Module - 2

Vedangas:

- They are a collection of supplementary disciplines related to the study of vedas these limbs of vedas are called vedangas.
- It serves and support the enhancing role in study preserve and defense of veda and vedic traditions
- It includes :

Veda

Shruthi
- Samhita
- Brahmana
- Aranyaka
- Upanishads

Smriti (6 limbs)
1) Siksha
2) Chhanda
3) Vyakarana
4) Niruklā
5) Jyotisha
6) kalpa

The 6 limbs of vedas — 6 vedangas based on smriti literature :

1) Siksha — Phonetics
2) Chhanda - meter
3) Vyakarana - grammar
4) Nirukta - etymology
5) Jyothisha (astronomy / astrology)
6) Kalpa (rituals)

⇒ They are the fundamental & integral element of traditional vedic education system.

Importance of vedangas

⇒ Vedangas preserve integrity and holiness of the vedic tradition by providing eductation of vedas.

⇒ They provede system which gives how to recite the vedic hymns, comprehend their significance, and provide ~~produ~~ procedures for performing rituals & ceremonies

⇒ It ~~gives~~ educate the sense of discipline and respect for tradition.

⇒ As per ancient author Kalidasa and kalhana - vedanga contribute a great role in language sanskrit by accepting it as dominant language of ancient communication

⇒ Buddism and Jainism also incorporated sanskrit as primary language of communication and also in the education system due to vedangas.

⇒ vedangas given importance for the study of Buddism & Buddist literature for preserving tradition, by regions like Jaepan, china, Vietnam, Thailand, Malaysia, Tibet etc.

⇒ vedangas have significant importantce in devotional worship, agama - temple traditions, understanding & development of human language & linguistics & socio-religious aspects

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1) **Siksha** : Its the study of words, & syllable pronunciation with proper intonation, conjuction (sandhi) - vowels and disjunction (vichcheda) - consonants & syllables.

⇒ It provides procedure on recitation of vedic hymns,

producing sound vibrations, maintaining the execution of the rites & ritual, education on art & science words & syllables.

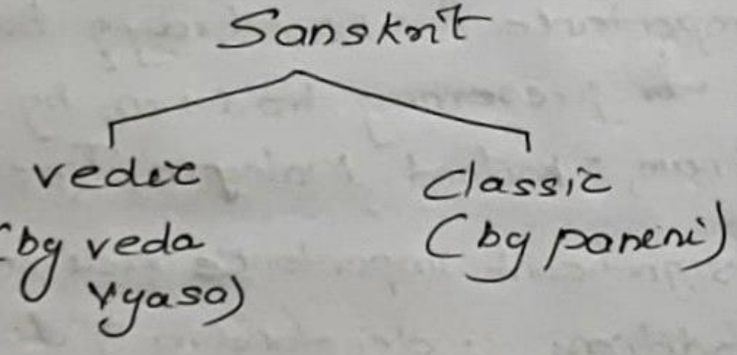
⇒ scriptures provide sanskrit syllable in the form of God as Akshara Brahman - who leads to mortal for dharma and welfare of ~~not~~ world.

⇒ siksha is developed as study to preserve the integrity & purity of the divine words & chantings & save dharma

⇒ Teaching of siksha based on prehistoric literature is called Pratisakyas - which is also called Parsada which means vedic era manual

⇒ Pratisakya gives a precision & consistent pronunciation of word technique which is tied to a specific samhita called Taittriya Samhita which gives guidlines for reciting the hymns.

⇒



Panini → Creator of sanskrit in 4th century BC
⇒ Father of linguistic and composition of panini is called → Asthadyaya = which is an 8 chapters literature book on the language sanskrit during shunga dynasty.

