

**Q.1) Consider the following statements about Indus Valley Civilization (IVC)?**

1. IVC people worshipped Mother Goddess but no temples were found.
2. There was no social stratification.
3. Trade was a major activity at the Indus Valley and they were the first to use lapis lazuli as a form of currency.

**Which of the above statements is/are correct?**

- a) 1 only
- b) 2 only
- c) 1 and 3 only
- d) All the above

**Q.1) Solution (a)**

The Harappans worshipped gods and goddesses in male and female forms with evolved rituals and ceremonies. **They worshipped Mother Goddess, but no temples were found.**

**Social stratification** was there in Harappan Civilization, which is evident from the Citadel and lower city which were occupied by **ruling class and common people respectively.**

**Trade was a major activity at the Indus Valley.** Lapis lazuli not used as currency, **trade was carried through Barter System.** Weights were made of limestone and were generally cubical in 16, 64 denominations.

**Do you know?**

- Harappan ruins were discovered by Marshall, Rai Bahadur Daya Ram Sahni and Madho Sarup Vats.
- Mohenjodaro ruins were excavated for the first time by R.D. Banerjee, E. J. H. MacKay and Marshall.

**THINK!**

- Religious beliefs of IVC

**Q.2) Consider the following pairs.**

Vedic literature	Deals with
1. Brahmanas	Sacrifices and rituals
2. Aryankas	They deal with mysticism and symbolism.
3. Upanishads	Explain the hymns of the Vedas

**Which of the above pairs is/are correctly matched?**

- a) 1 only
- b) 2 only
- c) 1 and 3 only
- d) None

### Q.2) Solution (b)

The term 'Vedic literature' simply means literature based on or derived from the Vedas. The texts which constitute the Vedic literature are: 1. The four Vedas i.e. Samhitas, 2. the Brahmanas attached to each of the Samhitas, 3. the Aranyakas, and 4. the Upanishads.

**The Brahmanas- The Brahmanas explain the hymns of the Vedas.** They are written in prose and they elaborately describe the various sacrifices and rituals, along with their mystic meanings. Each Veda has several Brahmanas. The two Brahmanas attached to the Rig-Veda are Aitareya Brahmana and Kausitaki Brahmana. The Sukla Yajurveda is appended with Satapatha Brahmana which recommends 'one hundred sacred paths' (Satapatha). It is the most exhaustive and important of all the Brahmanas. The Gopatha Brahmana is appended to the Atharvaveda. **These Brahmanas, in fact, are the elaborate commentaries on the various hymns in Samhitas.**

**The Aranyaka** - The word Aranyakas means 'the forest' and these are called 'forest books' written mainly for the hermits and students living in the jungles. **These are the concluding portions of the Brahmanas or their appendices.** A strict code of secrecy was maintained over the Aranyakas as it was believed that the contents would spell danger if taught to the uninitiated. And hence they were to be studied in the forest. **They deal with mysticism and symbolism.** They form the natural transition of the Upanishads.

**The Upanishads** - The word Upanishad has been derived from the root Upani-sad that means 'to sit down near someone'. It denotes a student sitting under the feet of his guru to learn. Eventually the word began to be used for the secret knowledge imparted by the guru to his selected pupils. Today the word began to be used for the secret knowledge imparted by the guru to his selected pupils. **Today the word is associated with philosophical knowledge and spiritual learning. Our nation's motto Satyameva jayate is taken from the Mundakopanishad.**

### Do you know?

- Brahmanas were composed by Hotri-priests or invoker (the priest who recites mantras of the Rig-veda at the sacrifices).
- Aranyakas offer the bridge between Karma marga (way of deeds) which was the sole concern of the Brahmanas and the jnana marga (way of knowledge) which the Upanishads advocated.

- Upanishads are also called Vedanta (the end of the Veda) firstly, because they denote the last phase of the Vedic period and secondly, because they reveal the final aim of the Veda.

**THINK!**

- Political life of Vedic people.

**Q.3) The term 'kayotsarga' is related to**

- a) A way of following rules in Buddhism
- b) A yogic posture of Jain meditation
- c) Ashoka's principles to follow dhamma
- d) Vedic literature influenced by Dasas.

