It is not possible to sell a barren cow by tying a nice big bell around its neck.

Subhashitam- 8/12

127. Knowledge of one’s own limitations, ability to grasp another’s intentions, control over selfishness, pleasant disposition and harmonious attitude, these together is culture.

Nityaneeti- 277
128. Just as the water filled into the human skull, and fire in a funeral pyre lose their sanctity, the abundant knowledge of a characterless man is unworthy. Subhashitasudhanidhi -26

129. The mud that is thrown at the sun falls into one’s own eyes. If noble people are insulted boomerangs on oneself. Abharanasatakam - 42

130. He who consumes the ripe fruit plucked at the right time, not only enjoys the fruit-juice, but also gets the mature seeds for further planting. Neetikalpataru -9/28;1

131. Even if a wicked person is an expert in learning, he will not attain nobility. though a stone is immersed in water for centuries together it will not become soft. Bhamineevilasa -85

132. What is the use if a person who gets into a position of power for a short time does not help his friends, the near and dear, and does not punish the enemies? Neetidwishashtika -21

133. Those who live day after day without dharma, like the bellows of a blacksmith, though breathing, still are not alive. Panchatantram -6/3/93

134. It is not always true that a good man begets good progeny. After the fragrant sandalwood is burnt, its ashes do not bear the same fragrance. Drushtantakalikaasatakam-41

135. Just as the holy dharbha grass cuts the fingers if not held properly, sanyasa, the renunciation if not practiced intently, would lead one to the veritable hell. Dharmapadam -22/3

136. The wise and outstanding will shine like the sacred Himalaya though at a distance. The wicked who are by the side, deeply hurt like the arrow charged in darkness. Dharmapadam - 21/15
137. Growing and serving food grains is vital, for it can quench hunger; not a precious diamond in the mouth. *Hitopadesa* 3/55

138. One who has a disorganized mind, one who has no comprehension of true Dharma and who has a butterfly-mind will not achieve wisdom. *Dharmapadam* 3/6

139. A nonfragrant but elegantly colourful flower is not satisfying like unpracticed preaching which carries home nothing.

*Dharmapadam* -4/8

140. Hatred begets only hatred; it is love, only love that can cure hatred, according to the eternal Dharma. *Dharmapadam* 1/5

141. When beset by troubles, even the good tends to bring pain; like the legs of the mother cow becoming the poles to tie up the calf.

*Hitopadesa* 1/13

142. The evil once done, cannot be digested like milk. It is like live coal under the ashes burning the vitals.

*Dharmapadam* 4/12

143. An earnest seeker, serving the wise even for a short time understands the secrets of Dharma, like the tongue which perceives taste instantaneously.

*Dharmapadam* 5/6

144. One who collects information without proper understanding will not comprehend the true spirit of the Shastras like the ladle which cannot enjoy the taste of the soup though always immersed in it.

*Mahabharatam* –2/55/4

145. A good turn done will bear fruit here and hereafter like the water poured to the roots of a plant will bear fruit in the branches.

*Subhashitasudhanidhi* –39/1

146. Righteous conduct is the supreme Dharma: is the ultimate penance; it is the absolute knowledge. What is it that cannot be achieved by righteous conduct? *Manusmruti* –1/108
147. Spending less than earning is practice knowledge; it is tactful skill and is the ultimate wisdom.
    Samayochitapadyamalika – 14/1

148. Just as a little oil lubricates the wheel for smooth movement, only a little food is desired by the wise to smoothen the pilgrimage of life.
    Soundaranandam – 14/12

149. The little learned is overloud like a ham actor who overacts.
    Neetidwishahtika – 30

150. The ocean does not cry for water but it is always filled. A person of inner elevation does not cry for wealth but it comes to him on its own.
    Sooktimuktavali - 2665

151. How can ever the wicked hurt one who is full of compassion? How can the fire hurt a grassless land?
    Samayochitapadyamaalika – 1/8

152. Without the necessary assistance one may not complete the required task; without the husk, grain cannot sprout.
    Panchatantram - 2/51

153. Even gods do not tolerate a good man to be in a high position for long. The full moon shines only for a night.
    Sooktimuktavali - 301

154. Manu the preceptor of Dharma declares that non-violence, truth, non-avarice, purity and self-control together is the Dharma to be followed by all without any discrimination.
    Manusmruti - 10/63

155. Just as a little one hurt by in the mouth by hot pudding, tries to cool even the curds, one who is hurt by the wicked tends to suspect even the good and noble.
    Neetiswishashtika - 41

156. May I be blessed with no regrets on the unaccomplished, no egotism over the accomplished, and expeditiousness in what could be accomplished!
    Ananthabharati - 46
157. The virtuous consciously earns for righteous spending. The earning of the other without righteous disposition is but filth.
   Dharmapadam - 14/4

158. Nobody coronates the lion; he becomes the lord of the forest by his own might. Garudapuranam - I/115/15

159. The wise should scorn both the favour of frown of the wicked; the dog’s lick or bite, either is disgusting.
   Sarngadharapaddhati - 367.

160. Both the crow and the cuckoo are black and look identical; but the spring reveals the truth. Kuvalayananda - 164

161. When one is possessed by insolence, his friendship becomes enmity, his offerings become burglary and his knowledge becomes unadulterated stupidity in hundred folds.
   Darpadalanam - 1/34

162. What use is it staying in the forest when one has not conquered the passions? And what use is it staying in the forest who when one has conquered the passions?
   Subhashitasudhanidhi - 65/24

163. The wise are like a balance: heavy with the light, light with the heavy, and equal among equals. Nityaneeti - 146

164. The virtuous come to know of their great qualities only through others like the all pervading eye can see itself only through the mirror. Vasavadatta - 12

165. Simply because a wicked person is from a good family he should not be trusted. Even the cool Chandana tree when caught by fire is bound to hurt. Neetidwishashtika - 17

166. Virtuous qualities cannot be suppressed; the fragrance of ‘Kastoori’ incense cannot be cancelled even by an oath. Kuvalayananda - 51
167. The true spirit of Dharma expresses itself in ten folds; steadfastness, compassion, sense control, nonviolence, purity, mind control, wisdom, knowledge, truth and non-temper.
   Manusmruti –7/92

168. Gods, the elders and the good are appeased by righteous conduct; relatives are appeased by hospitality; and the scholars are appeased by learned talk.
   Sooktimalika –724

169. The word of the wise is like the ivory of an elephant: it cannot be withdrawn. The word of the wicked is like the tongue of the snake; shows up and recedes always.
   Kavaitamrutakoopam -22

170. For a person who is removed form his position of power, even is friend becomes enemy. The sun scorches the lotus when removed from water; he does not make it bloom.
   Neetidwishashtika -48

171. The world can easily be won by forgiveness, compassion, love, good word’s, honesty, politeness, and service.
   Sooktimala -82

172. He who speaks to suit a situation, acts according to one’s intention, according to ability and equipment – does not come to any harm.
   Kavitamrutakoopam -97

173. He who studies, scripts, perceives and interrogates the wise will have a mind that blossoms like the lotus exposed to the rays of the sun.
   Sooktimala -186

174. Drop after drop of water fills the pot. Likewise the knowledge, wealth and righteousness.
   Hitopadesa-2/4

175. Dharma, the way of life should not hurt the way of another’s life. Dharma is non-hurting.
   Sooktimaala –233
176. It is only the good character that declares one a Brahmin; not his birth, nor his family, not even his learning and erudition.
   Mahabharatam – 3/178/16

178. Modesty is the basis of morality. The end achievement of all Sastras is the attainment of modesty. Modesty is the triumph over the senses. One who is modest will achieve the quintessence of all the Sastras. Subhashitasudhanidhi -60/1

179. One can win a miser with bounty, the angry with submission, the idiot with like behaviour and the learned with scholarly disposition.
   Subhashitasudhanidhi – 82/85

180. Only the eminent have rise and fall, not the mediocre. It is the moon who waxes and wanes, not the stars. Sooktimala 129

181. Conquest of ego is wealth; suppression of desire is happiness; confidence is friendship self control is manhood.
   Subhashitamanjari – 511/594

182. The ultimate cleanliness is the cleanliness in matters of money. Other forms of physical cleanliness would not matter.
   Manusmruti – 5/106

183. One’s own darkness of ignorance cannot be dispelled by heavy words; darkness cannot be dispelled by shouting “light! Light!”.
   Sooktimala - 251

184. All attributes are but artificial; it is only the purity of character which is the primeval charm.
   Subhashitasudhanidhi -511

185. One may own a hundred cows but his need is only one cup of milk; one may own a hundred villages but his need is only one morsel of food. One may own a hundred roomed palace but his need is but one cot. All the rest belongs to others.
   Subhashitamanjari – 491/504
186. One has to be nervous of an impending and fearful occurrence; but once it occurs he should cease to be nervous and face it squarely. Subhashitamanjari – 415/185

187. Curses, black magic, fire, poison, weapon none of these are as sharp and as powerful as forgiveness. Samkalpasooryodayam – 8/79

188. Even an insignificant person attains prominence in the company of the great, like the thread in flower garland which ascends the head. Subhashitamanjari – 61/47

189. Just as honey is collected by the bee without hurting the flowers, the tax money must be collected from people without hurting them. Subhashitasudhanidhi – 85/3

190. A human has lessons to learn even from a cock: fierce fighting with the adversary; wakefulness early in the morning; eating in company; and unhesitant protection to the female in adversity. Chanakyaneetisatakam – 72

191. Adversity is the only touchstone by which one could estimate true friendship, true relation and one’s own courage and intelligence. Subhashitasudhanidhi – 131/7

192. A dear friend, though with shortcomings, should not be discarded, but treated like one’s own physical body. Hitopadesa – 2/132

193. The study of all the Vedas, bathing in all the sacred rivers, achieving the fruit of all sacrifices none of these is as potent as non-violence. Sooktimala – 413

194. Always help the needy, not the well-to-do; it is the indisposed who requires treatment, not the healthy. Sooktimala – 108

195. Even a dog has six lessons for the human being: eating only when food is available, contentment with little, sound sleep, instant wakefulness, total devotion to the master and fearless bravery. Chanakyaneetisatakam – 69
196. It is the humble, not the mighty that can offer help; it is the humble well, not the mighty ocean that can quench thirst.  
Subhashitamanjari – 389/85

197. Sudden in-pour of wealth may destroy one’s peace, like the sudden torrential rain which would break the dam and overflow the canals and fields.  
Subhashitamanjari – 509/586

198. One who has not experienced the supreme bliss is prone to think that sensual pleasures are the highest enjoyment; one who has not tasted ghee (boiled butter) may thing that the gingelly oil is most tasty.  
Subhashitam – 170/767

199. A word of want will never come out of the self respecting; if it did, it would be with his own final breath.  
Sooktimala – 612

200. The mind of one who travels extensively and serves the wise, expands just as a drop of oil in water.  
Subhashitam- 98/2

201. Avarice is the origin of all sins. Gluttony is the origin of all diseases. Desire is the origin of all sorrows. Give up these three and be happy.  
Sooktimala-684

202. If you want to make the world your own and keep it under control by a single act, then avoid sending your cow (lending you support) to graze in others’ fields (who are indulging in scandals and character assassination).  
Kavitamrutakoopam-69

203. People will be vociferous as long as the philanthropist doles out, but sink into silence the moment the benevolence stops, like the peacock which stops the howling when the water-bearing clouds disappear.  
Subhashitam-171/792

204. Three categories of people can make gold out of this wealthy earth: the valorous, the learned and the one who has mastered the art of service.  
Mahabharatam-5/35/74

205. He whose anger is not feared by anyone, he whose contentment does not fetch any money, he who is incapable of maledicting or
benediction, what can such a man do with his anger?
Subhashitam - 157/176

206. Elders are looked after with the expectation of some benefits; a
cow is looked after only because it yields milk. There is neither
devotion nor charity in these acts.

Drishtantakalikasatakam - 93

207. Even when a man leaves his body and burns away leaving only
his ashes behind (like camphor burning, leaving behind a pleasant
smell), he is known by his good deeds. His greatness is measured
by his fame.

Rajatarangini - 7/14/35

208. The charm of friendship with the noble, like the juice of sugarcane,
becomes intense as you descend along the stem; reverse is the
case with the ignoble.

Neetidwishaashtika-16

209. Only the people with discrimination can identify the difference
between bad and good qualities. The fragrance of flowers can
be perceived by the nose, not by the eye.

Drishtantakalikasatakam - 22

210. One who is determined to hurt others does not mind his own
pains in the process. The clip which gripping an object does not realize
that it is pressed hard itself.

Hariharasubhashitam - 3/18

211. The mind of the evil hardens in prosperity and softens in adversity
like the iron, hard in cold and soft in heat.

Drushtantakalikasatakam - 79

212. If love is ignored it is difficult to restore it, just as a pearl broken
cannot be be repaired.

Ramayananamanjari - 4/107

213. Nicety may be necessary till friendship is forged; after that, nicety
is but artificiality.

Bhojaprabhanta - 108

214. It is cowardly not to start, fearing failure. Who has given up
eating for the fear of indigestion?

Hitopadesa-2/50
215. One should earn with righteous effort; what is so earned should be guarded consciously; what is so protected should always be multiplied; what is so multiplied should be distributed to the deserving. 

Yajnavalkyasmruti – 1-317

216. Of what use is the lineage of a person without nobility of character? Don’t insects breed even in fragrant flowers?

Chaturvargachintamani - 342

217. The Sun cannot be illuminated (as he is the source of illumination); The earth cannot be supported (as it is the primeval support); Likewise, the noble strive for the good of others without expecting any return.

Subhashitam –46/77

218. The learning of the vainglorious out to stall the progress of others is like the elephant just out of the waterpond, pouring earth on itself.

Chaturvargasangraha: 1/6

219. The mind of the noble softens in prosperity and hardens in adversity like the leaf of a plant; tender in spring and hard in winter.

Drushtantakalikasatakam - 37

220. Friendship generates itself by mutual help among the common people, by occasions in animal and birds, through fear and avarice in the case of the stupid and by mere mutual sight among the good.

Panchatantram - 37

221. He whose home is visited by the noble seeking help, is indeed gentle, fortunate and blessed.

Panchatantram –1/110

222. Depending on Fate without making any effort generates nothing. He would be like the dummy lion of the palace on which the crow perches.

Yasastilakasampoo –3/5

223. Desiring luxury without money, indulging in quarrels though indecent, engaging in argument with little knowledge—these are the three ways of the stupid.

Subhashitamanjari- 188/175
224. However scholarly a person, he should not speak slightly of others in an assembly. Though sometimes true, if it causes distress, it should not be spoken. Neetiswishashtika - 4

225. The burnt of the battle is borne by the fighters outside but the fruits are enjoyed by the crafty insiders who are close to the king. The tusks of the elephant struggle to earn the food, which is chewed and enjoyed by the teeth inside. Yasastilakasampoo- 3/274

226. Neither the generous nor the stingy has the desire to enjoy his wealth. It is only meant for the enjoyment of others. Yet, look at the great difference between the two! Subhashitasudhanidhi- 160/4

227. Why other artificial ornaments for one who has modesty as the crown of precious stones, learning as the earstuds and charity as the armlet? Bharatamanjari- 4/356

228. The food that is cooked in the morning gets rot by the evening. How can the human body which is fed on this be fresh and eternal? Garudapurana- 11/11

229. There is no greater crime than indiscriminate dispensation of astrology, legal affairs, atonement and medicine. Bruhatparasarasmruti - 8/83

230. Expertise in insinuation, lack of effort in self-improvement, hatred of meritorious people these three are unfailing roads to disaster. Subhashitasudhanidhi- 180/13

231. Even dust is better than one who doesn’t react when shamed; just, when trampled, rises to settle on the head of the trampler. Sisupalavadham- 2-46

232. Proper dispensation is the only justification for earning; water outlets are the only ways of protection to the overflowing tanks. Hitopadesa- 1/54

233. The existing value system, dispensation and social order should maintained at all cost by the conquerer. Yajnavalkyasmruti – 1/343
234. Listen to and practice Dharma, the essence of which is not to inflict on others what hurts oneself. *Panchatatram* - 3/102

235. How can the power of the moon and the star help one who has neither the physical nor the mental power? *Yasastilakachampoo* - 3/54

236. The tongue has been tainted by unearned food the hand has been tainted by indiscrimination acceptance; the mind has been tainted by thoughts of other women. How can one expect peace and tranquility in Kali Yuga? *Subhashitamanjari* - 412/175

237. It looks as if only the honest and straight forward people are ordained to suffer; just as only the upright trees are cut; not the crooked ones. *Yasastilakachampoo* – 4/144

238. Valour without weapons is useless like the learning without expression. *Yasastilakachampoo* - 3/276

239. Without human effort no achievement is possible; food may be available but the hand should take it to the mouth. *Subhashitamanjari* - 499/540

240. Only charity begets love; the calf turns away when there is no milk in the udder. *Panchatantram* – 2/53

241. It may not be construed that a surgeon is cruel; it is in fact his compassion that makes him so. *Subhashitamanjari* -247/101

242. With a single male cub the lioness rests happily; the donkey on the other hand, bears the burden though with ten calves. 392/95

243. Woe be to the man uncharitable; even animals are better, for they serve even after death. *Subhashitamanjari* - 436/274

244. The chariot and the horse cannot be without each other; like learning and dedication. *Atrismruti* - 2/14
245. One who has attained power but remains unhelpful is like the cloud which soars high, yielding no rain.  
Hariharasubhashitam- 3/39

246. The occurrence of happiness and sorrow is but natural and inevitable. The hair that is nourished by oil is also tonsured from time to time.  
Drushtantakalikasatakam- 47

247. Judicious offering to a deserving person at an appropriate place and time yields meaningful results like a drop of water that falls into an oyster shell at an appropriate moment to turn into pearl.  
Subhashitasudhanidhi- 28/11

248. When the ignoramus proclaims from the housetop, the ignorant people will give an ovation to the point of creating confusion even among the learned.  
Subhashitasudhanidhi- 33/7

249. Death is but natural, life itself is accident and so, one is fortunate to live even for a short time.  
Raghuveeram- 8/87

250. After a long suffering, even a little happiness is like a great bliss; having tasted bitterness, doesn’t even water taste sweet?  
Drushtantakalikasatakam- 21

251. Purity calls for rejection of forbidden food cultivation of friendship with the good and involvement in righteous action.  
Atrismruti - 1-39

252. One need not attend the meet, but having attended it, he should the righteous. He should neither keep quiet nor distort truth.  
Manusmruti -8-13

253. Don’t advise when not solicited. Don’t advise if the intentions are bad. The wise feign ignorance is such situations.  
Manusmruti -2/10

254. The unwise may feel total loss by the demise of a near and dear. The wise, on the other hand would consider it liberation.  
Raghuveeram- 8/88
255. Garuda, the holy eagle, and the serpent are bitter enemies by birth and the serpent is always the loser. The serpent, in the arm of lord Siva as bracelet has enough impunity to ask of the welfare of the holy eagle! Likewise, the mean in high places look down upon the great.

Subhashitasudhanidhi – 176/3

256. It is amazing that even those who have no ties of family and wealth do not develop the aptitude of renunciation.

Sooktimala – 151

257. One should not make fun of the handicapped, one distorted, the ignorant, the illiterate, the aged, the ugly, the impoverished and the low-born.

Manusmruti – 4/141

258. Happiness and sorrow can be measured thus: self dependence is happiness.

Manusmruti – 4/159

259. Sin cannot be washed away by fasting. It only dries up inner flesh and blood.

Mahabharatam – 3/200/102

260. The egotism of valour flexes the muscle; the egotism of handsomeness makes one look into the mirror always; the egotism of lust makes one go after women, but worst than all, the egotism of wealth makes one born-blind.

Kalavilasa 6/6

261. Charity, bravery, meditation, power, truth, dharma, control of the senses, control of the actions, good character, cleanliness lead one to success and good fame.