⇒ Before Panini - many grammarians like Saunaka who created saunaka samhitha which is mention in Atharva veda, had also contributed in pratisakhyas

⇒ siksha was the reason which is associated with verbal communication by establishing the fundamentals & rules of proper pronouncation

⇒ Apart from paninya siksha, siksha include Shiksha valli from taittiriya samhitha & Aitereya Aranyaka upanishad

⇒ they give the phonetic aspects of veda chanting, proper pronounciation of veda mantra; clear transmission of sacred knowledge by oral recitation tradition to the generations.

⇒ Panini Sikhsha ⇒ contributes on phonetics, pronouning and accentuation

⇒ Set foundation on proper intonation sounds, rendering precision of vedic hymns and rituals

Shiksha valli ⇒ gives knowledge of vedic phonetics to vedic students emphasizing the sacredness of accurate sound intoning.

Aithareya Aranyaka ⇒ focus on vedic phonetics as an integral part of vedic rituals and meditation

⇒ vedic students spend years repeating mantras and calming the Pratisakhya for not taking ansk of imperfection in customs & rituals due to lack of skill.

2) Chhanda :- Considered as feet of veda purusha

⇒ Its based on meter style used in composition of various vedic hymns. ~~done~~

⇒ Pingalanaga's Chhandashastra is the oldest text written during 15th or 16th BC. century which divide meter base on :

1) syllabic verse → called aksaravritta
2) syllabo quantitative verse ⇒ varnavritta
3) quantitative verse → matravritta.

→ The meter unit is called pada (which means foot) in sanskrit which have 8, or 12 or more syllables used in hymns. (eg of syllables = ':' (अः), '.' (अं), 'υ' (अऽ), '—' अ and more)

⇒ here the pada is divided based of number of syllables to

Pada
- Laghu pada (lighter number)
- Guru pada (heavier number)

eg: major ancient meter in sanskrit

1) Gayatri – 7th chapter of rig veda → 24 syllables (3 verses × 8 syllables)
2) Tristubh – kavya / drama play part of mahabarath ⇒ 44 syllables (4 verses × 11 syllables)
3) Jagathi – 1st chapter in rig veda = 48 syllables (4 verses × 12 syllables)

⇒ Chhandashastra which is in Smriti literature had a role in Indian music, sanskrit poetry and many other language composition

⇒ Beside Pingala's Chhandasutra → another important contribution by kedara Bhatta — (Vrittaratnakara) which a very famous poetic meter and art of composing verses in sanskrit.

⇒ Chandomanjari → by shambhudeva ⇒ provided importance of prosody & poetic expression, offering value in dept of indian poetry.

- Chhanda sutra — by Pingala → principles of prosody
  - Classify vedic meters
  - Rules for poetic composition
- Vrittaratnakara — by kedar bhatta — art of creating different types of verses.
  - aesthetics of poetic expression
- chhandomanjari — by shambhudeva — expand poetic meter
  - provide knowledge for aspiring poets & scholars.

3) Vyakarana :- It focus on Sanskrit grammar that includes word analysis & breakdown, word roots, word formation & sentence patterns. It helps readers to grasp languge. Its the mouth of veda purusha

- Ashtadhyayi of panini prevales the traditions & conserving them for futures generation. It contains 4000 sutras which is the relevant part of sanskrit grammer

→ Ashtadhyayi includes sutras like - shiva sutra

shiva sutra - includes phonetics
- intonation of sound units
- characteristic part of word
- letter sounds

- It includes creation of words and phrases in the Sanskrit language. - subject of Ashtadhyayi
- Then the pada based on Ashtadhyayi is divided into

1) Dhatupada - Derived words (Roots)
2) Ganapada - Nominal words (nouns and phrases)

Thus various contribution of grammerers are:

1) 'Ashtadhyayi' - by panini - masterpiece in sanskrit grammer
- format that gives a generative grammer system
- gives all valid combination of sanskrit words

2) "Katantra Vyakarana" - by katyayana.
- additional insights in to grammer
- complimenting to panini's work

3) "Vaiyakaran siddhanta kaumudi" - Bhattoji Dikshita & "Siddhanta kaumudi" - Varadaraja
- explains and elaborate the panini's sutra
- it simplifies and make more accessible to the coming generation of vedic students.