**Q.3) Solution (b)**

Kayotsarga is a yogic posture which is an important part of the Jain meditation. It literally means "dismissing the body". A Tirthankara is represented either seated in yoga posture or standing in the kayotsarga posture.

Kayotsarga means "to give up one's physical comfort and body movements", thus staying steady, either in a standing or other posture, and concentrating upon the true nature of the soul. It is one of the six essentials (avasyaka) of a Jain ascetic and one of the 28 primary attributes of a Digambar monk.

**Do you know?**

- **The Gomateshwar statute is dedicated to Bahubali**, the son of Rishabhath, the first in the line of the 24 Jain Tirthankaras.
- The statue has been depicted in **kayotsarga posture**.

**THINK!**

- Various Mudras of Gautama Buddha

**Q.4) Consider the following statements with regard to 'Arthashastra'**

1. It is the first Indian text to define a state.
2. It is mainly concerned with practical matters of governance.

**Which of the above statements is/are correct?**

- a) 1 only
- b) 2 only
- c) Both 1 and 2

d) None

#### Q.4) Solution (c)

The Arthashastra written by Kautilya is an ancient Indian treatise on statecraft, economic policy, and military strategy, written in Sanskrit. **It is the first Indian text to define a state.** Its concept of the Saptanga Rjya considers the state as consisting of seven inter-related and inter-locking constituent limbs or elements (angas or prakritis) swami (lord, i.e. the king), amatya (ministers), janpada (territory and the people), durga (the fortified capital), Kosha (the treasury), danda (justice or force), and mitra (ally).

**The Arthashastra's principal concern is with practical matters of governance.** The theoretical issues were given less preference.

#### Do you know?

- The title "Arthashastra" is often translated to "the science of politics", but the book Arthashastra has a broader scope. It includes books on the nature of government, law, civil and criminal court systems, ethics, economics, markets and trade, the methods for screening ministers, diplomacy, theories on war, nature of peace, and the duties and obligations of a king. **The text incorporates Hindu philosophy,** includes ancient economic and cultural details on agriculture, mineralogy, mining and metals, animal husbandry, medicine, forests and wildlife.

#### THINK!

- Aryabhatiyam

**Q.5) The Gandaberunda is a two-headed mythological bird on the outskirts of the main Hindu mythology, believed to possess immense magical strength. It is used as the official emblem of the Karnataka state government. Which of the following used it in crest and official seals?**

1. Chalukyas
2. Hoysalas
3. Wodeyars of Mysore
4. Bengaluru FC

**Select the correct answer using the codes given below.**

- a) 1, 2 and 3 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) All the above

**Q.5) Solution (d)**

The Gandaberunda or Berunda is a two-headed mythological bird on the outskirts of the main Hindu mythology, believed to possess immense magical strength. It was the emblem of the erstwhile Kingdom of Mysore under the Wodeyar kings, and after India attained independence, it was retained by Mysore state as its emblem. That state was enlarged in 1956 and renamed Karnataka in 1973, and the Gandaberunda continues to be the official state emblem of Karnataka. It is used as the official emblem of the Karnataka state government because it is a symbol of strength. It is believed to be capable of fighting the forces of destruction. It appears as an intricately carved sculpture motif in Hindu temples.

**Historically it has been used in the crests and official seals of the:**

- Chalukyas
- Chagis
- Kota Kings (Dharanikota Kings)
- Hoysalas
- Keladi Chiefs
- Kadambas
- Nandyalas (Vijayanagara Empire)
- Gobburis (Vijayanagara Empire)
- Wodeyars of Mysore

**Bengaluru FC**, a football club based in Bangalore, has a Gandaberunda in the club crest. Kannada Vedike Cultural Club of National Institute of Technology Karnataka Uses Gandaberunda in their official club logo.