Ramcharitam – 24/102

262. Dharma does not show off externally like the stem of a plantain tree; rather, like the root of a jackfruit tree, it lies dormant and puts forth its fruit. Sabharanjanacharitam – 83

263. When even touch, sight and spoken word comes out of the melting heart, it reveals true affection. Prasangabharanam – 27

264. He who approves slaughter, he who slaughters, he who cuts the animal into pieces, he who sells it, he who buys it, he who cooks it, he who serves it and he who eats it – these share the sin of cruelty.

Manusmruti – 5/51
265. The wise do not praise bravery for mere bravery, but they do when it is combines with morality, just as eloquence is praised when it is combined with wisdom. Sabharanjanasatakam- 50

266. The frog that is caught in the mouth of a serpent, itself keeps swallowing the small insects that approach its mouth. Similarly, the man who is blind by ignorance, though caught in the jaws of death, keeps going after sensual pleasures.

Prabhodhasudhakara - 64

267. Those who are unruly in conduct, those who are scandal-mongers, those who have enjoyed themselves at the cost of Dharma, even the blessing of such people is a curse.

Subhashitaneethi – 4/8

268. The mean will look only for defects even in the profusion of good qualities. The pig searches only for bog even in a lotus lake.

Kavitamrutakoopam- 18

269. The wise-one looks at the achievement, not at intentions, thoughts or objectives.

Subhashitamanjari – 310/71

270. Childhood, like old age, leans on other’s help. Only youth is the essence of life—that too when it is not bereft of discrimination.

Sooktimala- 801

271. The effort at attaining the impossible results in being dubious. The crow’s effort to walk like a swan ends up not only in not being able to do so but also in forgetting its own walk-style.

Nityaneeti- 360

272. Faint voice, failing mind, trembling body, extreme fear are characteristics of death, also of begging.

Kavitamrutakoopam- 45

273. Not suddenly undertaking any responsibility is a characteristic of the human mind. Seeing that what is undertaken is completed successfully is another.

Narabharanam- 153


Narabharanam- 220
275. One should till the soil with some expectations, should trade being ready for profit or loss, lend money without expecting it back and adventure being sure of death. Narabharanam- 280

276. Charitable disposition, soft-spokenness, intelligence and propriety, these cannot be learnt; they are but natural gifts.
   Subhashitasudhanandalahari- 79

277. While the words of the good and wordly people follow meaning, meaning comes rushing to fulfil the words of the rishis and the sages.
   Uttararamacharitam- 1/10

278. Like the seed in the fruit, the inborn tendencies of the low are hidden for some strange reason. Ascharyachoodamani- 2/4

279. That which shines from natural splendour does not require polishing. Whoever has washed the moon clean? Who has ever polished the Kaustubha diamond?
   Ascharyachoodamani- 3/24

280. Being witty as to cause pain, exhibiting good behaviour only as long as it is possible, remembering only bad incidents, these are characteristics of false friendship.
   Neetidwishahtika- 41

281. An unassuming scholar should be cultivated; one should be watchful if he is ill-tempered. One should be compassionate to a straight-forward idiot. Ill-tempered idiots should be discarded.
   Neetidwishahtika- 54

282. In order to rise high, one bends too low. In order to live well, he suffers. In order to be happy he is always miserable. Who but the most servile be as thoughtless?
   Neetidwishahtikanubhandha- 18

283. Discrimination is one eye. Good company is the other. He who does not have these, swiftly sinks into the well of delusion.
   Chanakyaneeti – 2/90

284. The stingy could be won over by money, the stiff with humility, the stubborn with implicit following, and the learned by straightforwardness.
   Chankyaneeti – 3/159
285. Even insignificant help rendered to a good person expands like a drop of oil in water. But the great assistance rendered to the mean-minded congeals and disappears as ghee poured into snow. Chankya neeti - 3/38

286. What a similarity there is between the mridangam the percussion and the hypocritical people! Just as the percussion instrument sounds well as long as it is smeared by paste, the lowly speak pleasantly only as long as they pampered. Subhashitamanjari - 305/7

287. There is nothing special in being nice to the helpful; the wise say that only he who is nice even to the harmful is noble. Neetisastram- 214

288. After a rash deed is done in haste, what is the point of consulting a wise man for advice? After the wedding is over, what is the use of enquiring after the auspiciousness of the moment? Abhara nasatakam- 89

289. One should match the desires to resources; one should stretch the foot to the length of the covering. Abhara nasatakam- 102

290. Just as migratory birds perch on a tree for the night and fly away in the morning, all meetings of living beings certainly end in parting. Buddhacharitam - 4/46

291. Enmity has no end at all; but if one kills his own anger, it destroys enmity. Avadana satakam- 371

292. Scholarship and mundane power cannot be equated. While the king may be respected only in his own kingdom, the scholar is respected everywhere. Panchatantram - 2/58

293. Fruit-bearing trees bend. Genuine scholars bow down in modesty. But the dried sticks and idiots don’t bend, they break. Nityaneeti - 62

294. Melody, clarity in enunciation, correct division of word and syllable, proper accent, confidence and rhythm; these six are the merits of a reciter. Panineeyasiksha - 33
295. The ignoble people know only to ruin the effort of others, never to help them. The wind has strength only to fell a tree, not to raise it. 

Panchatantram- 1/315

296. Even a chopped off tree sprouts again. The waning moon will surely wax. So knowing, the wise do not lose heart in sorrow. 

Neetisatakasam - 79

297. The sun is copper-like in colour both when he rises and when he sets. Likewise, great people remain the same in fortune and in misfortune. 

Narabharanam- 26

298. If one’s face is the home of composure, heart is filled with kindness, speech is honey-sweet and senses and mind are geared to help others, he is universally respected. Subhashtiam- 47/103

299. One is power who is forgiving and the one in poverty who is generous occupy a place better than the Heaven. 

Sarngadharapaddhati- 1550

300. Where all the leaders, where all are over-proud, where everybody hankers after greatness, there everything is bound to decline. 

Nityaneeti- 233

301. What is death? Stupidity! What is invaluable? That which is given at a needed moment! What is it that causes pain till death? Concealed sin! 

Prasnottharatnamalika- 4

302. A lion cub does not hesitate to spring on the forehead of an elephant in rut. That is the way of the valorous. Their valour does not depend upon their age. 

Neetisatakam- 75

303. One should rather desist from earning for its own sake, than earn only to give in charity, likewise, one should shun filth instead of going into it just to wash oneself later. 

Mahabharatam- 3/95/6

304. Gods do not protect with a staff as a cowherd does. They give wisdom to one whom they want to protect. 

Chankyaneetisaram- 6/37
In whatever manner the evil people trouble the good, like an ash-smeared hand rubbing against the mirror, the good people shine with increased splendour. 

Vasavadatta- 9

305. That which everybody likes to know, by doing which no one is ashamed, and by which the mind is contented and happy, that only is good. That is the true character of purity.

Manusmruti- 12/37

306. That which destroys vanity is Vidyā-true knowledge. That which satisfies the needy is true wealth. That which is true to Dharmā is wisdom.

Darpadalanam-3/3

307. In childhood one is unrestrained. In youth, one indulges in pleasures. In old age one should become tranquil. But the purpose of one’s entire life is to do good to others.

Kittineematam- 724

308. Even the displeasure of a good man is beneficial like medicine; not the friendship of an evil person. His association should be cut off like a finger bitten by a snake.

raghvamsam- 1/28

309. He who hankers after pleasures without money and he who is angry without power will never be happy.

Sarngadharasmruti - 1548

310. With the help of a log of wood man can cross the river. While doing so, he carries the log, just as he is carried across by it.

Mahabharatam- 12/138/62

311. Only the great and the noble should be cultivated, as taking shelter under a large tree of leaves and fruits. By chance even if there is no fruit, none can prevent at least the comforting shade.

Hitopadesa- 3/10

312. Cats and dogs are made to dwell within the palace. But the elephant is chained outside, without demeaning it.

Subhashitam- 231/59

36
313. Who is blind? One who does the evil. Who is deaf? One who does not listen to the good. Who is dumb? One who does not speak good at the right moment. Neetiswishashtika- 33

314. The evil person, even when gets a good thought it may bring only misery to the pious; just as a tiger undertaking a holy fast, only to become more and more hungry for the cow.
Narabharanam- 46

315. Geneology, wealth, learning, good appearance, courage, altruism, penance – these seven are mainly the cause for pride among men.
Darpadalanam-1/6

316. One should leave the place if he can not find employment one should give up the employment which is fraught with difficulties. One should give up a deceitful friend. One should give up wealth that endangers life.
Subhashitam- 153/29

317. Helpfulness, pleasant speech, cultivation of genuine friendship—these are the primeval nature of the cultured. The moon is cool because of its own innate qualities.
nalachampoo- 3/14

318. The learning that is confined only to books, the wealth that is in others’ hands, the army stationed in the city during war, these are unproductive.
Narabharanam- 219

319. Wealth is the follower of truth; fame is the follower of sacrifice; knowledge is the follower of pursuit and wisdom is the follower of Karma.
Subhashitam- 157/188

320. Good health, wound body, freedom from debt, sinlessness, independence, lack of worry and unassailable belief in God — if these are present, it is Heaven itself.
Nityneeti- 157

321. Good behaviour and sound character, like the creeper bedecked with flowers, and speech of sound sense, always bring wealth.
Rasagangadharas- 191
322. There is nothing unsurmountable for the capable. There is no distance for the hard-working. No country is foreign for the learned. There is none strange for the soft-spoken.
Hitopadesa- 2/12

323. He is the true householder whose home is visited by relatives and guests from afar. The rest are but house guards.
subhashitasudhanidhi- 31/2

324. A contemplated action should not be publicised as it may not be possible to carry it through.
Nityaneeti- 208

325. The evil that one does is repeated by others. In the world, imitation is the fashion. Discriminatory good actions which are self-inspired are not in vogue.
Nityaneeti- 215

326. Non-crookedness is the primeval quality of Dharma; non-ambiguity that of Artha; non-attachment, that of Kama; and non-rebirth, that of Moksha.
subhashitavalii- 2643

327. One should never be a person who is brilliant and compassionate. By harsh striking even the sandalwood emits fire.
Subhashitavalii-2655

328. One who is after prosperity should eat what he can chew, and chew what he can digest and digest only that which is good for him.
Subhashitavalii-2740

329. What is wrong with the water-bearing cloud which is black, and what is good at all of the dry autumn which is white?
Subhashitavalii-2796

330. One should not strike hard a person who is weak and dull. Even a static stone when struck, emits sparks.
Subhashitavalii-2798

331. A broken thorn in the foot, a loose tooth in the mouth and a crafty minister should be mercilessly uprooted.
Subhashitavalii-2805

332. A person who suddenly occupies a high office loses discrimination like the one on the summit seeing the landscape around as smooth and even.
Subhashitavalii-2857
333. To be complacent, feeling that he is complete with many qualities, is to live under illusion. It is the full moon which is struck by the eclipse.  
Subhashitavali-2873

334. Many a time it is the soft but not the harsh that can win the game. The falling soft water can cut through the mountain but the hard sword cannot.  
Subhashitavali-2875

335. What is the use eloquence over a dull mind? What is the use of her, casting charm before the blind?  
Subhashitavali-2888

336. It is the intention that is important in action. Kissing the consort is so different from planting a kiss on the daughter.  
Subhashitavali-2966

337. Just as light and shadow are inseperable aspects so are the man and his actions.  
Subhashitavali-3080

338. Who has assured a hundred years of life to the newborn? It is by tact and persistance that longevity is earned.  
Subhashitavali-3086

339. Face is wrinkled, head is grey, body withers away and still the desires are youthful.  
Subhashitavali-3242

340. The longing of others is reflected in the consciousness of an individual according to his own mind. The reflection of the face in sword is but lengthwise.  
Sooktimala- 548

341. One should not go empty handed to see the king, God, preceptor, priest, son and friend. A gift could always beget a gift.  
Sooktimala- 649

342. That which is sweet should not be eaten by a single man alone. When everyone is sleeping, an individual alone should not be awake. A man should not walk alone. Similarly a single man by himself should not make monetary decisions.  
Sooktimala-620

343. The wound caused by the arrow heals; the axed forest tree sprouts again; but the wound in the mind inflicted by hurting words will never heal.  
Mahabharatam - 104/33
344. No shastra is more valuable than the Vedas; no preceptor greater than the mother; no gain better than Dharma and no penance more effective than fasting. Mahabharatam- 104/65

345. If at home there is no consort who speaks soft and is devoted, it is better for the man to go to forests, for, there is no difference between the home and the forest for him.
Mahabharatam- 144-17

346. Both ambrosia and poison are in our own body. Man embraces death by falling a victim to indulgence but attains immortality by steadfastly following truth.
Mahabharatam- 175/22

347. Saraswathi, Goddess of learning, becomes his who selects and collects precious words of wisdom from the learned.
Nityaneeti- 354

348. One who has not acquired a collection of Subhashita-capsules of wisdom-what can be offer during conversion, commerce or discourse? Panchatantram- 2/174

349. Doing something impossible and not doing something possible and disclosing whatever is going to be done without sufficient thought input. These are all irresponsible act - Viduraneeti

350. There are ten rules to be followed by each and everyone. They are known as yamas and niyamas. Ahimsa, satyam, asteyam, brahmacharyam, aparigraham, soucham santhosham, thapa, swaddhyayam, eeswara pranidhanam are the ten rules.

351. let us her good, let us see good, let us do our mission oriented divine work of serving the god’s creations and all human beings as long as we are alive. Let us work together, let us share the work results together, let us get ourselves enlightened through cooperation, let us not have hatred towards anyone, let noble thoughts come from all over the world. Vedic mesages.
THE SCIENCE OF CUSTOMS
AND RITUALS IN HINDU DHARMA

What is the definition of a Hindu? : Aa sindho: sinduparyantham yasya bhaaratha bhoomikaa maathru bhoo: pithru bhoo (punya) schaiva sa vai Hindu iti smruthaa: whomsoever, is considering the land between the sapta sindu (Indus valley river) upto Indian ocean as the motherland/ fatherland and holy land, is known as Hindu. This land is known as Hindustanam which is defined as follows: Himaalayam samaarabhya yaavath hindu sarovaram tham deva nirmitham desam hindustaanam prachakshate. The land created by god himself and which is lying between Himalayas and Indian ocean is known as Hindustanam.

Unlike other religions, Hindu dharma has many specialties. This is not known as a religion, it is known as the dharma. Either Hindu dharma or sanaathana dharma. Sanathana means according to bhagavath geetha, which cannot be destroyed by fire, weapons, water, air, and which is present in all living and non living being. Dharma means, the way of life which is the ‘total of all aachaaraas or customs and rituals’. The aachaaraas which are to be performed by the mother is known as mathru dharma, those of father is known as pitru dharma. Similarly there are putra dharma (dharma of son) aachaarya dharma (dharma of teacher), as a continuation we can say bhraathru (brother) dharma, bhagini (sister) dharma, poura (citizen) dharma, raja (king) dharma and so on. All these dharmas have been described in detail giving the specific importance in the dharma saastras and smruthies. There is no specific English word for dharma, but it is the sum of the duties + responsibilities + privileges of that individual. Then what is the sanathana/ Hindu dharma? It is the total of mathru dharma + pitru dharma + putra dharma + puttree dharma + acharya dharma + poura dharma + ...+ ... etc. Hence we say Hinduism is not a religion but the way of life.
One should always remember that in each and every aachaaraas / dharma there will be a component of spirituality in it. Without spirituality, nothing exists in Hindu dharma. Almost everyone carries a wrong impression that this spirituality is religion. No! Spirituality is different in Hindu dharma, where the question a religion does not exist at all, because Hindu dharma was not created by one individual/prophet/incarnation/.... Hence it is not a religion. Spirituality is a part of every Hindu custom.

What are the rules to be followed while practicing the Hindu customs and rituals (aachaaraas)? This question has to be scientifically analyzed. Whatever may the aachaaraas we are practicing in our life, it has been told that saakshaath anubhavairdhrushto na srutho na guru darsitha lokaanaam upakaaraaya ethath sarvam pradarsitham. Aachaaraas are to be followed based on their merits available from the self experience, one need not blindly follow a teacher or someone who gives advise without reasoning. All these aachaaraas are mentioned for the prosperity of the human beings and it should be the prime focus for practicing the Hindu aachaaraas.

Achaaryaat paadam aadathe paadam sishya swamedhayaa paadam sa brahmachaaribhyaa sesham kaala kramena cha is another important advice given in smruthies. It means one can get one quarter of the knowledge from the teacher, one quarter by analyzing oneself, one quarter by discussing with others and the last quarter one can get during the process of living by the method addition, deletion, correction and modification of already known aachaaraas/new aachaaraas.

It is mentioned that we have to take one quarter from the teacher/guru. Now, what is the definition of a guru or teacher. Aachinothi cha sastraarthaan sishyaan saadhayate sudhee swayam aacharti chaiva sa aacharya iti smruthaa: who is knowing the scientific meaning of the purpose of the aachaaraas, who can teach the student very systematically and who is following (all what is taught to the students) in ones own life, that person is fit to be called as the
teacher/guru. Here, one can see the qualification of a teacher who can define and explain about the aachaaaraas.

Can we practice the aachaaaraas at all times with the same level of devotion? This is a common question asked. The answer is also given in our smruthies. Swagraame poornam aaachaaaraasasm anya graame thadardhakam pattane tu thath paadam yaatre baalaad aaachaaaraasastheth. In one’s own village, practice all the aachaaaraas, in other villages (while travelling or staying) practice one half of the aachaaaraas, in the cities/towns follow at least a minimum of one quarter of them and while traveling, like a child one need not practice any of the aachaaaraas.

Should we practice the aachaaaraas blindly saying that those aachaaaraas were followed by my father or forefathers.? Thaathasya koopoyam iti bruvaana kaa purusha kshaarajalam pibathi. Saying that this well was dug by my father (and for showing respect to him) one need not drink the salt water (if it is present) in the well.

Aachaaaraas need not be the same in Kerala and Kashmir, similarly for a Hindu the same customs cannot be practiced in America and Rajasthan desert. Hence depending upon the place, time, season, age, availability of the materials, financial position of the individuals, the aachaaaraas can be duly modified.

The same principle one can see in bhagavath geetha also. Lord Krishna told Arjuna in the end of Bhagavath geetha, that vimrusya ethath asehena yathaa icchasi thathaa kuru: Hey Arjuna all those whatever I have told you, critically analyze, and the option for accepting or rejecting is yours.

These are the rules one should follow while analyzing and practicing the aachaaaraas in Hindu dharma. There are many words of guidance given in dharma saastra book. Saastram pramaanam: scientific results are the first basis, aapta vaakyam pramaanam: guidance to be taken from the scholars is the (next) basis, prathyaksham pramaanam: the direct experience is the next basis, anumaanam pramanam: guessing the consequences/results, if none of the above
parameters is available. These are the steps one should select for the analyses of the aachaaraas.

What are the purposes of practicing the aachaaraas? It has been described in the smrthies (which are also known as dharmaasargas): aachaaraath labhatheyyaayu: aachaaraath dhanamakshhayam achaaraath labhathe suprajaa aachaaro ahanthyam lakshanam. By following the aachaaraas one gets health and longevity, it leads to prosperity, it gives social relations and friends, and the followers of achaaraas are considered as the embodiment of nobility. Aachaara heenam na punanthu vedaa: The person who does not have the habit of practicing the good achaaraas, cannot even be purified by Vedas.

What are the achaaraas? those customs and rituals which are irrelevant in the modern times are known as anaaachaaraas, those which lead to negatives/deleterious results are known as duuraaachaaraas and those achaaraas which give very positive and useful results are known are sadaachaaraas or generally known as aachaaraas.