4) Nirukta: Its the study of origin of words and interpretation & explanation of difficult words. Its ears of veda purusha

- It gives the history of linguistic and explain the hard words in vedas - challenging words in dictionaries gives an analysis of essential studies to be done and various comprehensions of veda.

→ Yaksha - the famous grammarian before panini, who represented the field Nirukta with is great contribution found named Nighantu (= meaning dictionary in sanskrit)

⇒ This field deals with
- interpretation & study of difficult sanskrit word
- ~~gives~~ perceptions given in to the vedas
- hidden meaning of the vedas
- linguistic and philosophical significance of vedic language.

[eg: heat → came from middle english - (hete) → → came from German word → hitze → means hot]

⇒ Ancient scholars contributed in ~~this~~ this ~~primary~~ text on etymology called Nirukta

1) Yaksha - primary text on etymology
- it explains the meanings & roots of vedic words
- it aids in understanding of vedic texts with difficult words.

2) Katyayana & Sakatayana - expansion of yaksha work

→ It gives further insights into the origins and interpretation of words.

3) Amara Kosha – by Amara simha – enrich the study of etymology
– its a detailed ~~text~~ vocabulary of sanskrit words.

5) Jyothisha : It focus on the celestial and astrological aspects where auspicious data & time is chosen for rituals, ceremonies & sacrement

⇒ Auspicious hour is based on the location of the luminous bodies such as sun, moon, stars & other celestial bodies.

⇒ Sage Bhrigu : – first astronomer who compile a database of every person who will ever be born on Earth.

Important Ancient Indian works on Astronomy

1) Jyotrsha vedangas – by maharshi Lagadha (400 BC)
– its called as eye of veda purusha – organ of sight
– It conveys rules to calculate & fix the time for vedic sacrifies.

2) Siddhanta (surya siddhanta) – by a Hindu Astronomer – Phaindralal Gangooly

Romaka Siddhanta
Paulisa "
Vasistha "
Pitamaha "

– It give accurate prediction of planetary movements, calculate eclipse & measuring time.

3) Panchasiddhantika :- by varahamihira - 6th century (Indian astronomer & mathematician)
- It includes detailed tables and diagrams to illustrate the principles of Indian Astronomy.
- It covers planetary motion, eclipses, and celestial phenomena
- Its a valuable resource for scholars of Indian Astronomy and mathematics
- part of the knowledge base of civilization

4) Aryabhatiya - by Aryabatta (600 AD) - 5th century Indian mathematician
- discovered pi value.

चतुरधिकम् शतम्, अष्टगुणम् द्वाषष्टि तथा
(4 + 100) = 104 × 8 = 832 & 62
सहस्राणाम् अयुत द्वय विष्कम्भस्य आसन्नः वृत्त (circle)
× 1000 = 62000; 10000 × 2 = 20000 Diameter approx
(fold)

परिणाह (circumference)

∴ circumference for a circle = πD

$$\Rightarrow \frac{(100+4)\times 8 + (62\times 1000)}{(2\times 10000)} = \frac{832 + 62000}{20000} \Rightarrow \frac{\text{circumference}}{\text{Diameter}}$$

$$\therefore \frac{\text{circumference}}{\text{Diameter}} = \frac{62832}{20000} = 3.14 \rightarrow \pi \text{ value}$$

- It suggest the earth rotates on its axis daily
- mathematical parts covered arithmetic, algebra, plane trignometry & spherical trignometry.
- thus it gives the theory of spinning of earth and the periods of planet counted through the sun.