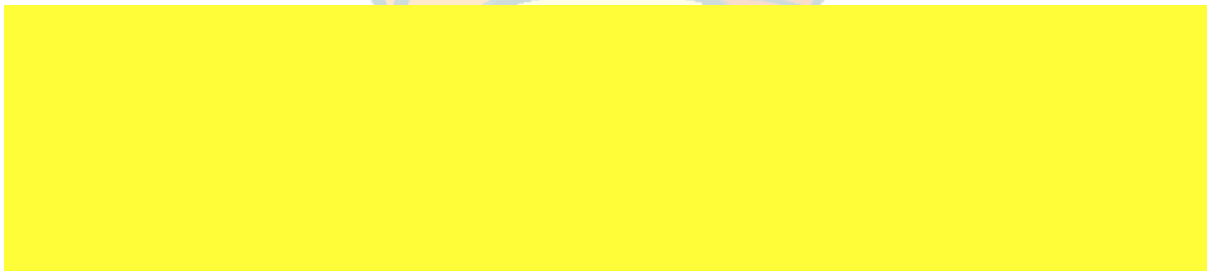
**Do you know?**

- The bird is generally depicted as clutching elephants in its talons and beaks, demonstrating its immense strength. In a coin (kasu) found in Madurai, it is shown holding a snake in its beak. All 2-dimensional depictions show a symmetrical image similar to the Double-headed eagle while other images show the long tail feathers resembling a peacock, which is the national bird of India. In the Chennakeshava temple of Belur, Karnataka, Gandaberunda (2-faced bird identified with Vishnu) is carved as a scene of "chain of destruction". A deer becomes prey to a big python, which in turn is lifted by an elephant. A lion attacks the elephant and the lion itself is devoured by Sharabha. Finally, it is Gandaberunda which finishes off Sharabha. **The Gandaberunda was a physical form displayed by Narasimha, Man-Lion incarnation of Vishnu.**

**THINK!**

- Emblem of India

(The question is asked because of issue over Karnataka state flag which is in news. The official designed flag contains Gandaberunda in the middle.)



**Q.6) Which of the following pillar edict of Ashoka elaborates Dhamma policy?**

- a) Pillar edict II
- b) Pillar edict V
- c) Pillar edict VI

d) Pillar edict IV

### Q.6) Solution (c)

Asoka's 7 pillar edicts have been found at Topra (Delhi), Meerut, Kausambhi, rampurva, Champaran, Mehrauli

- Pillar Edict I Asoka's principle of protection to people
- Pillar Edict II Defines dhamma as minimum of sins, many virtues, compassion, liberality, truthfulness and purity
- Pillar Edict III Abolishes sins of harshness, cruelty, anger, pride etc
- Pillar Edict IV Deals with duties of Rajukas
- Pillar Edict V List of animals and birds which should not be killed on some days and another list of animals which have not to be killed at all occasions. Describes release of 25 prisoners by Asoka.
- **Pillar Edict VI Dhamma Policy**
- Pillar Edict VII Works done by Asoka for Dhamma Policy. He says that all sects desire both self-control and purity of mind. Other Pillars Rummindei Pillar Inscription Asoka's visit to Lumbini & exemption of Lumbini from tax. Nigalisagar Pillar Inscription It was originally located at Kapilvastu. It mentions that Asoka increased the height of stupa of Buddha Konakamana to its double size.

### Do you know?

- **Major Rock Edict I:** It prohibits animal slaughter, bans festive gatherings and killings of animals.
- **Major Rock Edict II** Provides for care for man and animals, describes about Chola, Pandyas, Satyapura and Keralputra Kingdoms of South India.
- **Rummindei Pillar Inscription:** Asoka's visit to Lumbini & exemption of Lumbini from tax.
- James Prinsep- Decoded the edicts

### THINK!

- All major edicts of Ashoka.

**Q.7) 'Uttarapatha' and 'Dakshinapatha' were two important trade routes of ancient India. In the context of this which of the following two urban settlements were established at the juncture of 'Dakshinapatha'?**

- a) Mathura to Taxila
- b) Purushpura to Mathura
- c) Magadha to Pratisthana
- d) Purushpura to Taxila

**Q.7) Solution (c)**

The Dakshinapatha was the name of southern high road which originated from **Rajagriha in Magadha, followed through Ujjaini and Narmada valley to Pratisthana (Paithan)** in the Mahajanapada of Ashmaka (in modern Maharashtra), onwards to the western coast of India and running in the southern direction. Later, Dakshinapatha was also the name lent to the region of India lying to the south of Vindya through which the Dakshinapatha passed. The name Deccan for the southern part of India has originated from this ancient Dakshinapatha.