The sadaachaaraas are followed for, any one or more of the following purposes in the Hindu dharma. The aachaaraas are those give psychological, physiological, family relation and bondage, social relations and bondage and national integration based positive results. Focusing on the above five points one can analyze very systematically all these aachaaraas.

Psychologically beneficial aachaaraas/ customs and rituals: Few examples are selected for explaining these type of aachaaraas. The morning and evening prayer, the positive songs and keerthans, the Vedic mantras which produce psycho linguistic and neuro linguistic effects, etc are psychologically useful aachaaraas. They give extremely good response in the brain cells by way of producing curative hormones. The blessings of the elders and parents, the encouragement given to the children and also to those who are desperately struggling in the life, the words of consolation, the blessings
like vijayee bhava, the aachaaraas in social gathering and family functions, etc give psychologically positive results. (All these aachaaraas are also spiritually connected, is the Hindu way)

More examples: Reading a purana gives the messages of ups and downs/ failures and success/ pains and pleasures in the life. The stories of Sri Rama in Ramayana and that of Pandavas in Mahabharatha inform us that there are sufferings in the life and everyone should face them boldly. Reading Bhagavath geetha is for mentally preparing to face any type of consequences and without failure practicing the swadharma (ones own duty). Through puranic story telling for the children, value based messages are given in the form of story capsules to remain in the memory for many years and to get the reminder whenever the abnormal pathway is opted to in their life. Visiting elders on festive occasions is for getting value and experience based advice from their life. Respecting teachers and elders, is for keeping the values in ones life and in society for the learned people who continue to guide the society. Auspicious time selection for visits and performing ceremonies, is to take extra mental precaution to see that everything is carefully systematically programmed and planned. Consulting a good astrologer is to see that things are meticulously planned and the blessings of the Vedic devathaa are assured for an optimism in ones endeavor (however this should not go to the level of superstition and should be carefully monitored). Performing pooja is mainly to see that good will come if good is practiced. And to give the feeling that rest is left to the divine mercy/ blessings. This blessing is directly assured (at least we feel so) by conducting poojas in presence of family and relatives (hence gives an opportunity for the family members to come together also). Worshipping the idols/images having smiling faces (prasanna vadanam) gives a psychological positive feeling of confidence (avoid the worship of weeping/ bleeding/ cruel images as it gives a negative influence in the mind). Chant positive manthra/ keerthan/ bhajan for positive effect (neurolinguistic and psycholinguistic) and never chant
crying or weeping songs which also influence the mind negatively

**Physiologically beneficial customs and rituals.** You can also analyze these customs and rituals yourself on the scientific base. The *soorya namaskaara* / sun salutation performed in the morning is a combination of 7 yogaasanaas practiced in ten steps, which give smooth exercise for all the movable skeletal joints in the body and hence this is also known as ‘the king of the exercises’. Morning prayer *karaagre vasathe lakshmi karamadhye saraswathi karamoole sithaa gouri prabhaathee karadarsanam*: Sitting in the same bed where you sleep everyday, without cleaning the teeth-face-body, why this manthra is chanted, because the body was horizontal for the whole night while sleeping and it is going to become vertical (suddenly) when you get up. In the vertical position of the body the force exerted by the heart for pumping the blood is more, hence the change of position of the body from horizontal to vertical level should be slow and steady. Hence we are instructed to sit on the bed for few seconds (it has been statistically estimated that 23% of the heart attack deaths take place in the heart patients when they suddenly get up and stand/walk from the lying position). Similarly with a mantra we touch the floor *samudra vasane devi parvala sthana mandale Vishnu patnee namasthubhyam paada sparsam kshamaswa me*. The bio static electricity in the body gets earthed through the fingers instead of the feet, reducing the chance of arthritis and many other nervous based disorders. Before taking the food, few second prayer is a Hindu aachaaaraas. during this prayer time and while looking to the food the flow of saliva in the mouth takes place and this liquid activates the generation of other digestive enzymes also, thus activating the process of digestion (a layer of saliva and digestive enzymes in the bottom of the stomach before the food comes to the stomach is a biochemistry). Fasting leads to cleaning of the intestine, certain fasting (partial) in which change of food is instructed in the custom, which leads to getting variety of micro nutrients from different types of food sources. *Choodaakarna* the ceremony

46
connected with wearing of the ear ring is just like giving the first vaccination and *annapraasana* the first food giving ceremony is like the first inoculation to the baby through the hands of different people (the ear ring in the former and food in the latter carries little dirt/germs which leads to augmenting the immunity in the body of the baby). These are only very few among thousands of aachaaraas practiced by Hindus, for physiological benefit

**More examples:** Do not keep the direction of the head towards north because the magnetic meridian of the earth retards the blood flow through brain capillaries and affect the functioning of brain cells. Avoid taking bed coffee to prevent the obnoxious decomposed materials generated by microorganism in the mouth (in the night) going to the stomach to avoid the chance of stomach cancer. Wake up early morning, because the brain is perfectly active during that time. Take a bath in the morning itself so that all the decomposed products/salts/urea etc. present on the surface of the body gets cleaned which prevents the skin diseases significantly. The cold water/hot water bath activates the biological process of the body cells to maintain the body temperature when cold/hot water bath is taken. *Dhyaana* /meditation activates brain cells. *Praanayama* activates the lungs cells and functioning. Taking *thulasi* water/*theertha* gives the medicinal property of the plant in it. Using sandal wood paste in the forehead gives the chance of absorbing the medicinal components in the *chandan* through the most sensitive part of the body. Visiting a temple (in Hindu worship, the temples are not merely prayer halls, they are quantum healing centers) gives energy to the body if *pancha suddhee* is maintained. Doing *pradakshina* to *aswatha* gives an atmosphere/air through which traces of ozone produced by the tree goes to the lungs and purifies the lungs. Attending and participating temple festivals give the opportunity for leadership qualities, social gathering, entertainment and hence variety of merits including spiritual benefits.

**Customs and rituals beneficial for strengthening the family**
bondage: When we look for integrated development of the society, the family relation becomes the first step in the social life. There are hundreds of aacharaas as in the Hindu life which are exclusively aimed at strengthening the family relations and bondage. Every spiritual and family based customs are to be practiced by the wife and husband together. This strengthen the family relationship. The message that maathru devo bhava, pitru devo bhava: Let the mother and father be divine to me (gods to me) convey a strong relation thread between the children and parents. The death anniversary functions known as sraardha are mainly performed to give the demonstration of the relationship between the parents and children. The demonstration from generation after generations.

In all the rituals, the individual is expected to tell the gotra (clan) and sootra (thread of connection) which again show the connection with the forefathers. During festivals, the parents were saluted/prostrated as maathru/pitru namaskaara, to get the feeling for the children that (whatever may be their age) their relationship, with the parents is not merely that of people living together in a house. This gives the message that in younger days children were looked after by the parents and in the old age, the parents should be looked after by the children with due respect and care. Similarly the relationship between the wife and husband is not merely the relation for sex, but for building a family with culture and values in the life. Through 16 sacraments known as samskaaraas (samskaara means refining or purification) the life of the baby is getting enriched by the values of the life. During the construction of the house the ground breaking, stone laying, the door fixing and house warming ceremonies are all connected with the star of birth of the wife, thus giving importance to the wife in the family. Without the husband or wife, the other (among the couple) alone cannot perform any of the household achaaras, which again makes it compulsory to build the strong family bondage. The marriage is performed by tying the thread- putting the garland-holding the right palm (paamigrahana)- presentation of the cloths or exchanging the rings- and by sirodhaara, these five rituals in presence
of hundreds of invited guests/ and agni/fire give the feeling of strong 
wife–husband bondage. It is said that the marriage is conducted as 
agni saakshi. Thus one can analyze the customs to understand the 
impact of the family relations.

More examples: If properly performed matching a horoscope before 
marrige gives an opportunity for understanding the personality of 
the individuals who are getting married and suitable corrective measures 
can be adopted. Inviting relatives and guests for marriage gives an 
opportunity to share the joy among relatives and social and family 
relations get strengthened. After marriage ceremonies are aimed at 
getting a healthy baby and giving the feeling of love and affection 
among the couples. The jaatja karma of the baby is performed to 
record scientifically the position of the celestial body when the baby 
was born. It is the bound privilege of the parents to give the name 
for their baby and hence the name of their choice through 
naamakarana, is given as a part of the samskaaraas. Dhampati
pooja/ couple pooja is performed by other family members to 
remind their respect and appreciation on strengthening the bondage 
between the couples. Birthday celebrations are conducted to inform 
the duty and responsibility of the individuals when they grow and to 
remind them that the society and relatives are with them for undertaking 
the responsibility. Celebration of the 60th birth anniversary 
(shashtipoorti), to remind the time for doing more good for the 
society using the experience gained for the last 60 years of life, 
when the period of rest starts.

Customs and rituals beneficial for the social bondage: Inviting 
guests for family functions like birthday, marriage, during the death 
and after death rituals, getting together during the festival seasons 
like holi-deepavali-krishnaashtamai-ramanavami-celebrations etc. 
temple festivals, village festivals, are all aimed at building social 
bondage. Through these social relation building mechanisms the 
cultural relationship among Indians was built up for the last many millennia. Many spiritual and religious activities as samooha pooja, 
samooha bhajan, mantra aalapan etc are all done in groups with
the leadership of the common Hindus themselves, not through appointed priests, which lead to the cultural integration of the social bondage in the Hindu society.

More examples: Family visits during happy and unhappy occasion by relatives and friends (even without taking appointments) is to confirm the family members that during happy and unhappy incidents in one's life we, the relatives and friends will be with them. Get together during festival occasions is for strengthening social bondage among the society members. Kumbha mela, vaisaaki, and many other festival is for sharing the joy and forgetting the negatives of the past and to build better relations ship among the members in the society. Group pilgrimage to long distance is to share the joy and difficulties together in the spiritual way to strengthen social bondage...

Customs and rituals beneficial for national integration: There are many customs which are followed exclusively for getting the feeling of patriotism among the Indians. The morning prayer (praathasmarana) we chant the names of seven holy rivers from Indian continent... gange cha yamune chaiva... and seven mountains.. mahendro malaya sahyo... the great women of India... ahalya droupadi seetha... the great men aswathaama bali vyaaso.... Seven major cities of India ayodhya mathuraa maaya.... and so on. These stanzas were written three or four thousand years ago. This informs and reminds us that India was culturally one for the last many thousand years. The pilgrimage to north India by the south Indians and to south India by the north Indians are fine example of national integration. The customs followed in the immersion of the ashes (obtained after cremation) in kaasi/varanaasi triveni sangam by the south Indians and in kanyakumari triveni sangam by the north Indians lead to this national integration through visits and experiences of direct contact among south and north Indians (where the languages/food/dressing/cultural traits etc differ).

It is also important to note a very interesting fact, that for making any curries (food items) in south India, north Indian spices are required and for north Indian curries, south Indians spices are inevitable. Thus
even in kitchen of Hindu family, the national integration can be seen. Learning of Sanskrit language, chanting of Vedas and related literature, the story of Ramayana and Mahabharatha are all finally aims at integrating the people of India and give the message of unity in diversity.

More examples: A deep analyses of the holy places, rivers, mountains and asramas given in Ramayana and Mahabharatha when Sri Rama (in Ramayana) and Pandavas (in Mahabharata) visited during vanavaasa, give familiarity of the nation through itihasas and puraanaas. Puranic stories do influence the national integration. Pilgrimage to Asrams, Gangotri, Haridwaar, Kailash, Kanyakumari, etc integrates the mind of all Indians towards the nation. The concept of athithi devo bhava to serve the people who visits our home without taking appointment gives the opportunity to know and help others. During the age old customs anyone who is on pilgrimage has to depend for the food and shelter upon the unknown people. People traveling from north to south and south to north of India, for the pilgrimage could take the shelter in the athithi devo bhava concept. Bharath maatha (mother Bharath) concept of the nation gives the relation among Indians as the children of the country. In mahasankalpa names of different kshetra in India are given (as parasurama kshetra (Keralam) - Sri Rama kshetra (Tamil Nadu) - Sreenivasa kshetra (Andra) - Jagannatha kshetra (Orrissa) - Bhaskara kshetra (Karnatakaka) and so on, which informs us that we are part of the great nation Bharath. Like this there are hundreds of the aachaaraas aimed at national integration.

Thus the aachaaraas are directly connected with the day to day life of Hindus. Even the spiritual rituals also compels us to pray saha naa vavathu, saha now bhunakthu saha veeryam karavaavahe thejaswinaavadheethamstu maa vidvisha vahai aano bhadraa. Let us exist together, share the results of the work together, work together, thorough that path way let us enlighten ourselves, let us not have hatred towards anyone, let noble thoughts come from all over the world. Hindus always prayed lokaa: samasthaa: sukhino
bhavanthu. Let everyone become happy. Hindus never prayed haindavaa: samasthaa: sukhino bhavathu. Let (only) Hindus become happy. Hindus never said their pathway is the only correct one for attaining god. They always allowed other thoughts also to penetrate/integrate into the minds of the people, if those pathways can also fetch good results. Hindus are the only people who prayed sarve bhavanthu sukhina: sarve santhu niraamaya sarve bhadraani pasyanthu maa kaschit dukhahaag bhveth. Let sarve— all become happy and glorious, free from pains and sorrow. Here too Hindus never said only let Hindus get all the benefit.

Say that all Indians are proud Hindus whether they follow lord Siva, Krishna, Jesus Christ or Prophet Mohammed, if their blood is Hindu blood then they are Hindus. In India there are only two categories of people who are Hindus and who were Hindus. Those, who are following the sanathana dharama, even though born and brought up under different culture anywhere in the world, are also Hindus.

HINDU (VEDIC AND RELATED) LITERATURE

Christianity is based on one holy book, the Bible, and the Islam is also based on one book Koran. But the Hindu dharma is based on many books such as Vedas, Vedaangaas, Puraanaas, upa puraanaas, smruthies, upa vedaas and itihaasaas. Since human knowledge is so vast, it is impossible to comment on that heap of knowledge in one book. Hence the Hindu Rishies wrote thousands of books and commentaries under specific titles. A Hindu can select the subject(s) of his choice. We, in our earlier publications have scientifically explained the Hindu aacharaas, Hindu spirituality, scientific and technological heritage of Hindus and now, it is necessary that every Hindu should understand what are the Hindu literature, at least in a nutshell.

Hindu dharma is based on Vedas (the word Veda means knowledge).
Vedas are foundations of Hindu dharma. All other Hindu literature are directly or indirectly linked with Vedas. There are four Vedas. They are Rigveda, Yajurveda, Samaveda and Atharva Veda. Vedas are known as anadi because their period of composing is not correctly known. The authors of these manthras are known as mantra drushtaara, means those who could see the mantra when they composed them. Vedas are also known as apourusheya means composed by Rishies having the talent beyond the level of ordinary human beings. All these mantras are classified by Maharshi Krishna dwipaayana, who was later known for his meritorious work as Veda Vyasa who was born to a fisherwoman, into Rig Veda, Yajurveda, Samaveda and Atharvaveda.

ANALYSES OF VEDAS

Analyses of Rigveda: Rigveda is the oldest book of the human race. It might have been composed many thousand years ago. It is composed by hundreds of Rishies and their names are given in the beginning of each sooktha. It is written in poetical style/language, known as Riks, The Riks (stanzas) put together becomes sookthas.

Rig Veda has 25 recensions of which only five are available now. They do not differ significantly. The available recensions are known as saakala saakha, baashkala saakha, aaswalaayana saakha, saankhaayana saakha and maandukeya saakha.

The most popular Sakala saakha of Rigveda has 64 chapters. Manthrhas are classified into 2024 Vargas which are made out of 10552 Riks. These manthras are composed with a total number of 193816 Sanskrit words. There are 397265 letters in Rigveda.

Some of the names of the Rishies who composed the Veda manthrhas are Kasyapa, Viswamitra, Kanwa, Paraasara, Gouthama, Bharatha, Vamadeva, Gopayana, Athreya, Aangeerasa, Bharadvaja, Sounaka, Gargya, Praagaatha, Vasishta, Yama, Samvana, and so on.

Analyses of Yajurveda: More than one half of the manthrhas in Yajurveda is taken from Rigveda and remaining composed by
Rishies of Yajurveda. It is said that there are 100 recensions for the Yajurveda. Names of some of these recensions are: Aalambhi, kalinga, kamala, ruchaabha, aarunee, thaandyta, syaamaayana, kata and kaalaapi. The Kata saakha has been further separated into charaka kata, aahwaraka kata, bhraajishtala kata, kapishta kata, chaaraayaneeya kata, praachya kata, swetha kata, swethaswethara kata, oupamanyava kata, paathhaandineeya kata, maithraayaneeya kata,...... and so on. The series go up to one hundred recensions. Few of the Yajurveda recensions have only poetical manthras and the remaining have both poems and prose. All the recensions which have only poems are known as Sukla Yajurveda and other set is known Krishna Yajurveda. All these recensions together is known as the tree of Yajurveda (Yajurveda vruksha). There are 40 chapters in the Sukla Yajurveda recensions and in other recensions the number of chapters vary. The 40th chapter of Sukla Yajurveda is Eesaavaasya Upanishad, the only Upanishad coming as a part of any Veda.

Analyses of Sama Veda: This Veda is chanted by specialists known as udgaatha, means musicians of vedic traditions, and the manthras are highly complicated music in nature. There are 1000 recensions for Sama Veda and only 13 are now available. Some of their names are: Raanaayaneeya, saatyamugra, Vyaasa, bhaguree, oulundee, goulguvi, bhanuman, kaaraatee, masaka, kouthuma, saaleehotra, jaimineeya, and soon. There are total 1861 manthras including 267 repetitions (punarukti). By tradition some of these manthras can be chanted only in village environments (graama geiya ganaas), some are only in forest (aaranyageya gaanaas), some are to be chanted at very low voice (ooha gaanaas), some are permitted only in the mind (sound should not be heard outside) known as oohya gaana. In Jaimineeya recensions of Sama Veda, it is said that there are 1232 graamageya gaanaas, 291 aaranyageya gaanaas, 1802 ooha gaanaas and 356 oohya gaanaas. Generally the Sama Veda mantras are chanted during yaagaas.
Analyses of Atharvaveda: It is said that there are 50 recensions for Atharvaveda. The recensions now available are only 9, pippalaada, thouda, mouda, soumakeeya, jaajala, jalada, brahmavada, devadarsa, and chaarana vaidya. There are nearly 6000 manthras in Atharvaveda of these 1200 manthras are taken from Rigveda. Atharvaveda is more social in spirit than the other three Vedas. This Veda is also known in different names like kshetra Veda, Brahma Veda, Aangeeresa Veda, and soon.

ANALYSES OF BRAAHMANAS

Brahmanaas some times come as the part of Vedas (as in Krishna Yajurveda) and generally they are separate books. They describe the method of yaagaas and customs and rituals for conducting the yaagaas. Generally it is difficult to understand the explanation of the subject without the commentaries. For Rigveda there are two Brahmanaas known as aithareya brahma having 40 chapters, the second one saankhaayana brahma having 30 chapters. Both explain the ritual connected with the yaagaas. Yajurveda has Sathapatha Brahma composed of 100 chapters in one saakha and in the other saakha it has 104 chapters, which give many historical information on ancient India Bruhadaaranyaka Upanishad is a part of this brahma. The second brahma of Yajurveda is thaithireeya brahma (this becomes almost as a part of Yajur Veda itself, unlike other brahmaanaas) in which thaithireeya Upanishad, mahanaaraayaneeya Upanishad, yaajnikiee Upanishad are included.

