

ANANTAM IAS · OPTIONAL NOTES

History Optional Themes in Early Indian Cultural History

Paper 1 • Unit 12

Languages, art, philosophy and science across ancient India: 40 marks in four years, and the unit UPSC uses for the big synthesis questions.

anantamias.com

UPSC SYLLABUS

Themes in early Indian cultural history: languages and texts, major stages in the evolution of art and architecture, major philosophical thinkers and schools, ideas in science and mathematics.

How this unit is used

It is not a period but a set of themes running across the whole of Paper 1 Section A, and UPSC uses it for questions that cut across dynasties.

- Questions from this unit tend to ask about **institutions and traditions rather than events**, and the 2026 paper's question on Nalanda, Vikramashila and Vallabhi is the clearest example.
- Because it is thematic, material here **overlaps deliberately** with the Mauryan, Post-Mauryan, Gupta and Cultural Traditions units, and the same fact can serve several answers.
- Preparation should therefore be organised as **four running lists**, one each for languages and texts, art stages, philosophical schools and scientific achievements.
- The 2024 paper's question on Aryabhata, Varahamihira and Brahmagupta came from this unit, and it was answered badly by candidates who knew the names but not the specific contributions.
- Specificity is the whole game here, since a question naming three mathematicians expects **named works, named theorems and dates**, not general praise for Indian science.
- Chronological range runs from the Vedas to about the twelfth century, so this unit is where the ancient section is tied together.
- The examiner's underlying interest is **transmission**, meaning how ideas moved between India, Central Asia, China, the Islamic world and Europe, and framing answers around transmission scores well.

Languages and their literatures

Four language families and several literary traditions. The sequence of Prakrit displacing Sanskrit and then Sanskrit returning is the analytical thread.

- **Indo-Aryan** developed through Vedic Sanskrit, classical Sanskrit codified by **Panini's Ashtadhyayi**, the Prakrits, and finally Apabhramsa as the bridge to the modern north Indian languages.
- **Dravidian** languages are independent in origin, with Tamil the oldest attested through **Sangam literature** and the grammatical treatise **Tolkappiyam**.
- **Pali** carried the Theravada Buddhist canon, the Tipitaka, and Ardhamagadhi carried the Jain Agamas, so both heterodox traditions deliberately rejected Sanskrit for the spoken tongue.
- Ashoka's edicts were issued in **Prakrit**, which shows that the language of government in the third century BCE was popular rather than priestly.
- **Sanskrit returned** as the language of administration and inscription from the second century CE, and the **Junagadh inscription of Rudradaman of 150 CE** is the earliest substantial Sanskrit inscription.
- That return is itself examinable, since a language of ritual became a language of state, which reflects the Brahmanical resurgence associated with the Guptas.

- **Classical Sanskrit literature** peaks with **Kalidasa**, whose *Abhijnanashakuntalam*, *Meghaduta*, *Raghuvamsha* and *Kumarasambhava* are the standard works, and with Bhasa, Shudraka's *Mrichchhakatika*, Bharavi, Dandin and Bana's *Harshacharita*.
- **Sangam literature**, comprising the *Ettuthogai* and *Pattuppattu* anthologies with the *Tolkappiyam* and later *Silappadikaram* and *Manimekalai*, describes a society with its own kings, bards and Roman trade.
- **Transmission outward** carried Sanskrit and Pali texts to Southeast Asia, Tibet and China, and the Pallava-derived script became the ancestor of several Southeast Asian writing systems.

Stages in the evolution of art and architecture

The syllabus asks for major stages, so present a sequence rather than a catalogue. Each stage should have a defining technique and a type site.