**Do you know?**

- The other highway was the Uttarapatha or the great northern road that ran from Taxila in Afganistan, through the modern Punjab up to the western coast of Yamuna. Following the course of Yamuna, it went southwards up to Mathura, from there it passed on to Ujjain in Malwa and to Broach on western coast.
- According to "Land of the Seven Rivers: A Brief History of India's Geography" by Sanjeev Sanyal, the trajectory of the northern road has remained roughly the same from pre-Mauryan times and is now NH2.

**THINK!**

- Ancient Indian cities and present names.

**Q.8) Vyuhavada is a Hindu philosophy related to Bhagwatism. Which of the following statements is/are correct regarding Vyuhavada?**

1. The ideology is mainly centered upon the concept of 'pure creation'.
2. This concept considers Lord Shiva and Sati as the Highest Gods.

**Select the code from following:**

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

**Q.8) Solution (a)****Vyuhavada Ideology**

The ideology underlying the vyuhavada mainly centred upon the topic of 'pure creation' (suddha-srishti), i.e., the creation of the six ideal gunas, namely jnana, aisvarya, sakti, bala, virya and tejas. Accord-ing to this notion, Lord Vasudeva as the highest god wills his consort



Sri Lakshmi in her dual aspects of being and acting (bhuti and kriya) to create the ideal gunas; thus from the Lord's will (ichchhasakti or the efficient cause), and Lakshmi's twofold forms (bhutisakti and kriyasak- i.e. the material and instrumental causes) originate the six-fold ideal qualities which are at the root of all creation, pure or subtle and gross or material, in all the later stages.

The gunas or virtues come under two principal groups of three each, the first three (jnana or knowledge, aisvarya or lordship and sakti or potency) forming the first group of visrama bhumayah (stages of rest), and the second three (bala or strength, virya or virility and tejas or splendour), the second group of Sramabliumayah (stages of action).

### Think

- 6 ideologies of Hinduism

### Q.9) Which of the following statements are correct regarding 'Rig Vedic' Society?

1. The society was strictly divided in hereditary Varna System.
2. Polygamy was not practiced.
3. There is no evidence of Sati or Child marriage.
4. Women had political rights in the form of Sabha and Vidhata.

Select the code from following:

- a) 1 and 2
- b) 3 and 4
- c) 1,2 and 4
- d) 1,3 and 4

### Q.9) Solution (b)

#### Rig Vedic Society:

- It was an egalitarian society as the concept of any private property was limited.
- The concept of Varna System is mentioned only in the 10<sup>th</sup> Mandal, showing that it originated in later part of Rig Vedic Society. More importantly, the Varna system was occupation based and not hereditary.
- Initially the society was divided into two major parts – Aryans and non- Aryans. Mentioned as 'Sur' and 'Asur' or 'Arya' Varna and 'Das' Varna. Aryans are defined as white skinned, tall and righteous. And Asur have been defined as Dark and Evil (Probably the indigenous people).
- Position of Women: The position of women, relatively, was much better in this period than the later periods.

- She had political rights in the form of Vidhati and Sabha.
- They were allowed to read the Vedic hymns. Many female seers have also composed the Rig Vedic Hymns like Lopamudra, Sukanya, Apala etc.
- There is no evidence of Sati or child marriage. Also there are evidences of widow remarriage.
- Niyoga – In the absence of a child, a widow was allowed to live with her brother in law.
- Polygamy was practiced. There is evidence of both polygyny ( A man having multiple wives ) and polyandry ( A women having multiple husbands)

**Q.10) Consider the following statements regarding Upnishads:**

1. They were composed during Gupta Period.
2. Upnishads discuss about the importance of rituals and sacrifices.
3. Aurangzeb got 50 upnishads translated under the title 'Sir – I – Akbar'.

**Which of the above statements are correct?**

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

**Q.10) Solution (a)**

**Literary Sources of Later Vedic Period:**

Since the Vedic Society has expanded, it reached upper Gangetic basin from Indus Valley. All the later Vedic texts were composed in Upper Gangatic Basin only.

**Yajurveda:**

This was the second Veda to be composed after the Rig Veda. It consists of rituals of sacrifices and yajna.