Samaveda has the following separate brahmanaas: thaandya –Upanishad –jaimineeya–devathaadyaaya–samhithopanishad-vamsa- arsheya- shadvimsa- chandokhya brahmanaas are the most important among the samavedeeya brahmanas. Cchandokhya upanihad is a part of cchandokhya brahma. Atharvaveda has only one brahma known as gopatha brahma.
ANALYSES OF AARANYAKAAS

Aaranyakaas generally comes at the end of the brahmaanaas or as a part of separate book. They are more philosophical or spiritual in subject. In Hindu dharma, there are four stages in life such as brahmacharya, gruhastha, vaanapraashta and sanyaasa. When one reaches the stage of (Vaanaapraashta) leaving the house and go to forest, the rituals are to be performed with utmost simplicity and these rituals are explained in aaranyaka. Rigveda has aithareya aaranyaka as a continuation of the aithareya brahma. In this aaranyaka comes the aithareya Upanishad, mahaithareya Upanishad, bahvrucha Upanishad and samhitthropanishad. In Kousheetakee aaranyaka of Rigveda comes the kousheetake Upanishad. Yajurveda has maitraayaneeya aaranyak in which maitraayaneeya Upanishad comes. And in thaithireeya aaranyak comes thaithireeya Upanishads. Sama Veda and atharveda do not have separate aaranyakaas, but the philosophical and spiritual subjects explained in the aranyakas are coming in some part of the brahmaanaa.

ANAYASES OF UPANISHADS.

Upanishads are the philosophical and spiritual treasury of Hindus. The great messages of Bharath come from the Upanishads. They describe about the pancha praana, pancha bhootha, pancha karmendriya, pancha jnaanendriya and mind. They also describe in detail on specific spiritual aspects and rituals. The Upanishads are classified into five groups. Those belonging to Rigveda are 10 numbers. Upanishad belong to sukla Yajurveda are 18 in number. Those belong to Krishna Yajurveda is 32 and 16 Upanishads for Sama Veda and 32 for Atharvaveda. Each class of Upanishads have separate santhi manthraas. Only one Upanishad comes as a part of Veda, that is the eesaavaaasya Upanishad. Few Upanishads as mentioned above come as part of brahmaana texts few other come as part of aaranyakaas. Remaining are separate Upanishad texts.
Rigvedeya Upanishads: aithareya – kousheetakee- naadabindu- aathmabhoda- nirayaana- mulgala-akshamaalika-thripura-soubhagyalakshmi- bahvrucha Upanishads belong to the class of Rigveda with saanthi mantra commencing from vang me manasi prthishitithaa.....

Sukla yajurvedeeya Upanishad: eesaavaasya- bruhadaranyaka- hamsa- paramahamsa- subaala- manthrika- thrisikhibrahmana- niraalamba- mandala braahmana- advaya- thaaraka- bhikshuka- adyaathma- muktika- thaarasara- yajnavalkya- saatyayana- thureeyaatheetha avadhootha Upanishads belong to the suklayajurvedeeya class with the saanthi manthra commencing with poornamatha poornamidam....


ANALYSES OF VEDAANGAAS:

Vedaangas are books connected with Sanskrit language used for writing the Vedas. There are six vedangaas. They are Siksha, niruktha, vyakarana, chandas sastra, kalpasasstra and jyothisha. The words vedaangaas mean the organs of Vedas (parts of Vedas) All the rules defined here for writing the Vedic Sanskrit are also applicable for modern and ancient Sanskrit literature. Thus one can see that rules and science of language are also given through Vedic literature. In each branch of Vedaangaas, it is said that there are 18 books written two/three thousand years ago. Additions, deletions, modifications and corrections are done when new books were written as original ones or as commentaries.

Analyses of Siksha: These books give the rules for chanting the vedas. The word siksha means ‘learning/teaching’— it is the learning of the Vedas. These are known in the names of great sages: Yajnavalkya, Vasishtha, Kaatyaayana, Naarada, Gouthama, Panini, Sounaka, Sisira, Aapisali - and so on.

Analyses of Nirukta: This is second among the Vedangas and this branch of study aims at teaching the formation of Sanskrit words used in Vedas. The roots of the vedic words and the modifications taking place when the words combine. The most authentic book is the Nirukta written by Yaaskaacharya. There are 18 Nirukta books of which important among them are known in the names of Oupamanyava, Gargya, Galava, Vaarshyaayanee, Aagraayana, Saakapoorna, Aarnanaabha, Thaitik, Sthouleshti, Kroushtuka, Kaathyayana and so on.
Analyses of Vyaakarana: This is the Vedic grammar book, giving the grammar rules applicable for all the Sanskrit based literature written two to three thousand years ago. The most important among the vyaakarana books is the one written by Panini known as mahabhashya/ ashtaadhyaaayee having 2105 soothraas/rules. The other important grammar books are known in the names of great grammarians Aapisali, Gaargya, Gaalava, Saakalya, Saakataayana, Bharadwaaja, Sphotaayana, and so on.

Analyses of Kalpasastra: There are four major subdivisions for Kalpasastra. The Kalpa sastra books discuss fully, the customs and rituals to be performed by each and every Hindu on individual- family- society and as a citizen bases. All the customs to be performed by a married couple in the family comes under the gruhyasootra. All the customs for performing the yaagaas and yajnaas come under the sroutha sootra. The rules and customs to be practiced by the citizens/ officers/ kings/ ministers etc come under dharma sastra. The after death customs/ rituals come under pitrumedha sootra. In fact all the Hindu rules/ rituals/ customs are discussed in detail with due corrections/additions/modifications/ and refinement (required in the course of time), in these books.

Analyses of Jyothisha: This is the sixth vedaangaa, in which mathematics, astronomy and prediction part (astrology) are combined. There are hundreds of books written in ancient India on mathematics and astronomy which are the part of vedangaas. A few books are written on the prediction part of the Jyothisha. The first two parts are discussed in detail in the scientific heritage of India published by the Institute.

ANALYSES OF UPAVEDAAS:

Upavedas are the science books which come as subsidiary-upato Vedas. For each Veda there is a subsidiary. They are Arthasastra, Dhanurveda, Gaandharva Veda and Ayurveda respectively for all the four Vedas. The Sthaapthya Veda/ vaastu
has also been given the status of the upaveda.

Analyses of artha saastra: Artha saastra is economics and the most authentic books in this class of ancient Hindu literature is the Koutileeyam- Chanakya’s Arthasastra. This is an authentic arthasastra book with 6000 messages/ rules written in 150 chapters. Each and every line in this book has deep message to convey. There are 18 artha saastra books written in olden days.

Analyses of dhanurveda: The books describe on science of archery. All the informations connected with the war and use of weapons are described in the dharnurveda. The most authentic book in this branch of upaveda is said to be written by Dronaacharya namely Dhanurveda. Detailed description of the subject matter is given in the great Indian epic Mahabharatha.

Analyses of Gaandharvaveda: detailed description of music, musical instruments, dance and related arts are given in the Gaandharva Veda text. This Veda is the upaveda of Samaveda. Sarngadhara’s sangeetha ratnaakaram is one of the important books coming under this class. Yaamalashtakam, uddheesamahodayam, maansollasam, sangeetha darpanam are some of the important books.

Analyses of Ayurveda: This is the upaveda of atharvaveda describing the health, food and diseases in detail. The Charaka samhita, Susrutha samhitha, Ashtaanga hrudaya, Ashtaanga samgraha etc are the reference books followed today for the ayurveda.

Analyses of Sthaapathyya Veda: this has been given the status of upaveda of Atharvaveda. here one can read the rules and applications of Vaastu used for house/temple/ palace/ forts constructions

ANALYSES OF MAHAPURAANAAS:

There are 18 Mahapuranaas and 18 Upapuraanaas. Through these puraanaas ancient Hindu Rishies convey the dharmic
messages as the stories and histories of the kings/kingdoms/simply experiences of Rishies and so on. Sometimes the messages through simple stories connected with gods/human beings/animals also come under the puranic explanations. All the information given in puraanaas are aimed at 'creating a scientific temper and realization of the facts and truths connected with our day today life'.

Names and analyses of 18 Mahapuranaas: These mahapuranaas are huge volumes of books, many a times each written in 5 to 10 volumes with stories, histories, sub stories, upadesaas/ etc. The names of the puranaas: Vishnu - bhavishyagaruda- agni- mahaabhaagavatha- siva- markandeya- linga- brahmavaivartha- malsy- koorma- varaaha- vaamana- skanda- brahmaanda- padma- vaayu- naradeeya puranaas.

Names and analyses of upapuranaas: It is said that these upapuranaas are less important when compared to the puraanaas. Their names are samba- devibhaagavatha- kaalika- laghunaardeeya- harivamsa- vishnudharmotthara-kalki- mugalaaadi- aathma- brahma- vishnudharma- narasimha- kriyaayoga- soorya- bruhadnaaradeeya- purushothama- bruhad Vishnu puraanaas.

ANALYSES OF SMRUTHIES:

Smruthies are dharma sastra books which give the customs and rules to be followed. The book may explain some specific subject as specialization in some cases and in some other cases, the smruthi books explain rules connected with many subject in an integrated way. Hence there are smurties written in many volumes and some smruthies are very small books. The smrutyas are updated with due corrections and amendments. The rules described in the smruthies vary depending upon the place and time, hence they are not universal truths and need not be practiced blindly.

The names of smruthies: Smruthies are known in the name of
following Rishies; Usana, Yajnavalkya, Vishnu, Manu, Aangeerasa, Yama, Athri, Samvartha, bruhad paraasara, Bruhathpati, Daksha, Saathaathapa, Likhiitha, Vyaasa, Parasara, Sankha, Gouthama and Vasishta. Smruthies are also known as dhrma sastra books.

ANALYSES OF DARSANAAS (VISIONS):
There are six darsanaas in Hindu dharma propounded by six great sages. Highly philosophical matters are discussed in these books. In fact every subject under the Sun has been touched upon in these small books. One can understand the darsanaas, generally, only with the help of commentaries:
Jaminee’s Poorvameemaamsa is the first darsana which explains the dharma and adharma and their merits/rewards and demerits/punishments.
Vedavyasa’s Uttarameemamsa: This darsana describes the power/energy/universal soul known as Brahman which controls everything in the universe externally and internally. This is the basis of advaitha darsana.
Kapila’s saankhya darsana: Description on the composition of the universe is given as eight type of prakruthi including panchabhootha (five), intellect, mind and awareness/consciousness on the one side and the universal soul guiding and controlling all these within the system
Patanjali’s yogasastra: detailed description of mind and body and the combination of panchabhootha (five) panchapraana, panchakarmendriya and pancha jnaanendriyas (five pranas, five sensory organs and five functional organs) is given in yoga.
Kanaada’s vaiseshika: Here the specific description on the atoms by which the universe is composed of has been described. This darsana is specifically different from others in many ways, hence it is vaiseshika (special) darsana.

ANALYSES OF TWO EPICS:
Ramayana and Mahabharata are the two epics. Generally, Hindus
know about these epics. Hence a detailed description is not required for this branch of literature.

Analyses of Ramayana: The first Hindu epic known as aadi kaavya, written in 7 kaandaas (parts) having more than 550 chapters. Through the history, Sri. Rama Avathaara of Mahavishnu, the human qualities are explained here. The Ramayana written in Sanskrit has been translated to almost every Indian languages and important world languages. The messages of life are conveyed to the common people through Ramayana, story telling, dance, kathakali, dance, and so on through out India and Indian continent.

Analyses of Mahabharatha: It is the history of Pandavas who were meritorious noble brothers and Kourvaas who were opposite in qualities to pandavaas. The sufferings and pains of Pandavas and finally how Lord Krishna advised to fight for reestablishing the dharma has been explained in the Mahabharatha story. It is said Sage Vyaasa has told, hence everything in Mahabharatha, nothing else remain to be told vyaasocchishtam jagath sarvam

Thus in Hindu dharma the above books and their commentaries give the dharmic messages. None of these books is to be blindly followed or their messages to be blindly practiced. They are only the guiding books, one can walk from one level to a higher level, from there to a still higher and then to the highest level. Till one realizes that he is also the embodiment of the divine power. That is Hindu dharma.

THE SCIENCE OF HINDU SPIRITUALITY

Hindu/sanaathana dharma has its foundation on scientific spirituality. Ancient Rishies are the authors of the Vedas, puranaas, itihaasaas and smruthies which are known as Hindu religious/spiritual books. Those rishies themselves wrote the books on economics – artha
saastra-, music and dance – gaandharva Veda-, science of heath and food - ayurveda-, civil engineering and sculpture – sthaapathyaa veda, etc which are the well known scientific books. In all the ancient Hindu literature one can see that science and spirituality are integrated. It is mentioned in the 40th chapter of the Yajurveda known as Eesaavaasya Upanishad that ‘use the scientific knowledge for solving the problems in our life and use the spiritual knowledge for attaining immortality through philosophical outlook. Avidyayaa mruthyum theerthwaa vidyaaam amrutham asnuthe. A detailed description on the scientific and technological heritage of Hindu dharma has been separately given and hence it is not included in this text. Here only the science of spirituality is described for giving a clear understanding on the Hindu way of looking into the different order/level of spiritual science.

At all levels in other religions there exist only one god/divine power. And that is the one and only one, without even a second on the pathway to attain that one. In Hindu dharma also there exists the ultimate one and only one god. But to attain that one, you can have different pathways and worship of different deities. For reaching New Delhi, the capital of India, there can be many pathways/roads, but New Delhi remains the (same) one location. Some of these roads may be short cuts, some may be smooth and some other may not have street lights, etc. Thus the roads and nature of roads vary but the ultimate goal remains the same.

The one Hindu god and its scientific explanation: There exists only one god and it is reiterated throughout the Upanishads and Vedas. Ekam sath vipraa: bahudaa vadanthi. The ultimate truth is one and only one, but some scholars may tell that it is many fold. ekam eva na dvitheeyam. The only one without the second. Further you can see the words of Rigveda: dyaavaa pruthvi janayan deva eka: the god, who created the celestial bodies and this earth, is one and only one. Eka eva hi bhoothaatmaa bhoothe bhoothe vyavasthithaak ekathaa bhahudaa chaiva drusyathe jala
chandravath. The ultimate divine power is one and only one which is existing in each and every living being. It may be said by some as one and some others may say it as many, but the truth is like this; there is only one moon and it is reflected in different waters (of river, well, a cup of water, sea or ocean). Just like the reflection of the one moon is seen in all, the same divine power is manifested in all living being. Even the whole philosophy of the advaita is based on the non duality of the divine power (a-dvaitha—the one without a second)

The name of ‘that one’ in Hindu dharma is Brahman or Brahma. Hindus do have different levels of upaasana/worship. But the ultimate point where all the pathways arrive at is this point of Brahman (do not pronounce Braahman). The Vedas say Brahmsathyam jagath mithya. The ultimate essence of everything is this Brahman and everything in the universe is the manifestation of that ultimate truth (which is the Brahman). Jeevo Brahmaiva na aparaa: Even the life force/soul itself is the same Brahman and nothing else. The Brahman is present in everything, in the smaller than the smallest (in atoms) and bigger than the biggest (in the universe) and also present as the jeevaathma in all living beings: Anoraneeyaan mahato maheeyaan aatma guhaayaan nihithosya jantho: says Mahanaraayana Upanishad. One can see pure science in this explanation: The revolution of electrons and the spinning of the nuclei in atoms, the rotation and revolution of earth, the solar system, the galaxy, and so on are all guided from within the system and this force which gives the energy and guidance for their movement is known as Brahman. It is this same energy manifested as jeevaathma in the living being which controls the heart, lungs, the liver, the blood circulation, the sensory organs, the functional organs, etc. in animals. In the mahaasankalapa, it is thus explained achinthyayaa aparimithayaa sakthyaa briyamaanaasya aneka kothi brahmmandaanaam madhye; the billions and billions of galaxies which are revolving/rotating under the torrential force which is beyond the level of imagination and limitless… this force is from within the
system and it is the one which guides the rotation and revolution. Hence the ancient Indian Rishies said that Brahman is the ultimate force/energy. Upanishad says that the Brahman is the one which can not be seen through eyes, heard by ears, analyzed by mind but the energy which is responsible for the proper functioning of the eyes, ears and mind..... Is Brahman. *yath chakshushaa na pasyathi yena chakshoomshi pasyathi...... yath srothrena na srunothi yena srothra mitham srutham...... yath manasaa na manuthe yenaahur manomatham...... thadeva Brahmathwam viddhi yadidam na idam upaasathe.* is the Brahman and worship that Brahman. In other Upanishads it is explained that the fire and air (*prathyaksham Brahma*), the sound (*sabda Brahman*), the Sun, the light (*shaakshu Brahman*), and so on are all the manifestation of this Brahman. This gives a clear definition for Brahman that **it is the energy and manifestation of a power**

Brahman is also present as *jeevatmahal soul in me hence I say aham Brahma asmi* (I am the divine power). It is present in you hence *thath thwam asi* (you are also the same divine power) It is present as life force hence *ayam athma Brahman* (this life force/energy is the Brahman) and it is manifested as the **inherent intrinsic consciousness and awareness**, hence *prajnaanam Brahman* (that glorious knowledge is Brahman). These four sets of words corresponds to *Yajurveda, Saama veda, Atharvaveda and Rigveda* respectively, are known as four *Mahaavaakyas*). The yogi who could get the experience of the realization of the *Brahman* is known as *Brahma jnaani* and the process of realization is known as *Brahma saakshaathkaaram*. That state of *Brahma jnaani* is also known as *kaivalya state*, the state in which one knows that only one is existing (*kevalam* means only one). *Aksharam Brahama paramam* means the Brahman is non destructible for ever. *Brahmakshra samudhbhavam* Brahman arose from the non destructible. There are few vedic and *puranic* words connected with Brahman, they are *Brahmaandam* (the universal egg – a state before the big bang) Lord Brahman (the creator of this universe and everything present
here from energy) *Brahma vaivartham* (the manipulation and manifestation of the universal force/energy).... Now the word *Brahman* may be clearly defined based on the above explanations using modern science as follows: **the intrinsic, inherent, self guiding, self motivating, self awareness and self conscious present from each and every atom to the universe itself, is the Brahmam, the ultimate god of Hindu!**

It is said that there are two states of *Brahman*. The extremely active state in observation known as *saguna Brahman* and the inactive state in observation known as *nirguna Brahman*. These two states are complimentary and never contradictory (as few scholars may say). (*saguna and nirguna* may be opposite words just like lower and upper are opposite words. But lower primary and upper primary are not opposites, they are complimentary). In an atom, the electrons are revolving at a fantastic speed/velocity (*sagunathwam*) but the materials which are composed by the atoms are seen in *nirguna* state (without rotating and spinning). The earth rotates and revolves at high speed (*saguna* state) but the people living on the globe earth do not feel the speed (*nirguna* state in observation). Our heart/liver/lungs/each and every tissue functions/works for all the 24 hrs (in *saguna* state), but the body does not feel that (particularly when sleeping) such a series of biochemical processes are going on inside (*nirguna* state). Thus there are observationally two states for the Brahman one *saguna* state and other *nirguna* state. Sometimes *saguna upaasana*/worship also means the worship in forms and images and *nirguna upaasana*/worship means worship without keeping the images.

From the upanishadic explanation that the universe is filled with the *Brahma chaithanyam* (the intrinsic...awareness and consciousness) it may be difficult for a common man to understand this concept. For the understanding at a lower level and for giving a better perception for common man, the Brahman has been symbolically presented as a personified form of *prapancha purusha or viswa*
roopa (prapancha—univers; purusha—human form viswa—univers, roopa—size and shape). This is a concept and symbolically presented, hence it is well defined as prapancha purusha sankalpa (sankalpa—concept). It is narrated as viswaakaram gagana sadrusam megha varnam... having the size and shape of the universe, similar in area to the sky itself and colour that of clouds.... It is described in Vedas as viswathaschakshurutha Vishwatho mukho Vishwatho baahurutha Vishwathaspaath... its face, brain, hands and legs have spread over the universe and everything in the universe works under his guidance and control. Bhagavath geetha gives the power of viswa roopam like divi soorya sahasrasya bhaveth yuga pathutthithaa... it looks as though thousands of Suns are blazing. The size of the prapancha purusha has been explained na anantham na madhyam na punasthavaadim: there are no beginning, middle and end for that viswa roopa. Lord Krishna himself tells in Bhagavath geetha for seeing the universal person/viswaroopa, one needs the divine eyes (divya chakshu). Vedas describe it through purusha sooktha.