- **Harappan** art is small in scale, technically accomplished and without monumental religious building, comprising seals, bronzes, terracottas and beads.
- **Mauryan** art introduces monumental stone with polished pillars, animal capitals and the Barabar rock-cut caves, and the Mauryan polish is a technique that appears and disappears with the dynasty.
- **Post-Mauryan** art produces the first Buddha images at Gandhara and Mathura, the Amaravati school in Andhra, and the rock-cut chaitya halls at Karle and Bhaja.
- **Gupta** art is conventionally treated as the classical phase, with the Dashavatara temple at Deogarh, the Bhitargaon brick temple, the Sarnath Buddha and the Sultanganj bronze.
- **Temple architecture** begins properly in the Gupta period as a small flat-roofed shrine and develops through five stages into the towered forms of Nagara, Dravida and Vesara.
- **Cave architecture** runs continuously from Barabar through Ajanta, Ellora, Elephanta and Bagh, and Ellora is unique in containing Buddhist, Hindu and Jain excavations at one site.
- **Painting** survives principally at **Ajanta**, in the Bagh caves and at Sittanavasal, and the Ajanta technique is tempera on a prepared plaster ground rather than true fresco.
- **Bronze casting** by the lost wax method runs from Mohenjo-daro's dancing girl through the Sultanganj Buddha to the Chola Nataraja, which is one of the longest technical continuities in Indian art.
- **Regional divergence** after the Guptas is the last stage, producing Nagara in the north, Dravida in the south and Vesara in the Deccan, which the Cultural Traditions unit treats in detail.

The orthodox philosophical schools

Six darshanas conventionally paired into three couples. Each has a founder, a core text and a defining problem it addresses.

- **Samkhya**, attributed to **Kapila**, is dualist and atheistic in its classical form, distinguishing **purusha** the conscious principle from **prakriti** the material principle, and explaining the world through the three gunas.
- **Yoga**, systematised in **Patanjali's Yoga Sutras**, shares Samkhya's metaphysics and adds a practical discipline of eight limbs from yama and niyama to samadhi.

- **Nyaya**, attributed to **Gautama or Akshapada**, is the school of logic and epistemology, and its four pramanas of perception, inference, comparison and testimony became the shared vocabulary of Indian philosophical debate.
- **Vaisheshika**, attributed to **Kanada**, is atomistic, holding that material reality consists of indivisible atoms of earth, water, fire and air combining in categories called padarthas.
- **Mimamsa**, attributed to **Jaimini** and developed by Kumarila Bhatta and Prabhakara, defends the authority of Vedic ritual injunction and produced sophisticated theories of language and interpretation.
- **Vedanta**, resting on the **Brahma Sutras of Badarayana**, becomes the dominant school and produces the Advaita, Vishishtadvaita and Dvaita positions treated in the Cultural Traditions unit.
- **Pairing** is conventional: Samkhya with Yoga, Nyaya with Vaisheshika, Mimamsa with Vedanta, since each pair shares metaphysics and divides on emphasis.
- Common ground across the six is acceptance of **Vedic authority**, which is what makes them astika, and it is that criterion rather than belief in God that defines orthodoxy.
- The examinable point most often missed: **Samkhya is atheistic and Mimamsa is not concerned with a creator God**, so orthodoxy in Indian philosophy is about textual authority rather than theism.

The heterodox schools

Three nastika schools rejecting Vedic authority, and the materialist one is the most neglected and the most interesting.

- **Charvaka or Lokayata**, attributed to Brihaspati, is thoroughgoing materialist, accepting only perception as a valid means of knowledge and denying the soul, rebirth, karma and any afterlife.
- Charvaka texts survive only in **quotations by their opponents**, which is a methodological problem worth stating, since we know the school largely through hostile summaries.
- Its significance is that a fully materialist position existed and was taken seriously enough to require refutation in every major philosophical work, which tells you Indian philosophy was genuinely plural.
- **Jainism** holds a realist and pluralist metaphysics, with **anekantavada** or many-sidedness, **syadvada** or conditional predication, and the doctrine of jiva and ajiva.
- Jain epistemology is distinctive in treating **all judgements as perspectival**, which is a genuinely unusual position in world philosophy and a good point to make.
- **Buddhist schools** divide into the Theravada and, within Mahayana, the **Madhyamaka of Nagarjuna** with its doctrine of shunyata and the **Yogachara of Asanga and Vasubandhu** with its consciousness-only position.
- **Nagarjuna's** method of reducing every metaphysical position to absurdity, and his doctrine of the two truths, made him the most influential Indian philosopher outside the subcontinent.
- **Dignaga and Dharmakirti** developed Buddhist logic to a level that forced the Nyaya school to respond, and their debate is the high point of classical Indian epistemology.
- Debate itself was institutionalised, with formal rules of disputation, and the universities were where it happened, which connects this section to the next.