It is broadly divided into two parts – '**Sweta**' Yajurveda and '**Shyam**' Yajurveda.

Shweta Yajurveda is in Poetic form while Shyama Yajurveda is in prose form.

(Note: Rig Veda was composed completely in poetic form.)

**Samaveda:**

Samveda consists of musical hymns which could be sung. Most of the hymns were taken from Rig Veda itself.

Samveda can also be considered as the oldest text on music.

### **Atharva Veda:**

Atharvaveda is folk literature.

It consists of charms, spells and magic to ward of evil spirits and diseases.

First time Ayurveda is mentioned in Atharvaveda.

Note: the previous three Vedas were written by Aryans while Atharvaveda is written by non – Aryans. So its contents also throw a light on the beliefs and practices of non – Aryans.

### **Brahmanas:**

Brahmanas are the commentary on Vedas. They explain the complex verses of the Vedas. They are the first complete literature in prose.

The most famous Brahmana is the 'Shatapath' Brahmana of the Yajurveda.

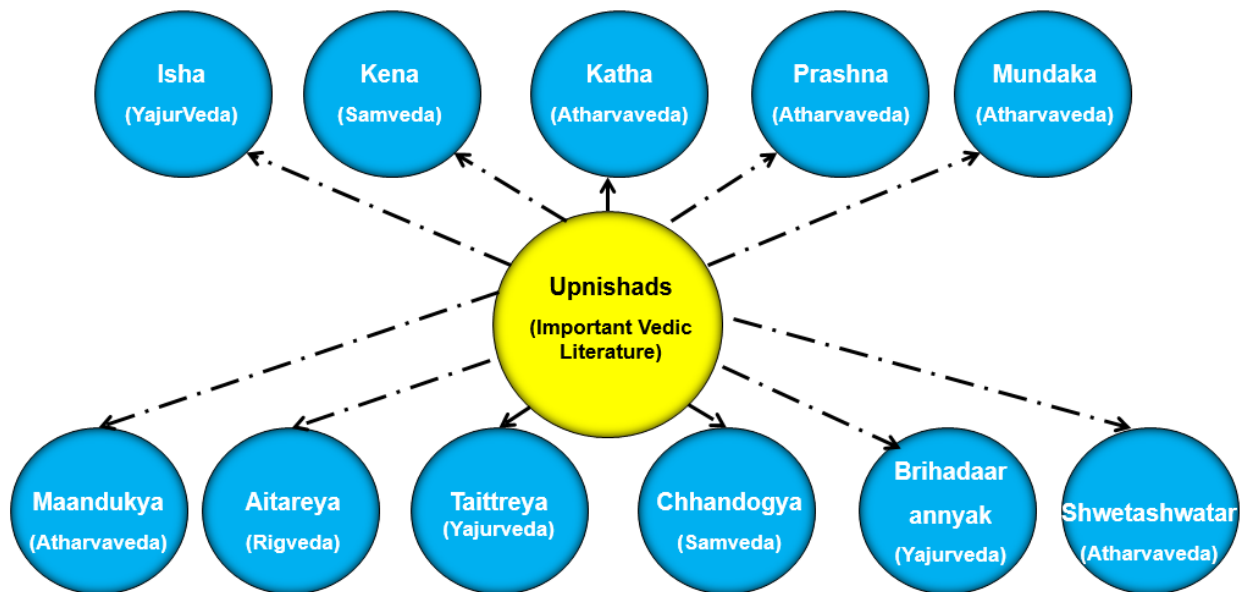
**Aranyakas (jungle book/hermit book)** were originally the part of the Brahmins but later considered as a separate part.

**Upanishads:** The literal meaning of 'Upanishad' is to sit down near someone.

Originally there were 108 books. It is historically believed that they came out as a result of the increasing grip of Brahmins on the society. They discuss about the importance of rituals and sacrifices. **They deal with metaphysics** i.e. relation between man and God.

### **Some famous Upanishads:**

Brihadranayaka Upanishad (The oldest), Chandokya, Jabala , Katha, Ken, Isa etc.

Picture 149 – The 11 *Upnishads*

The literal meaning of Upanishad is "the knowledge of realizing and visualizing God". They explain the meaning of Vedas, God, Nature and all creation by use of symbolic stories. It is mostly in question answer form and sometimes represent the Vedic hymns as it is. There were several Upanishads earlier, however the above 11 available with humanity would be sufficient for your scope of work.