This viswaroopa/prapancha purusha is known in puranas and other literature (some times in Vedas too) as Mahavishnu / Vishnu and Naraayana. Puranas give detailed narration for Naraayana.

At further lower level there exists a trinity concept in Hindu dharma. The trinity concept of Hindus is different from that of other religions. Here the ‘controllers’ of birth, existence / growth and death are symbolically presented in human forms as Brahma Vishnu Maheswara—trimoorthy sankalpa in which the universal laws of life cycle are symbolically presented. Mahavishnu is the base for the trinity concept.

Explanation for Mahavishnu: The blue colour of Vishnu denotes the colour of the sky and ocean which means the infinity/limitless. The serpent on which Vishnu is lying denotes the coiled structure of galaxy. The name of the serpent anantha means limitless (infinity) the ksheera saagaram (
ocean of milk) on which Vishnu is pictured shows milky way galaxy. Anantha sayana represent the silent universe/galaxies. Symbolically Mahalakshmi (meaning of this word is prosperity) has been attributed the position of the wife of Mahavishnu showing that any system can smoothly exist only with prosperity.

From Mahavishnu comes out through a Lotus (symbolically) the creator Lord Brahma. This symbolically presents a connection of Lord Brahma with the prapancha purhsa similar to the connection of the baby in the womb of the mother. The baby takes the energy and nutrition for growing/cell production from the mother. Similarly Lord Brahma takes energy and material from for creation in the world. The four heads of Lord Brahma represent the four axes required for any creation: x, y, z and time axes. The Vedas (the word itself means knowledge) in the hands of Lord Brahma and the position of Saraswathy (deity of knowledge) as the wife of the creator symbolically present that for every creation knowledge/vidya is required. The knowledge and creation (knowledge for creation) are inseparable components.

Lord Siva is the deity symbolically presents the controller of death/destruction (the destruction is for further construction). Mahavishnu and Lord Siva are said to be connected through hearts (which only means inseparable) Vishnaasya hrudayam siva: Sivosya hrudayam vishno – says Upanishads and Yajurveda. Symbolically Lord Siva has powerful fire in the third eye, powerful water and torrential air symbolically tied in the tuft and the snake around the neck (symbol of international medical association) and thrisool in hand. All the five respectively present destruction through fire, water (flood, etc) air (cyclone/tempest, etc) diseases and using weapons. Parvathy (means energy/force/sakti) is symbolically presented as the wife of Lord Siva. Through this combination of Lord Siva and Parvathy, it is shown that the destruction for construction can take place with powerful application of any one or more of the above five (powerful fire, air,
water, diseases and weapon only have the destruction capacity). Thus they become inseparable hence the concept of Ardhanaareeswara comes up. In fact the Brahma Vishnu Maheswara sankalpa and the Lakshmi Parvathy Sarswathi sankalpa are the symbolic presentation of the life cycle at spiritual-social and physical level when scientifically explained. Always the Hindus consider the knowledge, prosperity and sakthi/power in feminine gender. These explanations (of the gods) are the connecting layers of Vedic and puranic concepts of gods.

Further going at common mans level, the above six deities can be seen in different roles of puranic stories to convey the message of what they represent symbolically in. However these stories are mainly for conveying the values and universal truths in our life. And they are meant for the understanding for less educated common man who may not be in a position to understand the Brahman or prapancha purusha concept, or the symbolic message of Hindu trinity concept, etc.

About other deities: In puranas one can read the stories of Vigneswara having the shape of the cross section of human brain, worshipped as the Lord who removes/protects from the hurdles in the life. Hurdles can be as huge as elephants and it can come from anywhere just like a rat (mooshika vaahana) comes. Students who learn the six branches of Vedic subjects Siksha- nirukta-vyaakarana-chandasastra-kalpasastra and Jyothisha, worship Subrahmanya/Muruka, Subrahmanya is given the Lordship of six subjects. Hence six heads one for each subject. Incidentally, I feel it is worth explaining here that Ravana is said to have ten heads. It is because Ravana has the capacity of ten heads (he has learned the four Vedas and six Vedangas and even he had tried to master the 11th subject, the Ayurveda too). Yamadharma raja or Kaala is the controller of death Yaama and Kaala (yaamasya apathyam pumaan yama: and kaalasya apathyam puman kaala) both means the controller of time. Hence the names clearly give the scientific truth
that the death is connected with the time. *Kaala* is symbolically presented coming on a he buffalo (he buffalo is said to be the most senseless animal, hence the time of death arrives to us senselessly—and takes our breath- without looking the age, religion, sex or any other parameters of the individual— we say people die just like that)

Lord Krishna and Lord Rama and many heroes of the puranas and epics give us the message for elevating ourselves from the ordinary human level to the level of incarnation/avathara level. Their message enrich our life. They stand as role models in our life. Hence they are worshipped and celebrated as *avatharas*. In Hindu dharma none is a sinner. Hence everyone has the opportunity to elevate/ rise himself to the level of god. We say *krinvantho viswamaaryam*; (God will not get jelous of you if you are getting the level of god himself, in Hinduism). Let us convert the world into a great men’s abode. Human being is considered as the children of immortal ..*amruthasya putraa*: Every deity in Hindu dharma has a connected animal, bird, tree, flower, celestial body or planet (as *adhidevatha or pathyadhidevatha*), colour, metal, medicine, *manthra*, *gayathri*, letter, *dhyana manthra*, *moola manthra*, ...etc. This gives an excellent message that these are to be protected. In Hindu dharma there are 33 crore (koti) *devaas*! The meaning of this statement is very simple but wrongly understood. Koti means part (not ten million) and here 33 parts *devaas* (people with divine qualities) 33 parts *asuraas* (people with demonic qualities) and 33 parts *maanavas* (people with ordinary human qualities)- it is just like we say 1/3 of the human beings have divine, demonic and ordinary human qualities each. It is said that Hindus worship everything! True in everything we can see the divine power and that divinity could be felt when we elevate ourselves into that level. Even a stone/ wood/ photo/ image becomes an idol *archakasya prabhavena sila bhavathi sankara* (by the proper method of worship by a priest/ devotee even a stone can be converted into Lord Siva/Sankara/ *vigraha*/ idol. *Archakasya aprabhavena siva bhavati sila*, by the improper outlook/ method of worship even the god itself will become a stone.
Hindus worship in temples. The temples are not merely prayer halls for Hindus, they are the quantum healing centers (kshayaath thraaythe iti kshetra). In temples the light, heat, sound and chemical energies are filled through lighting the lamp, camphor, keeping mirrors, etc. The sound energy through manthra, ringing of the bells, musical instruments, bhajans etc. The chemical energy is from bathies, aromatic flowers and leaves etc. Thus the temples are energization centres in Hindu way of worship. A devotee has to stand for few minutes in the temple environment in front of the vigraha/idol with sareera (body), mana (mind), aahaara (food), vaak (words/talking) and karma (deeds) suddhee (purity) for energisation.

Hindus never allow the cremation or burial of human body in the temple premises Hindus always keep the idols or images having smiling faces (Prasanna vadanan dhyayeth - meditate on the god having smiling face). Hindus never place the sad/ crying faces or bleeding bodies for worship. The offerings of the gods, from the temple are taken as shared prasadams not as body or blood of the gods. Hindus never pray for unloading/ transferring their sins to the god or representatives of god or saints. Using the concept, that the sins are transferable to someone who is a representative of god and punishing him for our sins is not existing in Hindu dharma. But Hindus pray for guiding through correct and dharmic pathway so that one can prevent committing the sins (thamaso maa jyothismaya, ....etc)

Hindus never pray to god through intermediate saints, they submit directly their prayer. The people who fought for spreading the religion using swords and bloodshed and denigrated other religions are never elevated to the level of saints. The offering given to temples are not the bribes to gods but for pancha yajna- the offering for gods Deva yajna, Rishi yajna – for sages, Pithru yajna - for forefathers, bhootha yajna - for all other living beings and Manushya yajna for feeding the poor people. The idol and temple are compared with human body (idam sareeram kountheya kshetramithyabhid heeyate) and human dwellings. Hence whatever are required for human body are performed through thaanthric way to the idols also. In olden days the temples were the capitals of the villages,
through them the food supply, education, help for the society, legal consolation, counseling, marriages, etc were given/ performed. The priesthood of Hindu dharma and that of other religion are entirely different. The role of the priests was not political at all but to advise on dharmic and spiritual way. Hindus are never god fearing, they have only devotion to god not fear (daiva bhakti and not daiva bhaya). There are five bhavas for the bhakti—saantha bhaava, daasya bhaava, sakhyaa bhaava, vaalsalya bhaava and maadhurya bhaava. In all these the question of fear does not arise.

Additional points to remember: Hindus worship the fire, air, the Sun, the celestial bodies, etc because they are all the parts of the prapancha purusha. The same reasoning is given for the worship of mountains, earth, rivers, etc. Hindus worship animals and plants and in fact every deity has a plant and animal associated with them, because all of them have jeevaathma life force in it. Hence they are considered as divine in nature (jeevaathma is a part of paramaathma). The Vedic way of worship is through havans/offering through the fire. The puranic way of worship is the temples and idols and images. Every temple has a specific vaastu connected with it and that vaastu resembles the yaaga saala/ house of yaagaas and fire altars. Hindus say Vedas are holy because it gives absolutely (no stories ) the universal laws and truths. Anyone can learn Vedas and there did not exist a rule that people belonging to only one caste can learn Vedas. For keeping the seriousness and for strictly following the rules, the scholars defined that who has Brahminical qualities only can learn Vedas, which can be acquired and not obtained by birth alone. All the Rishies who composed Vedic manthras were not Brahmans, Sri Krishna or Sri Rama were not Brahmans. Many ancient Rishies and many of those Rishies who are living even now are not Brahmans.

Hindus worship books/letters/ because it is the base for knowledge. Hindus worship the tools and instruments during aayudha pooja, by performing pooja once in a year because tools are the lively
hood for human beings. Hindus have given the status of divine power to many phenomena like: the Sun, because it gives light and heat for all living beings; the air, because all living beings are surviving because of it; the water, because without which life is impossible; the earth, because it is where all the life is surviving (not only that they are all parts of prapancha purusha); our parents, because they gave birth for us and they are our creators; plants and trees, because they provide us food, and so on.

The Hindu way of life is different from that of the followers of other religions. Learning and practicing Hindu dharma should be done directly and it is an experience. All the Hindu way of life is through customs and rituals. It is always advised to follow the relevant and scientific customs and rituals which are beneficial psychologically, physiologically, family based relation and social relations strengthening and also for national integration. All this customs and rituals put together is known as sanaathana dharma hence it is said Hinduism is not a religion but a way of life. Hindu dharma get refined continuously by the Rishies, hence any superstition comes into the Hindu dharma, Rishies like Lord Budha, Jain, Sankara, Madhwa, ....... They refine and make it more powerful.........

Thus says Lord Krishna in Bhagavath Geetha: Whenever the dharma comes down and adharma takes an upper hand, the god himself will do the needful for the uplift of Hindu dharma. He will protect the nobles, punish the bad people and protect the dharma. Perhaps that is the reason why even after more than one thousand years of foreign invasion, massacre, destruction, plundering and looting by the foreigners, this dharma did not perish. It is fast spreading through out the world particularly in the developed world. Let us all learn the basic principles and application of those from the Hindu dharma scientifically either for practicing it or for challenging it.
SCIENTIFIC AND TECHNOLOGICAL HERITAGE OF HINDUS

This is only an outline on the scientific and technological heritage of Hindus to be selected for the study by the individuals depending on their own interest and specialization. They may collect as many points asking the questions why? how? when? where? what? and comparing the answer with the knowledge existing in other parts of the world, in each topic, so that they can learn thoroughly and teach others. Let us try to become an expert in selected and specialized areas of Indian scientific heritage. The syllabi are given as subject wise.

Example: If in the syllabus Ajantha is given, ask the questions what are the novel points with Ajantha cave temple? when was it constructed? how it was constructed? what are the salient structural features of Ajantha? How the people in other parts of the world were living during when this Ajanta cave temples were constructed (BC 50)? What was their capability in this subject area of cave structure construction?....Ask these questions and find out the answers. Repeat the same for other syllabus points.

BIOLOGICAL SCIENCES

Health science (Health science is a part of Ayurveda which is an upaveda of Atharva veda. It is also discussed in yoga sastra which is one among the six darsanas of the Hindus. The subject has also been dealt with in puranas and itihasas): The Indian vision on health as given by Maharshi Susrutha, Charaka and Vagbhatachaarya and many others. The approach taken by Patanjali in Yoga sastra, the spiritual approach of body and mind, etc will be the part of the Indian health science. Aswini devatha concept of hitha aayaasa and mitha aahaara (food & exercise), need of appropriate exercise based of the age-sex-physiological conditions, etc. Yogaasanas, sooryanamaskara, effect of medicines, identification of diseases through saastram pramaanam/ aaptavaakyam
pramaanam/prthyksham pramaanam/anumaanam pramanam/methods. Use of drugs, fastings and pathyas and fasting as a part of customs/rituals. Selection of food based on climatic variation/age/health conditions/etc of the person/patient, physical and mental rest, upaasana and worship as a part of day to day life, ethics and morality in the common man’s life and also for doctors, ... causes of illness, pathogenic organisms, precautions to be taken for good health, solar therapy, music therapy, Yoga therapy, Reiki, energy healing, water therapy, as described in the Indian system. The knowledge on surgery and plastic surgery and surgical equipments known sastras and yantras as described in Susrutha samhitha, practicing surgery as given by Maharshi Susrutha. Variety of acharas/customs and rituals influencing the health. Importance of vegetarian foods. Indian traditional foods and their merits. Taking oil bath during selected days, hot/cold water bath. Allowing children to play in the soils after smearing the oil.

Grandmaa’s technological foods” for babies and baby health care system existed in ancient India.

Mental Health / Psychology (this again is a subject of ayurveda and yoga/ poorva meemamsa/uttarameemamsa/vaiseshika/darsanas and Upanishads. It has been discussed in detail in Yogavasishta, Bhagavath geetha, dharma sastra and so on): Description of mind given in Upanishads, mental influence on health, the influence of yamaas and niyamaas: ahimsa- satyam- astheyam-brahmacharya- aparigraham- oucham- snthosha- thapa- swadhyayam- eeswara pranidhaanam—etc. Effect of stabilised vision on life, controlling the angr,fear, and attachment, mental preparations to face ups and downs/loss and profit/ success and failures/ animosity and friendship/appreciations and criticisms ...as described in Indian philosophical books. Influence of puranic / epic related stories in mind to face the realities of the life. Influence of pranayam/ dhyanaa/dharana etc on the mental development. Impact of food on mind as proved by the modern science, effect of saatwic food, dreams, effect of mantras on mind, customs influencing the mental health and family relations. Analyses of the purpose of living, family-social-and
national goals to be put forth for a purposeful life and its impact on mind. Spirituality and faith in healing. Effect of curative chemical on mind and body. Bhajans/keerthsan/ prayer/ manthras etc on mind. The positive songs and images influencing the mind. Psychologically influencing acharas.

Food science (very specific explanations are given in ayurveda-as told—it is a part of atharvaveda. It has been given in dharma saastra and gruhyasootra part of kalpasatra and to some extent in puraanaas): Variety of Indian foods, balanced nutritious foods, natural traditional baby foods, the medicinal components usually added in Indian foods (like asafoetida, turmeric, spices, mustard, etc), pathya based food during illness, specialized cooking, roasting, fermenting, processing, preserving, etc. done for variety of foods and their science. Generation of specific flavors in foods by suitably modifying spices. The science of altering the foods during fasting on specific days like ekaadasi/somavaar vrattha/karthika month/ vaisaakha month/ etc. Opting for integrated balanced foods through fasting and vrathaas, importance of selecting cooking vessels like ceramics/iron/copper/brass vessels (for getting micro nutrients like, iron, zinc, copper, silica, magnesium, sodium, potassium etc), variety of vegetables and their significance in balanced healthy foods. Many more significant scientific observations can be made if a student carefully examines the Indian foods, naturopathy, and vegetarian food.

Chemistry (Rasachikitsa is a part of atharvaveda based ayurveda prevalent in north India. All the authors of Rasachikitsa were Siddhas or Maharshies. The chemistry descriptions, one can see systematically in the rasa books): The ancient Indian chemistry books like rasarnava, rasaratna samucchaya, rasendra choodamany, rasarnavakalpa, rasa chandrika, rasaratnakara, and hundreds of rasa based books. (These books are available in Sanskrit with English or Hindi translations.). The knowledge on chemicals, particularly in inorganic chemicals, like sulphides/sulphates/oxides/etc. Sanskrit names of chemicals, detailed
description given for setting up a laboratory, scientific temper, qualification of laboratory assistants, research scholars as described in Rasaratna samucchaya, properties of inorganic chemicals and their use described by Vagbhatacharya, centuries ago. Chemicals used for various purposes as described in Bharadhvaja in yantra sarvaswa, Varahamihira in Bruhath samhita and also by others in the above chemistry books.

**Bio-pesticides (biopesticides are part of vrukshayurveda which again is a part of Ayurveda or Bhrurat samhitha):** Variety of plant products, Neem, sweet neem, neem cake, mustard cake, tulasi, clove, pepper, turmeric, tobacco, oils from sesame, cotton seed, castor etc., used as bio pesticides and as preservatives, traditional methods of pest control like fumigation with neem/ sulphur/ camphor/ coconut husk (since it contains sulphur/ coconut shell (raw- for its phenolic content) / cow dung (since it contains ammonia). The use of panchagavya / aqueous cow dung filtrate / extract as pesticide. The traditional knowledge available from farmers. Detailed descriptions for controlling the pests/microorganisms/etc given in Vruksha ayurvedic books.

**Plant drugs/pharmacology (this is a part of the atharvavedic ayurveda):** Active plant bio-chemicals possessing medicinal plants, as described in Charaka samhita, Ashtanga hrudaya, ashtanga sangraha, sahasrayoga, etc. comparative studies on modern and traditional knowledge of medicinal plants. The student can try to understand as many plants as possible which are good sources of the bio-active principles. Variety of plants (herbs, shrubs, creepers, grass, trees etc.) used for curing diseases. The plant leaves, buds, flowers, stems, roots, latex, etc used for treating specific diseases. Single drug treatment.

**Medicines and medicinal preparations/plant biochemistry (Charaka samhitha and Susrutha samhitha are written by Rishies of the caliber of those of vedic Rishies, this also include sages like Chyavana/Brugu/Vagbhata/Agastya and so**
on): The descriptions of inorganic chemicals used as medicines in ancient Indian Rasa chikitsa books, their preparations/processing and preservation. The plant products used as drugs, the raw drugs, their harvesting, drying, storage, mixing, drug formulation, decoction preparation, etc. Variety of Ayurvedic drug formulation obtained by mixing many raw drugs. Knowledge on the possible chemical changes taking place in ayurvedic drug preparation while drying, storing, heating, roasting, boiling with water, concentration, etc (all ayurvedic preparations). Here we have to focus only on the knowledge existed and their scientific merits, in the area of plant drugs. The scientific knowledge behind kashaya/decoction preparation, choorna, kwatha, lehya, arishta, ghrutha, thyla, etc repayations and their basic principles of applications.