The monastic universities

Asked in 2026 on how royal patronage and religious institutions built Nalanda, Vikramashila and Vallabhi into centres of learning.

- **Nalanda** in Bihar was founded under the Guptas in the fifth century, expanded by Harsha and sustained by the Palas, and it functioned for roughly seven hundred years.
- **Hiuen Tsang** studied there for several years and left the fullest description, reporting several thousand students and teachers, a rigorous entrance examination and a curriculum covering Buddhist and Brahmanical texts, logic, grammar and medicine.
- **Itsing**, a later Chinese pilgrim, adds detail on daily monastic routine and confirms the scale, and the two accounts together are the principal evidence.
- **Endowments** made it possible, since Nalanda was supported by the revenue of villages granted by successive rulers, reportedly two hundred at its height, which freed teachers from any need to charge fees.
- That endowment model is the direct answer to the 2026 question: **royal grants supplied permanent revenue, and the religious institution supplied the organisation and continuity that a royal court could not.**
- **Vikramashila** was founded by the Pala king **Dharmapala** in the eighth century and specialised in Tantric Buddhism, and it maintained close links with Tibet through **Atisha Dipankara**, who left it to reform Tibetan Buddhism.
- **Vallabhi** in Gujarat, patronised by the Maitraka dynasty, was a Hinayana centre and taught secular subjects including politics, law, agriculture and economics, so it was closer to a general university.
- **Odantapuri, Somapura, Jagaddala and Taxila** complete the list, with Taxila the oldest but organised around individual teachers rather than as an endowed institution.
- **Destruction** came at the end of the twelfth century with Bakhtiyar Khalji's campaigns in Bihar, and the loss of endowment income after the Pala collapse mattered as much as the physical destruction.
- The comparison worth drawing: these institutions were **residential, endowed, examined and international**, which makes them universities in a stronger sense than anything in contemporary Europe.

Science and mathematics

Asked in 2024 on Aryabhata, Varahamihira and Brahmagupta. This is the section where vague praise fails and specific contributions score.

- **Aryabhata**, born 476 CE, wrote the **Aryabhatiya** at the age of twenty three, and it covers arithmetic, algebra, plane trigonometry and spherical trigonometry in 121 verses.
- His specific achievements are the value of **pi as 3.1416** described as approximate, the sine table, the correct explanation of **eclipses by shadow** rather than by Rahu and Ketu, and the assertion that the **earth rotates on its axis.**
- **Varahamihira**, sixth century, wrote the **Brihat Samhita**, an encyclopaedic work covering astronomy, architecture, gemology, agriculture and omens, and the **Panchasiddhantika** summarising five earlier astronomical systems.

- The Panchasiddhantika is historically valuable because it preserves the **Romaka and Paulisa siddhantas**, which show Greek astronomical transmission into India.
- **Brahmagupta**, born 598 CE, wrote the **Brahmasphutasiddhanta**, and his decisive contribution is the first systematic treatment of **zero as a number** with rules for arithmetic involving it.
- Brahmagupta also gave rules for **negative numbers**, described as debts, the formula for the area of a cyclic quadrilateral that bears his name, and solutions to certain indeterminate equations.
- **Decimal place value with zero** is India's largest contribution to world mathematics, transmitted through **Al-Khwarizmi** to the Islamic world and thence to Europe as the Hindu-Arabic numerals.
- **Bhaskara II**, twelfth century, wrote the **Siddhanta Shiromani** including the Lilavati, and he worked with concepts approaching the derivative and with Pell's equation through the chakravala method.
- **Medicine** developed through the **Charaka Samhita** on internal medicine and the **Sushruta Samhita** on surgery, the latter describing cataract operations, plastic surgery of the nose and some hundred and twenty surgical instruments.
- **Metallurgy** is attested by the **Delhi iron pillar**, dating to the fourth or fifth century, whose corrosion resistance comes from a phosphorus-rich protective layer, and by the wootz crucible steel exported westward for centuries.