5) Brahmagupta — books – Brahmasphuta siddhanta (628 AD)
– khandakhadyaka – (665 AD)

- He discovered the moon is closer to earth than the sun and methods for calculating position of celestial bodies, rise & set times & prediction of lunar & solar eclipses.
- He defined "zero" in 7th century → it was called shunya in sanskrit means empty and used zero in arithmetic & algebric system of maths
- He developed a formula to solve quadratic equation which was known as Brahmagupta formula.
- He was the 1st mathematician to give formula for the are of a cyclic quadrilateral.

⇒ Jyothisha plays significant role in creating vedic calendar, astrological charts, for performing rituals & ceremonies.

- It gives significants in determination of data, time and location of sacrificial ceremonies & rituals.
- Used for determining the time of day & night, day of the week, period of seasons, month, year and study of motion of sun, moon, stars planets & other celestial bodies
- Historians believe – Knowledge of Jyothisa started from Mesopotamia, → then eggpt, then persia, & Greece by travelers → then to Islamic world when they conquered → then its transmitted to us.

6) Kalpa : ⇒ It includes the practical, ceremonial, sacrificial and ritual aspects of the Vedas

⇒ Its called arms of ~~vasta~~ veda purusha which is intended for proper application of vedic texts or vedic applied science.

⇒ kalpa sutra ⇒ ~~sutra~~ sutra is the thread / connection, & kalpa - sacred law, & rules

- Collection of sutra called kalpa sutra, includes some category of sruti literature (with Brahmanas and Aranyakas)

= sutras are strands of information used to remember the guidelines and rules carried during vedic sacrifices

= It makes all complicated vedic knowledge to simple form for transmitting easily to generations.

There are 4 types of kalpa sutras:

1) Shrauta sutras - it specifies :-
   - manners in which sacrifies and rites must be performed
   - Priests dakshina - (fee amount)
   - kind of punishment given for the breaking of laws of rituals

- Its written in 16th ~~centuries~~ century BC

2) Grihya sutras : It deals with domestic ceremonies

- since the 3 upper classes (Brahmans, kshatriya & vaisya) uphold dharma & lives with truth of vedha :-

Grihya sutras prescribe domestic rites ~~and~~, rituals, duties and responsibilities intended for them in household.

3) Dharma sutras - It deals with religious & social laws
- It discuss the code of behaviours, duties & distinct castes, standards for behaviour, marriage, academic and social behaviour for both men and women.
- It also deals with penality of violation

Few Dharmasutras from Vedic era

- Baudhāyana } Shukla Yajur Veda } Connected to Yajurveda
- Apastamba }
- Gautama — Krishna Yajurveda }
- Vashistha - connected to Rig Veda

Important Kalpasutras - law book of ancient times (1st century AD)

1) Manu smriti
2) Vishnu smriti
3) Yagnavalkya smriti
4) Narad smriti

Indian Astronomy:

⇒ It refers to Jyotisha or Vedic astrology, which has a knowledge of celestial bodies and their motions which benefit the work of ancient Indian astronomers.

⇒ To analyse the positions, motions & cycles of celestial objects, mathematical system and observational methods are used.

⇒ The timing of rites, festival and agricultural endeavors are based on observation of celestial body.

⇒ Astrology is developed based on Astronomy.

Indian Health Science:

⇒ Ayurveda is the root of ancient Indian medical system which represents Indian health science.

⇒ Ayurveda deals with a harmony of the body, mind and soul (spirit) which gives good health.

⇒ Ayurveda treatment is based on the person's prakriti (body nature), way of life, diet & environment

⇒ Ayurveda deals with streams including yoga, meditation, diet and nutrition, lifestyle suggestions, herbal medicine, detox process & therapies.

⇒ It re establish the harmony and balance in body for an optimum health.

Connection between Astronomy and Health science

- Astronomy and health science are interlinked with prehistoric India.

=) The astrological aspects & planet positions and lunar cycles effect the human body & lives which can be diagnosed while treatment. hence connected to Ayurveda.