Basic plant sciences/botany: Detailed description given in Vrukshayurveda by Rishies like Saarngadharma, Katayayana, Varahamihira, Parasara, and others. Plant growth, grafting, irrigation, use of manure, seeds preservation, phototropism, agricultural practices both basic and applied. Seasons of sowing/planting/biodynamics of agricultural practice, etc., Variety of the traditional knowledge still practiced in villages, in the production of agriculture commodities.

Fermentation technology. The knowledge of microorganisms existed in India as described in ayurvedic books. Fermentation of milk to curd and yoghurt, fruit juice fermentation to vines, medicinal preparation of arishtas, etc. Fermentation procedures followed in four major types liquors mentioned in Chanakya’s Artha saastra (Arthasastra is an upaveda of Rigveda), the source of microorganisms, cultures, fermentation products mentioned in the ayurvedic and vrukshayurvedic books. Fermented rice based common solid foods like pan cake, fermentation of traditional liquors from coconut and palm products are the examples.

TECHNOLOGICAL SCIENCES

Ancient Indian mines: Knowledge on the ancient Indian mines which were active during the last three or more millenia, the ores/
minerals of copper, gold, zinc, lead, silver, distributed throughout Rajasthan, Haryana, Bihar, Bengal, Gujarat, Karnataka, Uttar Pradesh, Madhya Pradesh, etc. The technology adopted for digging, mining, transportation, processing and refining the above ore prior to metallurgical processing, provisions given for aeration and lighting in mines, etc. the present day scenes of ancient metallurgical sites.

**Ancient Indian knowledge in Metallurgy (metallurgy is a part of lohathanthra which again is becoming a part of Rasachikitsa/sastra):** The production and purification of metals, the use of flux and slag, temperature attained, technology for the production and purification of metals like tin, copper, iron, silver, gold, zinc, lead. An understanding of the chemical reactions accomplished like, oxidation, reduction, slag formation, distillation of low boiling metals, etc. The fine technology used for the large scale production of bronze, brass, panchaloha, bell metal, coin making metals and many alloys mentioned in chemistry books and also in the books like Chanakya’s Arthasastra. Impressio metallic alloy preparation techniques mentioned in the Rasa books, rasopanishad and Bharadvaajaa’s writings. The kilns and mooshas used for the metallurgical applications. Special methods adopted for the preparation of zinc and lead. Preparation of the purest form of copper and alpha and beta brass. Identification of alpha and beta tin and descriptions of the physical characteristics of these metals. The metal ingots, sheets, plates etc. of zinc/lead/iron/brass/bronze/copper/gold/silver/...of ancient Indian origin excavated from other countries like Athens, Babylonia, Rome, Egypt, ...

**Ancient Indian Iron making technology.** Production of pig iron, cast iron and wrought iron, Delhi and Dhar iron pillar, forge welding, lamination, paint coating for preventing the rusting. Making the swords, the Banaras and Kodumanal swords, carburization in iron instruments used in agriculture and surgery. Rust free preservation techniques adopted for iron, woortz steel. Large scale production of iron alloys, export of iron to European/middle east countries. The iron technology existed in North Kerala/Andra/Nasic/ Gujarat/Bengal/Varanasi/etc.
the Damascus sword from India.

Ceramics science and technology in ancient India (detailed description of the moosha is given in Rasa based books): The top quality ceramics vessels, tiles, glazed vessels, beads, bricks etc. produced in Harappa, Mohanjo daro, Lothal, Varanasi, Thakshasila, Kalibhangan, Hastinapura, and many other North and south Indian archeological sites. Variety of coloring materials used for the ceramics vessels and decoration ceramics articles which were also used in the glass making. The great bath of Mohenjo dara, the lost city of Cambay, Dwarka, Hastinapura, etc.

Industrial and instrumental glass technology existed in India: Variety of multi colored glasses with different size, shape, appearance and capacity produced in India. The glass beads, ornaments, plates, vessels, made using variety of inorganic coloring materials like the oxides, carbonates, sulfates, phosphates, etc. of chromium, lead, copper, iron, nickel, calcium, sodium. The non metallic compounds used as coloring materials. Technology introducing the golden/silver leaf/plates in glasses.

General Instruments used in ancient India: Description of a variety of instruments given in Bharadvaja’s yanthra sarvaswa (Bharadvaja is now a clan ordered after the great Vedic sage of Bharadvaja. He is known as Maharshi Bharadvaja. Only a part of his book Yantra sarvaswa/ amsubhodini is now available) the Vaimanika sastra, dvaantha pramapaka yantra, etc. The numbering systems with serial numbers of the components of instruments, alloy preparations, quality of glass lenses, prisms, glass plates, variety of Krithaka loha, (artificial metallic alloys having non metallic compounds also) dies used for molding the instrument parts/components, in required size and shape. The instruments used in astronomical calculations known under the title jyothir yantra.

Musical instruments (Music is Gandharva Veda which is an upaveda of Saamaveda. Music/ dance/ drama/ musical instrument are all originated from Saamagaana): Variety of
string instruments for music/dance performances, the metallic alloys used for the preparation of strings, wind instruments, the knowledge of sound waves, the membrane instruments, preparation/processing of the membranes for these musical instruments. The basic knowledge of sound in music. The granite music pillars known as sangeetha mandapa seen in ancient south Indian temples. Traditional Indian musical instruments like flute, idakka, mrudanga, chenda, thaala, naadaswara, veena, violin, harmonium, and so on. The basic principles adopted in their making and use.

Surgical instruments (detailed description of these instruments and their pictures are given in the books written by Maharshi Susrutha as a part of Salya chikitsa which again is a part of Ayurveda/Upaveda of Atharva Veda): The surgical instruments known as sastras and yanthras numbering more than a hundred, as mentioned in Susrutha samhitha, the metals used for making these instruments. Their size, shape and comparison with the modern instruments used for the purpose. Description of plastic surgery techniques. The instruments for kidney stone removal, stitching, cutting open, etc. all these instruments used in the modern surgery tables may be compared with those available thousands of years ago, in India.

Laboratory equipments (this description is coming as part of rasa books): More than 35 types of ceramics, glass and metallic equipments mentioned in Rasaratna samucchaya for the use in chemical laboratories for the processes like, distillation, sublimation, extraction, drying, heating, roasting, mixing, decanting, etc. generally known under the name yanthras made using specific quality clays. Many varieties of mooshhas, put yantras were also used here for processing themetals and other compounds.

Kilns/furnaces, mushas & Putas used for metallurgy. Variety of furnaces and kilns, crucibles used for the production of various metals and alloys. The temperature attained for oxidation, reduction, slag preparation and distillation of variety of metals and
correspondingly suitable selection of putas/furnaces. Heating materials and their proportions, heating time, flux used for removing the impurities in the metal processing. Description of maha gajaputa, gajaputa, kukkuta puta, kapothe puta ……etc and their preparations.

Painting Technology/organic and inorganic colorants (this subject coming as part of sthapathyam hatya/ architecture which is an upaveda of Rigveda sometimes it is also said as the upaveda of atharva veda). The chemistry of the paints used in Ajantha, Ellora, and other cave temple paintings, mural paintings, the inorganic colors and plant products used for paintings, their preparation, mixing, applying on the preprocessed surfaces. Selecting and processing plant products used as paints. The preparation of inks, for variety of applications. Mural paintings, oil paintings, preparation of painting beds/walls/canvass, etc as done in cave temples and walls.

Textiles technology (detailed description can be seen in dharma saashtra and also artha saashtra part of either kalpasasatra or upaveda): Ancient Indian textile industry as mentioned in Chanakya’s Artha saashtra, textiles produced using cotton, silk, wool, jute, and also incorporation of gold, silver and lead metallic threads as boarders for the textiles. The famous Kancheepuram, Banaras,…sarees/textiles. the dying technology and coloring materials used. The textile dyes, leather colors, variety of coloring materials produced in different parts of India and method of application of the dyes.

Civil engineering and architecture (The subject matter is dealt with systematically in Sthapathyam hatya which is upaveda — as mentioned above. Detailed description is also available in artha sastra books): The civil engineering skill demonstrated in the famous south Indian temples constructed by the kings of the Chola, Chera, Pandya, Hoysalasa, Kakateeya, Vijaya nagara…periods. The huge and tall entrances/gopurams of these temples. The mortars/cements used for the construction of these temples. The instruments used for measuring/maintaining the geometry of these structures. The
granite/ marble/ laterite stone cutting and polishing equipment/devises existed during then. The transportation techniques adopted for the huge granite pieces. Construction of marble temples, palaces and lake palaces in Rajasthan. The temples of Kancheepuram, Rameswaram, Chidambaram, Kumbhakonam, Thiruvannamali, Sucheendram, Trivandrum, Konark and Khajuraho, .... The music pillars and music mandapas, the knowledge on the sound waves produced by these granite pillars and granite stone carvings (thick-thin pointed and so on) The carving undertaken with top precision, in all the above structures.

The construction of cave temples, of Ajanta, Ellora, Elephant, knowledge on geological aspects of rocks in which the Chaityaas and Viharas were carved out. Huge palaces constructed particularly like Jaisalmar palace, palaces in the pink city Rajasthan, Gwalior, Mysore, Hyderabad, etc the air conditioning/temperature maintaining mechanisms adopted, glazed and non glazed tiles/glasses used for flooring/windows. The ponds and water reservoirs made thousands of years ago. (learn as many structures constructed as possible and their technologies)

The civil engineering sciences and technologies of forts and walls, channels, rivers etc. the archeologically important sites of Mohan jo daro, Lothal, Harappa, Dwarka, the lost city of Cambay etc

**BASIC SCIENCES:**

Basic principles of physics (for these basic principles one has to search very many books; examples are sited against each subject) the velocity of light (Sayana Bhashya for Vedas), wave nature of sound (Maharshi Gouthama’s nyaaya saastra), seven colors of light (Rigveda), Heisenberg’s uncertainty principles Patanjali’s yoga sastra), definition and explanation of atoms, gravitational forces (siddhanta siromany of Bhaskaracharya II), different types of rays (UV, IR, Heat rays, visible rays - as explained by Bharadvaja) lenses, prisms, magnetic materials like iron and variety of magnets, time, weights and measures, linear parameters. Modern scientific principle
equivalent ancient observations. Explanations given in yantra sarva sarvawa of Bharadwaja, the vaimanika saastras, dwathapramapaka yantra/ spectro photometer, etc. the scale used in measuring the temperature, the serialization of instrument parts commonly used., graduation method adopted, metallic alloys used in measuring the light waves, etc (all yantra sarvaswa of Maharshi Bhardvaja).

Ancient Indian Mathematics & Astronomy (Mathematics and astronomy are the fifth vedanga of vedic literature kown as Jyothisha. There are four vedanga jyothis connected with Rigveda- archa jyothisha- Yajurveda – Yajusha jyothisha, Samaveda samjyothisha and Atharva veda Atharva jyothisha). The later development of th subject matter are directly connected with these jyothisha books): Detailed knowledge are given in the books written by Aryabhatta (I & II), Bhaskara (I & II), Vateswara, Manjula, Lalla, Varahamihira, Parameswara, Sankaranarayana, and many other mathematicians. The four number systems, (Sanskrit number, Aryabhatta number, Bhootha sankya and Katapayaadi number) arithmetic and geometrical progressions and their variety of applications, interest calculations, moving bodies, forward and backward motions, linear and angular measurements, number theories, square/cube roots and power series, determinations, degree/minutes/seconds/ microseconds both for time and angular measurements, various geometrical figures both inscribed one another and independent figures, parameters connected with area, perimeter, volume of squares, triangles, circles, trapeziums, spheres, cones, cyclic quadrilaterals, polygonals, detailed algebra, quadratic equations, monomial and binomial theorems, etc. Hundreds of theorems developed by Aryabhatta, Bhaskara I & II, Sankaranarayana, Sangamagrama Madhavacharya, Puthumana Somayaji, Vateswarana, Aryabhatta II, Sankara Varman, Parameswaracharya…… the application of ka ta pa ya adi number and bhootha sankhya systems made by the above mathematicians.

Determination of Sine, cosine and tangent, Rsine values their squares, square roots, additions and subtractions, determination at degree/
minute/second levels and their tables, as explained in detailed by Varahmihira/ Vateswara/ Aryabhata II/ Puthumana Somayaji/ Parameswaracharya/ Nilakanta/ Sankaranrayana/ Achuta/ Jayadeva/ Manulacharya/ and so on, method of determining these values, angles in degrees and radians, calculations and theorems connected with these values. Relation among radius- arc-chord-circumference - sine - cosine - tangent – angles. Indian theorems known in foreign scientists names such as: Newton’s theorems, Gregory’s theorem’s, Kelvin’s theorem, Lhuliers theorem, Lebnitzs’ series, Taylor series, Tycho Brahe equations, etc.

Astronomical parameters (As mentioned above; Jyothisastra is applied ganithasaatra accordind to the fifth vedanga known as jyothisha): Various astronomical and geographical parameters mentioned in the above books: The spherical shape, size, diameter, circumference, gravity, declination, rotation speed, revolution, celestial/terrestrial latitude and longitude, parallax in latitude and longitude, earthsine, etc of earth. Many more astronomical parameters described with definition by Vatwaracharya, like co-latitude, prime meridian, and its relation with time, sun rise and sun set, eight type of revolutions of planets, visibility of planets, declination, precision equinox, alpha Aeries point, apogee, perigee, solar and lunar eclipse, calculation of eclipse, diameter of shadow and movement of shadow, instruments used for time calculation and also for the calculation of various astronomical parameters known as yantras.

Hundreds of parameters described systematically and calculated mathematically on solar and lunar eclipses, changes in the signs, latitude/ longitude, time variations, east–west lines, avanti lines of international importance, the inferior plants and superior planets, occulting of planets and stars, the star constellations, the comets, and their appearance, etc., etc

Indian Management science (All Indian management books are directly connected with Itihasa(epics) puranas, subhashitas): Thousands of modern and relevant management principles explained by Chanakya in (Chanakya) neetisara also known as Chanakya
upadesa, Bhartrru Hari in upadesa sathaka in hundred points, Vidura in Vidura neetisara as a question answer method of presentation to Dhrutharashtra and Vidura, Bhishma in Bhishmapadesa to the questions asked by Dharma putra, and also books like Yoga Vaasishta as given by Mahrshi Vasishta, Bhagavath geetha advise given to Arjuna by Lord Krishna, Sukra neeti sara by Sukra muni and many subhashtaas (advises) mentioned in Pancha thantra, Ramayana, Mahabharata, Thirukkural and so on. They are all applicable even for the management in the 21st century.

Ancient Indian knowledge in Economics (This subject is the upaveda of Rigveda): The book on artha sastra written by Chanakya known as Koutlileeyam, many cross reference books are also mentioned in arthasastra, books of dharma sastras/smruthies dealing with this subject. The detailed explanations about money, budget, banking, interest, loans, compound interest, penal interest, surety, witness, documents preparations for loans, pledging of materials, leasing, etc. The detailed method of implementing sales tax, agricultural tax, property tax, gift tax, land tax, house tax, customs duty and penal taxes, etc. (as described in dharma sastra) can be seen in many books written during BC 500 and before.

Indian Philosophy (Philosophies either part of Upanishads which are known as vedantas or as part of shadarsnas): The philosophical compilations known as darsanas by Vyasa, Jaimine, Patanjali, Gouthama, Kapila and Kanaada - poorva & uttara meemamsa, yoga, nyaaya, vaiseshikaa, are the most important books known as shad darsanas. Many fundamental principles of physics, chemistry, biology, etc are mentioned in the above darsanaas. Sankara’s Adwaita and Madhva’s dwaitha. The book of Charvaka known as Charvaka samhita of atheism. Other than the specific philosophical compilations, the philosophy described in upanishad, Bhagavath geetha, Yogavasishta, etc.

Thus the knowledge of Hindus did not restrict upon mere spirituality andachaaras but also focused on every branch of modern science and technology. That is the reason why many of these knowledge, the
western scientists are patenting now.

Modern India's Achievements (The modern Indian achievements in every field is a continuation of the ancient Indian blood and achievements): Since large amount of data are available in this subject, the reader/student can select/collect as much details as possible for continuous learning of the great scientists of modern India and our achievement in space science, harnessing atomic energy, technology of exploding atom bombs, Antarctica expedition, the green revolution, the blue revolution, white revolution, chemistry and achievements in the area of biotechnology, in telecommunication, roads and transportation, education at lower and higher levels, professional education, information technology and computer science and super computer technology, revolutions in print and electronic media. The student can add much more than this, as the specialization has achieved in India, in almost all subject areas.

QUOTATION FROM INDIAN SCIENTIFIC HERITAGE - MATHEMATICS & ASTRONOMY

DISCOVERY AND USE OF ZERO:

गायत्रे पदांसङ्ग्रामर्थः पनीते द्वयःकः अवशिष्टा चयत्तेऽ स्पष्ट्यपनीय द्वयःकः शुन्यं स्वायत्मू।। - In gayatri chandas, one pada has six letters. When this number is made half, it becomes three (i.e the pada can be divided into two). Remove one from three and make it half to get one. Remove one from it, thus gets the zero (Soonya). - PINGALACHARYA IN CHANDA SASTRA 200 B.C.

CALCULATIONS WITH ZERO:

विकारामापत्ति धनक्रणखाति न शून्यं संयोग वियोगतत्सु शून्यादि शून्यं स्वमृणं कश्च स्वं व्याडिना खं खर्रें विभक्ताः - Nothing happens (to the number) when a positive or negative number is added with 0. When +ve and -ve num-

88
bers are subtracted from 0, the +ve number becomes negative and -ve number becomes +ve. When multiplied with 0, the values of both +ve and -ve numbers become 0, when divided by 0, it becomes infinity (khañara). - SRIPIATI IN SIDDHANTHA SEKHARA 1039 AD.