Scholar	Date	Principal work	Specific contribution
Aryabhata	b. 476 CE	Aryabhatiya	Pi as 3.1416, earth rotates, eclipses by shadow
Varahamihira	6th century	Brihat Samhita, Panchasiddhantika	Preserves five siddhantas including Greek-derived ones
Brahmagupta	b. 598 CE	Brahmasphutasiddhanta	Zero as a number, rules for negatives, cyclic quadrilateral
Bhaskara II	12th century	Siddhanta Shiromani, Lilavati	Chakravala method, early calculus concepts

The three astronomers named in the 2024 question. Learn one specific contribution each and the answer writes itself.

Writing the thematic answer

Two questions in four years, both demanding named specifics. The structure is the same in each case.

- Name the **person, the work and the specific contribution** in one sentence, because a question on three mathematicians is testing exactly that triple.
- Give **dates** even approximately, since chronology distinguishes a prepared candidate from one recalling a school textbook.
- Add **transmission** wherever it applies, so decimal numerals to Al-Khwarizmi and Europe, Sanskrit texts to Tibet and China, and the Pallava script to Southeast Asia.
- For institutional questions such as the 2026 one on Nalanda, explain the **mechanism of patronage**, meaning village revenue grants creating permanent endowment, rather than merely listing rulers.
- Resist civilisational boosterism, since claims that everything was discovered in India first are both false and heavily penalised, and the genuine achievements are impressive enough without them.
- Where a philosophical school is named, give its **founder, core text and defining doctrine** in that order, and note whether it is astika or nastika and why.

Last-mile revision

- Languages: Panini's Ashtadhyayi, Pali for Buddhism, Ardhamagadhi for Jainism, Ashokan Prakrit, Sanskrit returns with Junagadh 150 CE, Tolkappiyam for Tamil.
- Art stages: Harappan, Mauryan polish, Gandhara and Mathura, Gupta classical, regional divergence into Nagara, Dravida and Vesara.
- Six darshanas: Samkhya-Kapila, Yoga-Patanjali, Nyaya-Gautama, Vaisheshika-Kanada, Mimamsa-Jaimini, Vedanta-Badarayana; astika means Vedic authority, not theism.
- Nastika: Charvaka materialism known only through opponents, Jain anekantavada and syadvada, Buddhist Madhyamaka and Yogachara; Dignaga and Dharmakirti on logic.
- Nalanda from the fifth century with about 200 villages endowed; Hiuen Tsang and Itsing; Vikramashila by Dharmapala with Atisha; Vallabhi under the Maitrakas teaching secular subjects.
- Aryabhata b.476 and the Aryabhatiya; Varahamihira's Brihat Samhita and Panchasiddhantika; Brahmagupta b.598 and zero; Bhaskara II and chakravala.
- Charaka on medicine, Sushruta on surgery, Delhi iron pillar, wootz steel.

Common errors to avoid

- Praising Indian science in general terms. The 2024 question named three scholars and expected specific contributions.
- Defining astika as theistic. It means accepting Vedic authority, and Samkhya in its classical form is atheistic.
- Treating Charvaka as marginal. Every major philosophical work refutes it, which shows it was taken seriously.
- Attributing zero's invention loosely. Brahmagupta gave the first systematic rules for zero as a number, which is the precise claim.
- Describing Ajanta as fresco. The technique is tempera on prepared plaster, not true fresco.
- Explaining Nalanda's success by royal generosity alone. The mechanism was permanent village revenue endowment, which is what the 2026 question asked about.

Mains Practice

“Royal patronage and religious institutions significantly contributed to the development of Nalanda, Vikramashila and Vallabhi into prominent centres of learning.” Elucidate.

20 marks · 250 words · 2026

Highlight the contributions of Aryabhata, Varahamihira and Brahmagupta in astronomy and mathematics.

20 marks · 250 words · 2024