=) In Ayurveda — Idea of 'Nakshatras' (lunar mansions) connects certain medical herbs and their curing property

eg: Bharani (2nd) Nakshatra - connected to gooseberry

Krittika (3rd) " — connected to fig (venus) shukra

Rohini (4th) " (Krishna) — Jamun

Pushya (8th — peepal - Brihaspati Guru (Jupiter)

Magha (10th) — Banyan

Planets connected to human body & chakras.

1) Saturn (Shani) — Root chakra (Muladhara) — Nose (smell) — Earth element

2) Jupiter (Guru) Brihaspati — Svadhisthana (sacral chakra) Solar Plexus — Include bladder Reproductive fluids — Water (tongue) (taste)

3) Mars Mangal — ~~Heart~~ chakra (Manipura) — Include Stomach — fire element — affect (eye sight)

4) Venus Shukra — Heart chakra (Anahata) — (Include lungs) — Air element — sense & touch

5) Mercury (Budha) — Throat chakra (Vishuddha) — space element — sound (Always hollow & empty)

6) Sun & Moon (+ve pole Ketu) — Ajna (3rd eye chakra) — Son & Holy Spirit

7) Beyond all the planets — Crown chakra (sahasra) — the Father (Creator of universe)

Ancient record on observation of celestral body motion

1) Rig Veda: - It gives several hymns which inform about the movement, feature and importance of motion of celestral body in vedic cosmology

eg: 1st text = 1:50 - explain about the daily ascent & descent of sun's (surya bhagwan) chariot

10th text - 10:85 - explains waxing and waining of moon (amavasya - poornima).

5th text - 5.40 - explains about stars as Nakshatra that is in cosmic order

Yajur veda: - Its called astronomical reference
- It explains about the rites of the sacrifice procedures
- Section of yajurveda - (Taittiriya Samhita)
- It describes the position and motion of celestral body with respect to Earth
- It gives information based on sun and moon measurements which gives direction for calculation of solar, lunar phases & eclipses.
- Though vedic books reflect the observation concept of celestral bodies, the ancient scriptures do not

provide accurate mathematical computation of astronomical models.

- 18th to later centuries - siddhantic astronomy - astronomers - Aryabhaata, Varahamihira, Brahmagupta } give siddhantic astronomy

- which gives mathematical models and computation to predict & define the positions and movements of celestial bodies

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Ancient Indian Medicine

Its traditional medical practice - naturopathy

Ayurveda - science of life
- holistic medical system gives balance between body, mind & soul.
- It includes yoga, meditation, detox techniques & food diet with herbal treatment

Various streams of Ayurveda

1) Kaya chikitsa - General medicine
2) Shalya Tantra - surgery
3) Agada Tantra - toxicology (visha chikitsa)
4) Bala Tantra - Pediatrics.
5) Rasayana - Rejuvenating treatment
6) vata-aadhi nadi chikitsa - Neurology
7) Stri Roga & Prasuti Tantra - Gynecology

8) Netra pariksha – Ophthalmology
Khaphaja Linganasha – (Cataract operation)
9) Shalakya Tantra – ENT
10) Danta shastra – Dentistry
11) Bhagna Chikitsa – Orthopedic

~~B dhoshas~~. Doshas in Ayurveda:

Doshas – They are the biogenetic forces of Ayurveda and there are 3 doshas of ayurveda:

⇒ Its a unique feature about equilibrium of bodily physiology and process with the combination of 5 elements

⇒ The imbalance in the aspects of doshas create diseases in human body hence restoring dosa give balance and harmony to maintain healthy

3 doshas are :-

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1) Vata – (Air + Space)
- Its related to air & space which governs mobility and invention of verbal exchange – talk, breath, ashma

2) Pitta – (Fire + Water)
⇒ Its in charge of metabolism, digestion and transformation
(food, eat – food habits)

3) Kapha – (soil & + water)
⇒ It offers stability, support and nutrition
= type of food – (Sathwik, rajasik, thamasik)