DISCOVERY OF PLACE VALUES - I: यया एकरेखा शतस्याने शतं दशस्याने दशैवं वैकर्ष्याने यया च एकत्रिपि स्त्री-माता च उच्चते दुहिता स्वसा च इति - In the unit place the digit has the same value, in 10th place, 10 times the value and in 100th place 100 times the value, is given. - VYASA BHASHAYA TO YOGA SUTRA 650 AD

DISCOVERY OF PLACE VALUES - II : ययाचैवकाये रेखा स्थानान्यतनेन निविशिषानेव दशं शतं सहस्रादि शब्द प्रत्यय भेदमुखन्ति

One and the same numerical sign when occupying different places is conceived as measuring 1, 10, 100, 1000 etc. - SANKARACHARYA VEDANTA SUTRA BHASHAYA (700 AD)

KNOWLEDGE ON INFINITY : अस्मि विकार: खरे न राजाविकार प्रवेष्टेष्वर्चिप निःशतेषु ब्रह्मचार्य स्याल्लय्युपामकाले/नन्तेषु/चतुर्गणेषु यद्यत - Nothing happens to the (huge number) infinity, when any number enters (added) or leaves (subtracted) the infinity. During pralaya many things get dissolved in Mahavishnu and after pralaya, during srushti all those things get out of him. This happens without affecting the lord himself. Like that, whatever number is added to infinity or whatever is subtracted from it, the infinity remains unchanged. - BRAHMAGUPTHA IN BRAHMASHPUITA SIDDHANTA 600 AD & BHAKARACHARYA II - BEEJAGANITA 1148 AD

USE OF AVERAGE VALUES: ग्यनिचित्वा विक्षतां ब्रह्मचार्यमेवद्युपाम्यत तद्वितिभवव्या स्थानकर्थिया समस्तिरेंवं दैर्घ्यं च वेद्यं च - (For length, breadth and depth) the measurements should be taken at many places and the sum should be divided by the number of times (places) the measurement is taken. - BHAKARACHARYA II IN LILAVATI 1150 AD

USE OF FRACTIONS: इत्यादितिलवादस्य सुमाते पादचर्य यद्वचतु तत्त पर्यायवृक्ष बोध्योःश्चरणं: संप्राधिततमतत्ता:। दत्तो येन वराहका: किंतु कर्मणाशितात्त्वेन भृही त्वं विद्वस्ति वल्स गणित जातित प्रभावितायां।। - One man has given to a beggar fraction of 1 dramma (a unit of money). That fraction is one fourth of the one sixth of one fifth of the three fourth of the two third of the half of a dramma. Then tell how much kowdi (a unit fraction of the amount
dramma) was given to the beggar? USE OF RATIO AND PROPORTION:

- (Out of 11 cattle) Eight are tamed and 3 are to be tamed and (how many are) to be tamed) if the number of cows is 1001? - BHASKARACHARYA I - ARYABHATEEYA BHASHYA 628 AD

PERMUTATIONS AND COMBINATION - I : कठुकलिक कृष्णायामलवन मघु: सखे रसे: प्रह्वत विद्वा वृः सुपकारो व्यञ्जनामाच्य कृति चेदूं। - Friend, a cook prepared varieties of food with 6 savours: pungent, bitter, astringent, acid, saline and sweet. Say what is the possible number of varieties of food that can be made with these savours. - SRIDHARACHARYA IN PATIGANITA 990 AD

PERMUTATIONS AND COMBINATION - II : पाशानाकृषिः हमलक कपल शुल्ले:

- Pasa, ankusa, serpant, damaru, kapala, soola, khatvanga, sakti, chapa, sara with these (ten) items how many permutations and combinations are possible for Lord Siva. Similarly with the four items, sanku, chakra, gadha and padma holding in the hands, how many combinations are possible for Lord Vishnu? - BHASKARACHARYA II IN LILAVATI 1114 AD

PARTNERSHIP AND SHARES : समवायकास्तु बनिः पद्यकैकोटराधि मूलवना:।

- Five partners collaborate in a business. The capital invested by them are (in the ratio) one and the same number increasing successively by one (i.e 1, 2, 3, 4, & 5) respectively. Profit that accrued amounts to 1000. Say what should be given to whom. - BHASKARACHARYA I - ARYABHATEEYA BHASHYA 628 AD

LOANS AND INTERESTS : कुटुंब्यार्थमश्लेषने गुण्टे म्याउंटे मा उपलाब्धिरहित च विभादापकृतं ततो। कन्याव्रतामं चैव रेतकार्यां यत्क्रमं एतत् सर्व प्रदातायं कुटुंबेन कुर्व भमो।। - Loans are taken for meeting the expenditure connected with economic problems due to family burden, health problems, treatment, education, expenditure during accident, marriage of daughter, for performing rituals connected with the demise of the family members, etc. - VISHNU SMRUTHI 100 BC

INTEREST CALCULATION : नासन शतस्य फलं पव्यको भाव्यके'धिमय चृतात। लेखकपायी वर्ष पव्याधिक नवशतिमिश्रम।। - The rate of interest being 5% per
month, the commission of surety 1% per month, fee for accountant ½% and charges of the scribe 1/4% per month, certain sum amounts to 905 a year. Find the capital, the interest and the shares of the surety?

- SRI DHARACHARYA IN PATIGANITA 990 AD

RULES OF CHARGING INTEREST : अच्चे उद्देश्ये अधिकाररूपे दस्तमद गृहीत्यात्। विक्रिये विक्रिये चतुर्थक पध्यक्षे च शतं प्रतिमास।। - The loans can be given and taken between borrower and lender. Generally charged interest rates are 2, 3, 4, or 5% per month. सपदक महापर्मा मासवृद्धि:। पणसात्य पद्यकणा व्यावहारिकी ... - Reasonable (dharmic) rate of interest is 1.25% per month (i.e. 15% per annum) on the transactions with common man for non-commercial purposes. But for commercial purposes (for making profit out of it) interest rate can be 5% per month. - VISHNU SMRUTHI 100 B.C.

RULES OF BODIES IN MOTION : भके विक्रमविवरे गातियोपेवनामनुलोमविवरे ढौ। गत्यन्तरे गतवृत्ती द्वयोगकालवाच्चातीयते॥
Whenever two bodies are travelling in the opposite directions, the distance between them is to be divided by the sum of their speeds. If they move in the same direction, the distance is to be divided by the difference of their speeds. This gives the time required for meeting of the bodies or the time elapsed after meeting of the moving bodies. - ARYABHATA 1 - ARYABHATEEYA 499 AD

एकी ने योजनान्यष्टी यात्रनी योजनमात्र योजनानां शतं पद्धा: संगम: वक गमावमे॥ - One man travels at 8 yojana speed per day. Another travels at 2 yojana per day, starting simultaneously from the same place. After reaching the destination, the first man comes back. If the length of the track is 100 yojana. Say where is the meeting place of the two? (One going forward and the other traveller returning). - SREEDHARACHARYA PATIGANITHA 990 AD

PROGRESSION OF THE TYPE $1^2 + 2^2 + 3^2 + 4^2 + ... :$ सपदानां ज्ञानानां सपदानां चतुर्भुजानिर्मित्य। एकविधानां वान्यं पद्धतरास तत्त्वात् हि वर्गनिर्मित्य।। - There are (three pyramidal) piles on square bases having 7, 8 and 17 layers which are also squares. Say the number of units there in. - BHASKARACHARYA 1 - ARYABHATEEYA BHASHYA 628 AD

PROGRESSION OF THE TYPE $1^2 + 2^2 + 3^2 + 4^2 + ...$: चतुर्भुजानिर्मित्य: फलोचतुर्भुजानिर्मित्य
There are three pyramidal piles having 5, 4 and 9 cuboidal layers. They are cuboidal bricks (of unit dimension) with one brick in the topmost layer. Find the number of bricks used in them.  

- BHASKARACHARYA - ARYABHATEYA BHASHYA 628 AD

PROGRESSION OF THE TYPE \( \Sigma n + \Sigma n^2 + \Sigma n^3 + \Sigma n^4 \) = ििगुणतसैकपदं सैकपदं प(द) दलहरं पनि। 
- The number of terms plus one, as multiplied by twice the number of terms plus one, being (further) multiplied by half the number of terms. संकलितकृतिििवां संकलितसमासां मे कथय। पणां सबे शदनां गणपित्य वदि विजानसिः। 
- Friend, if you know, then say after calculation (i) the sum of successive sum of 6 natural numbers (ii) the sum of the squares of the first 6 natural numbers and (iii) the sum of the cubes of first 6 natural numbers. FIRST DEGREE INDETERMINATE EQUATION: मुद्गानां कुडा: सप्त लम्बने नविनः पणे: पणेन कुडा: स्यार्थं तथुकलानाः मवायते। 

- By opening 4 inlets separately, one pond gets filled respectively within 1, ½, 1/3, and 1/6 days. If all the four inlets are opened together, how much time (in fraction of the day) is required to fill the pond? - BHASKARACHARYA II - NIN LILVATI 1114 AD

FIRST ORDER EQUATION - II: नव गुलिका सतन(ह) रुपकसाथमात्रयाणां (त) गुलिकानाः। योगः गुलिका और रुपका तदा किरुपकाशोष्यम्। 

- One third of a troop of monkey with one third of itself has gone to the tank; the square root of the whole troop is afflicted with thirst, and the remaining 2 monkeys
are sitting under the mango tree. What is the total number of monkeys? \( \frac{1}{3} a + \frac{1}{9} \sqrt{a + a + 2} = a \) - REEDHARACHARYA - PATIGANITHA 990 AD

EQUATIONS OF HIGHER ORDER - II - बाले मरालकुलमुल्ललालि सप्त तीरे विलासरमनमनराणपणपथ्यः। कुर्चन्व केलिकलिङ कलह्सत्तुम्ग्रों शोर्ष जले बच मरालकुलप्रमाणः। - I saw that one half of 7 times of the square root of the total number of swans were slowly moving away in the river. Remaining 2 are playing in water. What is the number of total swans? (equation: \( 7/2 \sqrt{a+2} - a \)) - BHASKARACHARYA - LILAVATI 1114 AD

PYTHAGORAS THEOREM DISCOVERED BY BOUDHAYANA : समतुल्प्रत्यक्षयपररलः। बिद्यार्थि शूर्य करोति। - The diagonal of a square produces double the area of the square. दीर्घचतुर्भुजप्रत्यक्षयपररलः। पाठ्यार्थि तिर्य्गनाणि च यथप्रसङ्गो रक्तस्तत्राद्वयः करोति। - Areas produced separately by the length and breadth of rectangle together equal to the area of the (square) produced by the diagonal. - BOUDHAYANA BOUDHAYANA SULBASUTRA 700 BC

ANGULAR DIMENSIONS : अंगुणवेददृशः। कलिङ कलिङ। समुद्रजलयः। स्वतंत्रद्वाणांश्च। चूतिशिशः। कलिङ। शारणयो विवरणः। ब्रजाकृतिकलज्ञानविद्वः। बिच्छे जिनार्थः। - 3436° 44° 44° is radius and 11818047° 35° 16° is square of radius and 1398° 13° 13° is Rsin of 24° (both are values in radians). - VATESWARA - VATESWARA SIDDHANTA 880

TRIANGLES : ब्रजेन्द्रय त्रिवटिरी समदलकोट्य भुजाक्षंस्वंगः। - The area of a triangle is the product of the prependicular and half the base. - ARYABHATT A 499 AD

CIRCULAR VALUE OF \( \Pi \) : चतुर्दशीकर्ष शतस्तुमुणि द्वाणिक्षिप्तः। यहाण्यं अमृततप विण्मन्यासांज्ञ वृत्तपरिणामः। - When 100 increased by 4 multiplied by 8 and added to 62,000 gives an approximate value for the circumference of a circle having diameter 20,000 units. - ARYABHATA 499 AD

अण्टाणशाख्यः। विण्मन्यात्तत्त्वो मया वृष्टा। - तेषां समवानां परिमितापरिषिपल ने
1. Diameter of 3 circles are correctly seen by me to be 8, 12 and 6 units respectively. Tell me separately the circumference and areas of the circles. - BHASKARACHARYA I - 628 AD

SOMAYAJI'S THEOREMS: (1) व्यासाद वनसंगुणितात्त्व पृथ्विगत्य ज्यादयुगित्वमूलगते। - Multiply the diameter of a circle with 4 and keep it at different places and divide each with the odd numbers beginning from 3, 5, 7,... as their cubes subtracted by the same value. Repeat this and add/subtract alternatively the results to three times the diameter of the circle to get the circumference with the highest degree of accuracy. This theorem can be mathematically represented as follows: Circumference = 3D+4D/(3^3-3)-4D/(5^3-5)+4D/(7^3 7)+... (2) वर्तापुर्तां वा विन्यिनियमेकर-परिपूर्णात्त्वमूलगते। - Six times the diameter is divided separately by the square of twice the square of even integers 2,4,6,... minus one, diminished by the squares of even integers themselves. The sum of the resulting quotient by thrice the diameter is the circumference. This can be mathematically written as follows: Circumference = 3D+6D((1/2x2^2-1)^2-2^2) + ((1/2x4^2-1)^2-4^2)+[(1/2x6^2-1)^2-6^2]+.... - PUTHUMANA SOMAYAJI - KARANAPADDHATI - 1450 AD

AREA OF CIRCLE AND SPHERE: वृत्तक्षेत्रे परिम्युगित्वस्यस्य: - फलं तत्र शृणुं वेदस्यपरिपतिः कलुकस्ये वाणिः। गोमयिष्यम तद्धि च फलं पूर्तजं व्यासनिं वप्पूर्णस्य भक्तिः नियंतं गोमयिः घनालयम्। - When circumference is multiplied with diameter and that result divided by 4, that will give the area of a circle. This when multiplied with 4 gives the surface area of the globe which is like surface of a ball. This when multiplied with diameter and divided by 6 gives the volume of the sphere of globe. Mathematically it can be written as 2Or x 2r/4 =Or^2 - BHASKARACHARYA II - LILAVATI - 1114 AD

NEWTON GAUSS (1670AD) BACKWARD INTERPOLATION DISCOVERED BY VATESWARACHARYA: घनुपात भुर्त जीवपाते नल्यं सर्पंक दलितम्। लवण्यम् विचरत्िं च संशोभ्यम् नियोभ्यं बिकल्यम्। - In modern mathematical form this interpolation formula can be written as f(x)=f(xi)+{(x-xi)1/h Df(xi-h) + (x-xi)1/h. (x-xi+h)1/h. D^2f(xi-h)}/2 - VATESWARA VATESWARA SIDDHANTHA - 204 AD
ARC AND CHORD: स्वतंत्रान्चणाघडनशङ्काभागातो विस्तार्कृतिर्वकर्णितम्। शिर्ताषप्पिमिशिल्यिनि भवेत् तत्भुतोऽन्यकाणुः। सक्तानन्दः।। - The chord of an arc of a circle is obtained from the result of the cube of the length of the arc divided by six times the cube of radius and subtracted from the arc. This can be mathematically presented as follows: Chord (R Sin e q) = s - (s³ / 6r³). Here length of the arc s is in angular dimensions, r is the radius and q is the angle of the arc. - PUTHUMANA SOMAYAJI - KARANA PADDHATHI - 1450 AD परिधि: बहुभाग्या विस्त्रंमाने सा तुल्या।। - The chord of one sixth of circumference is equal to the radius of that circle. - ARYABHATT A-I - ARYABHATEYA 499 AD

LENGTH OF ARC - CHORD: व्यासावियात्तुतमवरिक्या विभतो जीवाधिग्रिस्वमगितः। परिधिनिता।। लब्धिनिता। परिधिर्वर्त । चतुर्भागादर्ते उद्विंदितात् पत्तियितः। स्तान्।। - One fourth of five times the chord multiplied with square of circumference divided by four times the diameter added with the chord. This value is subtracted from one fourth of the square of circumference. Square root of this is taken and subtracted from half of the circumference to get the arc. ARC AND ARROW: ज्यामितिसमीक्षणतरंगमूला ज्यामितिसमीक्षण वर्तलो शर: स्तान्।। ज्यामितिसमीक्षण चयनित चूः। - When the sum and differences of diameter and the chord are multiplied, and their square root is taken and if half of that is subtracted from the diameter, the arrow is obtained. The difference of diameter and the arrow multiplied with the arrow, twice the square root of that value gives the chord. The square of half the chord divided by arrow and added with arrow gives the diameter of the circle. - BHASKARA II - LILAVATI 1114 AD

NEWTON'S INFINITE GP CONVERGENT SERIES DISCOVERED BY NILAKANTA SOMAYAJI: एवं यस्तुनन्द्वेद परमभाग परस्परीया अतन्ताया अधि संघोः। तत्व अतन्ताया अधि कल्याणाय स्योभवत्या आवश्यकः। परस्परस्म्ईदृश्यं एकोनयेवादं दायां सर्वास्त्राय समां पूव...... - Thus the sum of an infinite series, whose later terms (after the first) are got by diminishing the preceding or by the same divisor, is always equal to the first term divided by one less than the common mutual divisor. - NILKANTA_ARYABHATEYA_BHASHAYA 1444

SINE, COSINE, RADIUS AND ARC: अन्वतीप्रकोटितिपोरिणित पूण्यतिस्मातियपूवं वतयोः। योगविषयो व्यासावियात्तुतमगिणकायाविविधपुणम्योगिणी।। - The sum of the products
of Sin A and Cos B and when angles are exchanged, Sin B and Cos A, gives the Sin of the sum of the angles. Similarly the difference of the above gives the value of the sin of angular difference. Sin (A+B) = Sin A Cos B + Cos A Sin B And Sin (A-B) = Sin A Cos B - Cos A Sin B.

- Square root, of the square of a chord (R sin q) diminished from squares of radius gives the koti (R cos q). This subtracted from radius gives the (small) arrow of arc. This added to radius is big arrow of the arc...... - PUTHUMAN.SOMAYAJI - KARANA.PADDHATI 1450

TAYLOR (1685 AD) SERIES OF SINE AND COSINE DISCOVERED BY NILAKANTA : इतस्तदः कोटि धनुषोऽऽसमीपसपीत्रव ज्योध्वे साप्तवेष्या न्याय कुर्याद् उनाधिकृत धनुः: हिष्णु तल्लिपक्ककोक शरस्वल शिखीनश्यः: न्यायाधेयाद्यो चविभावतंकर विचित्रत्वा विचित्राक्षाप्रवृत्त्यात् न्यायाधेयाद्यो ज्योध्वेष्या न्यायाधेयाद्यो अन्तवथा जय तां हिष्णु तथा।स्यां इति सक्त्रृतः संत तेक क्षत संकारे स्वर्णो प्रणामात्थः - Placing the sine and cosine chords nearest to the arc, whose sine and cosine chords are required, get the arc difference to be subtracted or added. For making the correction, 13,751 should be divided by twice the arc difference in minutes and the quotient is to be placed as the divisor, divide the one (sine or cosine) by this divisor and add to or subtract from the other (cosine or sine) according as the arc difference is to be added or subtracted. Double this result and do as before. Add or subtract the result to or from the first sine or cosine to get the desired sine or cosine chords. - NILAKANTA - TANTRA SANGRAHA 1444 AD

NEWTON GAUSS (1670) INTERPOLATION FORMULA DISCOVERED BY GOVINDASWAMI : गणितात्त्विक गुणान्त्वर बपुष्ठीत्विन्याय दिब्रासनाच्छ दास्यास समूकार्वकृतिग्रामत्तु त्विमस्तात्तिक वेदैशिवमांग्रिजा अवालम्ब अन्त्यगुणणे शास्त्रयोः: क्रमात्यो अन्त्ययेः: गतिव्राहक वर्तमानगुणमायापात्य एकादिष्ठि। अन्त्ययेः उत्क्रम: क्रमात्येः: दृष्टिकोणमांग्रिजा: बिमेभिष्कम्बिताया यदि मौदिकाकिम्बिर अर्थ माझाय: क्रमात्य मूल्यां शृंगारयत्वेऽनुवृत्ताभक्षणत्तलः - Mathematically this formula is summarised as follows: \( F(x + nh) = D(f(x)) + nf(x) + \frac{1}{2}n(n-1)(D^2f(x) - Df(x-h)) \) Multiply the difference of the last and the current sine differences by the square of the elemental arc and further multiply by three. Now divide the result so obtained by four in the first rasi, or by six in the second rasi. The final
result thus obtained should be added to the portion of the current sine difference (got by linear proportion). In the last rasi, multiply the linearly promotional part of the current sine differences by the remaining part of the elemental arc and divide by the elemental arc. Now, divide the result by the odd numbers according to the current sine difference, when counted from the end in the reverse order. Add the final result thus obtained to the portion of the current sine difference. These are the rules for computing true sine differences for sines. In the case of versed sines, apply the rules in the reverse order and the above corrections are to be subtracted from the respective differences.

GOVINDASWAMI - COMMENTARY FOR MAHABHASKAREYA 800 AD

NEWTON’S (1660 AD) POWER SERIES DISCOVERED BY SOMAYAJI: निहन्याचापवर्गणाचापंततत्त्वकलाणिवर्हेरेत् समुद्धयुप्तस्तिनयवर्गस्यहि: क्रमांकचापंतत्त्वकलाणिवाण्योत्पन्नपरित्यजेतूँजीवापूर्व, संग्रहोऽस्त्वयेवविष्णुच्चत्त्वयद्विनिदाकृत: निहन्याचापवर्गणरुपंततत्त्वकलाणिवर्हेदूऽविंस्ययुप्तस्तिनयवर्गस्यहि: क्रमांकः क्रमश्योत्पन्नपरित्यजेतूः शरापूर्व, संग्रहोऽस्त्वयेवस्तेत्स्तीत्यायद्विनिदाकृतः

Multiply repeatedly the arc by its square and divide by the square of even numbers increased by that number and then multiplied by the square of radius. Place the arc and result one below the other and subtract each from what is above it. To derive the arc, which are collected, beginning with the expression Vidvan (katapayadi number). Multiply repeatedly, the unit measurement which is the radius, by the square of the arc and divide by the square of even numbers decreased by that number and then multiplied by the square of radius; the first is, however, to be divided by twice the radius. Place the results one below the other and subtract each from the one above it. That is the method to derive the saras, which are collected in the beginning with stena.

(This equation is now known as Newton power series.) - PUTHUMANA SOMAYAJI - KARANAPADDDHATI (1450 AD)

VOLUMES OF CONES: समख्यात्कल्पयथः सूचीबाहे कल्प भवति। - The one third of the volume of the uniform cylinder is the volume of the cone.

-
Friend, the food grains are kept at a circumference of 30 cubit in the floor, outside corner of the room, inside corner and side of the wall. Find out the volume of the grain if the height is 45 cubit. - BHASKARA II
LILAVATI 1114 AD

LHUILER’S (1782 AD) FORMULA DISCOVERED BY SOMAYAJI -
The three sums of the product of sides, taken two at a time are to be multiplied together and divided by the product of the sums of the sides taken three at a time and diminished by the fourth. If a circle is drawn with the square root of this quantity as radius, the whole quadrilateral will be situated inside it. - PARAMESWARA COMMENTARY FOR LILAVATI (1360 AD)

GREGORY’S (1632 AD) SERIES FOR INVERSE TANGENT DISCOVERED BY MADHAVA CHARYA

Multiplied by the square of the jya and divide the square by the koti. Thus we obtain a second result a sequence of the further results by repeatedly multiply by the square of the jya and dividing by the square of the koti. Divide the terms of the sequence in order by the odd numbers 1, 3, 5, ...; after this, add all the odd terms and subtract from them all the even terms (without disturbing the order of the terms). Thus is obtained the dhanus whose two elements are the given jya and koti. (Here the smaller of the two elements should be taken as the jya, since other wise the series obtained will be non finite) (use of Tangent) - MADHAVA YUKTI BHASHA? (1350 AD)

LEBNITZ (1673 AD) POWER SERIES DISCOVERED BY SOMAYAJI: 
- Multiply the diameter by 4. Subtract from it and add to it alternately the quotients obtained by dividing
four times the diameters by the odd integers 3, 5, 7,.... This will give the fine value of the circumference i.e $\frac{22}{7} = 1\frac{1}{7} + 1\frac{1}{5} - \ldots$ - PUTHUMANA SOMAYAJI

KARANAPADDHATI (1440 AD)

DE MOIVRE’S (1650 AD) APPROXIMATION DISCOVERED BY MADHAVA CHARYA: जस्मातः सूक्ष्मतरोऽन्यः विलिख्यते कथनानि संस्कार: अतै सम संख्याल्पसैको पूर्ण स एव पुनः। युगुगुणितो सूपुनः: समसंख्याल्परूपेयो भवेदूर हार: त्रिशायारविषयं संख्या दर्षात् परं पुत्र पवना कार्यम्। A correction for circumference still more precise is being stated here. The multiplier is the square of half the even integer increased by unity. This multiplier multiplied by 4, then increased by unity and then multiplied by half the even integer is the divisor. This correction may be applied after the division by odd integers, 3, 5, etc. i.e. Circumference = $4D (1 - 1/3 + 1/5 - 1/7 + \ldots - 1/n(\frac{1}{2}n+1)^2 + 1, (((\frac{1}{2}n+1)^2 \times 4 + 1) (\frac{1}{2}n+1))$ - MADHAVA KRIYA KRAMAKARI (1350 AD)

DE MOIVRE’S (1650 AD) APPROXIMATION: युक्तीयानी लेख नरमणे कृते नववत्ताहितस्तु जामभित्ता

तस्या ऊँचायास्मासंख्या तदं गुणे लेख स्या तर्ग्गतपातो हारो व्यासबायातः प्रथमतः

तस्यां जापं स्मृत्युणे कृते धने शीघ्रनावत करणीयं सूचन: परिधिः सा त्यां बहुकृत्यो हरणोऽवतीसुभाषाचार - ........ Let the process stop at a certain stage, giving rise to a finite sum, multiply four times the diameter by half the even integer subsequent to the last odd integer used as divisor and then divide by the square of the integer increased by unity. The result is the correction to be added to or subtracted from finite sum. The choice of addition or subtraction is depending on sign of the last term in the sum. The final result is the circumference determined more accurately than by taking a large number of terms: - MADHAVA YUKTIBHASA? (1350 AD)

HORIZON: आवेत्तमाननम तानि दलप्रकृत्य युक्तितत्वत्व विन्यासं क्रिया कर्मादधिशुभेच्छारणा। The great circle which goes round them, dividing each of them into two equal parts, is called harija or kshitija. This in modern astronomy is horizon. This is the circle on which rising and setting of stars and planets take place towards east and west respectively. - VATESWARA SIDDHANTA (880 AD)

ASTRONOMICAL DEFINITIONS: ऊँचायानयां शरीरयां नियमितार्थ्यां प्रचुरिरिं स्मशानलक्षणं.
vertical circle passing through the west and east cardinal points is the first circle: this is called the samamandala. (This circle is the prime vertical. Another similar vertical circle (called the yaamyottara-vrutta) which passes through the north and south cardinal points is called the meridian.

- Vateswara
- Vateswara Siddhanta 880 AD

Tycho Brahe Reduction of Ecliptic Discovered by Achyuta Pisharoti: Pataanastha vidyosthu, kotipunyatryojnabhi mitrasthadhet, antrathram bharatham, vahamanu vidhyakotadrayarthe. Nabhy vyasanadhartham hamsakore vamrthami vidhgu yugamayugmadhipagane vidhyayadibhiti bhagolanu sahake
tii. - Multiply the tabular cosine and sine of the moon minus node and the product by the tabular versine of the maximum latitude of the moon. Divide this by the tabular cosine of the latitude at the particular moment and the quotient is to be divided again by the tabular radius. The result is to be added to or subtracted from the moon's longitude, as the moon minus node is in an even or an odd quadrant, respectively. The true moon measured on the ecliptic is thus obtained.

- Achyuta Pisharoti Sphutanirnaya

Equator: Khadubhaktavar daksinatma ashmayi pata(l) sambhavich thatholarena. Nabhakhartvar vaishvam vahuch bhalanu mangalum vyachalabhy.

- The sphere of the asterisms lie within the sphere of the sky. Great circle of the sphere of asterisms which lies towards the south of the zenith by an amount equal to the degrees of local latitude and towards the north of nadir by the same amount and which is graduated with the division of nadis is the vishuvathvruitta. This circle is called the equator.

6 O’Clock Circle: Purva parashrasthrangartha samyagdha, ghantakarunthi sthalapari sambhasvaran sambhagunamabhan dinahisho: kshaphidikrant.

- Passing through the two points of intersection of prime vertical and horizon, lying below the south cardinal point by the degrees of local latitude, fastened to the horizon, and lying above the north cardinal point, passing through the north celestial pole, is the Unmandala, the cause of decrease and increase of the day and night. (This in modern astronomy is known as the 6’o clock circle.)

Circle of Diurnal Motion: Harinjapapurva prarabdha varunavishcekshajnini. Udavyagunaha bhooma bhuta yugavakranabharadrapyajnave.

- R’ sine of the arc of the horizon lying between the prime vertical and the diurnal circle of the planet is the R’ sine of agra (now known as the rising point of the planet) and the R’ sine of the degrees of diurnal circle lying between six o’clock circle and the horizon is bhoojiya (bhujya) which is termed as Earthsin. Day Radius: Karna Hariya gakhana, hariya gakhana, bhoojiya slok.

Siddhanta 100
Day radius is equal to the square root of the difference obtained by subtracting the squares of R sine of the declination from the square of the radius or the square root of the product of the difference and the sum of the radius and the R sine of the declination. ECLIPTIC:

Fastened to the so-called nadivrupta or the equator at the points of Aries and Libra and lying 24 degrees of the south (of equator) at the first point of Capricorn and 24 degrees to the north (of equator) at the first point of Cancer, there is a great circle called the apakrāmavruṭa (now known as the ecliptic). - VATESWARA SIDDHANTA 880 AD

DAY DIAMETER: निधृत्यव्रुत्याख्या न वायुमार्गवच्चोपख्यानमहिमवच्चानि। क्षतिक्रिया
क्रत्त्वोरत्तपरं दिक्षुन दिनव्रासः। - Square the sine of latitude and deduct from the square of the radius. Its square root is the sine of the co-latitude (its arc being the co-latitude). Square the sine of the declination deduct from the square of the radius and find its root. Twice the result is the day diameter. - PANCHASIDDHANTIKAKA 4.23 - VARAHA MIHIRA 505 AD

SETTING POINT OF ECLIPTIC: प्राच्याक्रुङ्गाप्रक्कृतस्थः ग्राणासाहूः: (परितलिध्यां
लग्नाति) (सा रासा) शि (र) सत्या (स) काले श्युदयो श्यं
मूर्त्तिः। - Point of intersection of horizon and the ecliptic in the eastern half of the celestial sphere is called pragnalagna. I.e. the rising point of ecliptic; the same in the western half is called astalagna, known as setting point of ecliptic. RISING:

SETTING LINE: अवार्याक्रृत्यां तिररणेनयोः स्वार्थराघर्षी व त्तर्पृथ्योत्सात्। ग्रामाभोर्यवः
हिर्जे निशुं सूत्रं प्रधानांवद्यात्संस्थात्। - The arcual distance between the six o’clock circle and the horizon measure, along the R circle trijyavrutta known as great circle of the celestial sphere, supposed to be of radius 3438’ (minute of angle) is the charardhajya. It is called the R sine of the Ascensional difference. A thread tied to the extremities of the agra on the eastern and western halves of the horizon is called the udayaastasutra. (In modern astronomy it is known as the rising – setting line of planets). - VATESWARA SIDDHANTA 880 AD

DAY RADIUS AND EARTHSINE: क्षतिक्रियारत्तस्य व्युः व चरदल जीवना हृता
निधृत्याख्या जीवना स्वार्थराघर्षी वाः। - R sine of the difference between the three signs and the declination is also equal to the day radius. Day radius multiplied by earthsine and divided by the R sine of the Ascensional difference gives the day radius. SUN’S PRIME VERTICAL: उध्यामोऽफ़चर तुर्भिकाय प्राहरिते
समस्मृतमः। तद्विद्यात्तरधिकविनीत्वं व्युःविभासोपी तद्वत। - Vertical circle passing through the west and east cardinal points is the first circle called.
PARALLAX-I : तिदर्थेन्तय क्रमशिनिनी हिता खमध्यलागप्रभवेन शह्कुना।
कमाण्डकानेलियाद्रकत्रे हिलमने स्याद घटिकाय का फलम। । - R sine of the hour angle at the amavasya multiplied by R sine of the altitude of the meridian ecliptic point and divided by 2954961 gives the parallax in ghatikas at mid eclipse.
PARALLAX-II : तिदर्थेन्तय कल्यकार्य हता विनिमयुक्तः क्रमस्वतः क्रमस्वतः विनिमयुक्तः क्रमस्वतः
शराक्षेरक्षितान्ता लम्बनानिक्षिता फलम। - Radius and the valanajya when divided by 5, are converted into angulas. The R sine of driggati multiplied by 2 and divided by 75 gives ghatika of the parallax in longitude. । PARALLAX-III :
नत्रमयाम्यावशकुनिन्ता ख्यालमान्तन तत्त्वसंवेश्युधा इत्येक्षे भूमत्तत्तयेश्य घातः
ख्यालमान्तनप्रति नात: स्याद। - R sine of the hour angle multiplied by Rsine of altitude of the meridian ecliptic point and divided by 5625 gives parallax in longitude. The Difference of true motions of the Sun and the moon multiplied by the Rsine of driksheta and divided by 2250 gives the parallax in latitude. (Sishyadhi vrddhi Tantra 13-12)

APOGEE, PERIGEE AND ORBIT OF EARTH:
स्योच्चातः परंगामावशधिको यदि तद्भवति यथायम्य: । दूराण्यचाच उद्भवः कर्त्तव्यालानाय चोकते।।
- When a planet is at a distance of 5 signs from its apogee, it is said to be at the perigee or neecha. When a planet is at the apogee, it is farthest from the earth when at the perigee, it is nearest to the earth. This is so because of the length of the hypotenuse in each case (Sishyadhi vrddhi Tantra 14-10)

SHAPE OF EARTH:
गणमन्रावत्तानन्तनमुष्मात्र महाबूमुत्तप्पत: ख्यातः । कृत्तिराष्टोन्ययो भग्नजान्तचतुष्य
भूमोऽ।। - Spherical earth, made of ether, fire, air, water and clay (Panchabhoothas) and thus have all the properties of the five elements, surrounded by the orbits and extending up to the sphere of stars, remain in the space प्रगुणः परिपृथ: तत्त्वगतः
गणितला: कृत्तितं कृत्तितं। प्रतिभाति तथा समा मही विचाये वद्र तद्भव गमये।।
- Mathematicians say that one hundredth of the circumference of the earth appears to be plane. So, that portion of the earth appears to be plane to an observer (Sishyadhi vrddhi Tantra 20-35)

LALLACHARYA_SISHYADHI VRUDDHI TANTRA 700 AD

ROTATION OF EARTH - I: प्राकृतिक कल्य धूपिद्व तहि तु तुमो ब्रहे कर्मद्यानस्य आवर्तन
मुष्मात्रल्यो पालि समुद्युध्य: कृत्तितं।।
If earth rotates at a speed of 1 of an angle in 4 seconds, will not the things on the loft fall? Where does the earth go in this speed? (Brahmasphuta siddhanta 11-17).

BRAHMAGUPTA_BRAHMASPHUTA SIDDHANTA 629 AD

FOUR QUADRANTS OF EARTH: उद्धये यो लहः लक्षायां सोऽस्तमयः सकिन्तु तेजध्वनिः
सम्भव्यो यथोक्तया सोऽसस्तमायः परिश्रात्म स्यात्।।
- When it is Sunrise in Lanka,
the same Sun sets in Siddhapura. (Gautimaala). It is noon in Yavakoti (Korea) and midnight in Romaka (Rome) (Aryabhateeyam 4-13) - ARYABHATA-1 (499 AD)

GLOBE: समवृत्तपृष्टमानं सूक्ष्मं गोलं प्रसाध्य दात्तमं स्थितार्क समाहिकतकाल भोगरेखाये परियाः। Perfectly circular throughout and spherical, made of wood, marked with degrees and minutes, incorporated with lines both longitude and latitude at ends, is the golayantra. (Panchasiddhantika 14-23) - VARAHAMIHRA PANCHASIDDHANTIKA (505 AD) काठमयं समवृत्त समन्तं: समगुर्ध लघुं गोलं पारदत्तलस्तं भ्रमयेत् स्वधिया च कालसमं। Made of wood, fully circular, uniform, equally dense throughout and spherical shaped golayantra, which rotates at a fixed rate of time as the earth does by the help of mercury, oil and water, by the application of our intelligent calculation, is the golayantra-Globe. - नृपियोजनं, बिला भूवासो .......... - 8000 Nr units is equal to one yojana. The diameter of earth is 1050 yojana. ROTATION OF EARTH - II: कु ति शि बु ण्डः पृथ्वी प्राक् ..... Eastward rotations of the earth in one Yuga is 1582237500 अनुलोम गतिनैयत: पश्चिंतिलक मलोमणं यत्रः। अध्यानि चाहिम तत्रत् समसंयमणानि लक्ष्यायः। Just as a man in a boat moving forward sees the stationary objects as moving backward, so are the stationary stars and celestial bodies seen by the people at equator (Lanka) as moving exactly towards west. .....कु जावतार्थापि नासनः। The rotation of the earth is the cause of days (Aryabhateeyam 3-5). - ARYABHATA-1 ARYABHATEEYA (499 AD)

MERIDIAN: लक्ष्यायामेंकं शाड़ुकोलं प्रतिष्ठाय तैैैंकं सूक्ष्मं पुनर्करोपरित तदग्रह्यं यथा यथा दृष्टंतः तत्रत् भूमिकाय शिरिढः। लक्ष्यात: यत्रपुरुष: मेकमस्तकाक वागहृत्य शिरिता सा पुनर्कर-देशान्तरिविद्याधिनी स्थातः। Fix a pole in Lanka, tie thread on that, take the other end to the North pole, tie it there also, then one can see the line of the thread passing through Lanka, Kharapuri, Arctic point and so many other countries upto the top of Meru. This is international meridian line (Sankaranarayanas on Laghubhaskareeya I-23) - SANKARANARAYANA-LAGHUBHASKAREEYA (950 AD)

GRAVITY: आकृतिशिल्पितश्च मही तथा यत्त्र खस्त्वं गुरू स्थायिमुखं स्वशक्त्य। आकृत्यते तत्पत्तात्त्व भावः सम्भवत्त त्व पत्तनेन खस्त्व। This earth attracts whatever solid materials are in the space, by her own force of attraction towards her (earth). All those subjected to this attractive force fall, to the earth. Due to equal force of attraction among the celestial bodies, where can each among them fall? (Siddhanta siromani Bhuvanakosham 6) - BHASKARA II SIDDHANTA SIROMANY (1114 AD)

MERIDIAN AND TIME: देशान्तरविद्याधिनी मध्या भूविद्याधिनीर्विरिणं पद्या भवत्तमूर्तं
The time is calculated based on the meridian. Divide the time by 60... and the longitude is calculated. Towards the east subtract and towards the west add the number (Laghubhaskareeyam 1-31) - **BHASKARA I**

**LAGHUBHASKAREEYA (628 AD)**

**MERIDIAN AND TIME:** पञ्चाशता त्रिभुजसंग्रहसंयुतायां च संयोजनेत्र चाकुर्ये। सम्पूर्ण पञ्चिमत्रिंगिनयो शेष्या च देवा च।।

One nadi for every 53 1/3 yojanas has to be deducted or added (to Ujjaini) by the people in places east and west, respectively, of the Ujjaini meridian. (Panchasiddhantaka 9-10) - **VARAHAMHIIRA**

**PANCHASIDDHANTAKA (605 AD)**

**ECLIPSE-I:** किमस्यंसुराक्षिन शिक्ष्यायो रात्रीचां च प्रक्षा इतिकृतयो। सप्त पौराणिक श्रुतिरेष्व। क: पुनरिमेव राहुयुस्थित्वाऽतु।।

What does it mean that Asura is responsible for the eclipse? Others say that a snake Rahu swallows the Sun and the Moon! Those are puranic stories! Then what is called the Rahu?

- **SANKARANARAYANA COMMENTRAY TO LAGHUBHASKAREEYA (950 AD)**

**ECLIPSE-II:** जो एवं भोजयाय चन्द्रावहस्ययं कारणम् - That is why it is said that the shadow of the earth is the cause for the lunar eclipse.

- **SANKARANARAYANA COMMENTRAY TO LAGHUBHASKAREEYA (950 AD)**

अतुरु यदि मायाय युतो नियतो तत्तितिसतवते तेन मतम्। गणितेन कर्थ स लघ्यते

प्रहक्कंद्वन मिना कथित्यं।।

- If you are of the opinion that an artificial demon is always the cause of an eclipse by swallowing, then how is it that an eclipse can be determined by means of calculations. Moreover why is then not an eclipse occur on a day other than the day of new or full moon - **LALLACHARYA SISHYADHI VRUDDHI TANTRA 700 AD**
Indian Customs and Rituals - aachaaras are the foundation stones of Hindu dharma. Thousands of literature, thousands of Subjects, thousands of Rishis composed these during last many thousand years. That is Hindu Dharma. They are explained here. Five levels of spirituality starting from idol worship to worship of the universe and the omnipotent omni present divine power. Learn atleast a few points from the above and tech others. Indian Scientific heritage quotations also included in this book.