Brahmanas are regarded as the basis of the Hindu philosophy along with the Rigveda. In Upanishads Brahma (the creator) is the most important God.

Note: 'Sirr – I – Akbar' is the collection of translation of 50 upanishads done by 'Dara Shikoh', the eldest son of Shah Jehan.

**Q.11) Which of the following civilizations was known as MELUHA during the ancient time?**

- Mesopotamian Civilisation
- Indus Valley Civilisation
- Early Vedic Civilisation
- Later Vedic Civilisation

**Q.11) Solution (b)**

Indus Valley Civilisation had very good trade relations with Mesopotamian Civilisation. A number of IVC seals have been found in Mesopotamia.

In Mesopotamian records, IVC has been referred to as 'MELUHA'.

**Q.12) Consider the following statements regarding Alexander's invasion of India?**

1. The ruler of Taxila, Ambi, surrendered without a battle.
2. The battle between Alexander and Porus was fought at the bank of Indus.
3. Chandragupta Maurya was ruling over Magadha when Alexander arrived.

**Which of the above statements are NOT correct?**

- a) 1 only
- b) 2 and 3
- c) 1 and 3
- d) All of the above

**Q.12) Solution (b)**

**Note: Incorrect statements have been asked**

#### **Alexander's campaign in India**

In 326 B.C. Alexander crossed the Indus, and moved towards Taxila. Taxila was a prosperous city. King Ambhi of Taxila surrendered without giving fight. He appeased Alexander numerous gifts, because he sought the latter's help in his war with the neighbouring enemies.

Alexander next advanced from Taxila to the bank of the Jhelum. On the other side of the river the army of Porus was getting prepared to withstand the advancing Greek contingents. But the horses of the Greek cavalry regiment could not be transported to the other side of the river. Alexander then espoused a new tactics. Some sixteen miles north of the Greek camp there was a bend of the river, and an islet nearby was deemed strategic. Alexander made secret preparation to cross the river from that position. Then under the cover of a dark, storm-stricken night he crossed the river and reached the destination.

It was beyond Porus' wildest imagination that Alexander would make such a surreptitious arrangement for an onslaught upon his enemy. But when he saw through Alexander's tricks, it had become too late for him to provide an effective counter to the Greek king's move. Despite his being befooled, Porus tried to resist Alexander's advance with courage and firmness, but he was routed and taken a captive. Alexander, of course, was highly impressed to observe the majestic personality and prowess of king Porus, and gave back his own kingdom with a few small territories being added to the same.

**Note:** Dhanananda (Nanda Ruler) was ruling over Magadha during Alexander's invasion.

Alexander returned without a further campaign as the army protested against moving further. The soldiers were wary of war and wanted to go back to their families. Also the climate of India was too hostile and many soldiers fell for vector born diseases.

**Q.13) It is believed that Saint Thomas, a Christian Missionary, was sent to India by Christ himself. In whose kingdom did he visit?**

- a) Rudradaman
- b) Gondopherous
- c) Menander
- d) Kanishka

**Q.13) Solution (b)**

**Parthians (Phalvas) – Persia**

- They came from Persia and settle in the western part of India.
- Takht – e – Bahi inscription tells about them.
- Most famous king is Gondopherous.
- It is believed that the first Christian missionary, Saint Thomas, came to his court around 52 AD. According to a Christian tradition, Saint Thomas was sent by the Christ himself.

**Think**

- Post Mauryan kingdoms

**Q.14) 'Buddha Charita' is the biography of Buddha. It is the first biography written in India. Which of the following statements regarding Buddha Charita is/are correct?**

1. It was written by Upali, the first disciple of Buddha.
2. It is written in Pali language.

**Select the code from following:**

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

**Q.14) Solution (d)**

None of the given statements are correct

### Buddha Charita

Buddha Charita was written by Ashvaghosha in Sanskrit. It is the first ever biography written in India.

Ashwaghosa was a Buddhist scholar during the reign of Kanishka.

### Do you know?

Harsha Charita by Banbhata was the first biography of a King written in India.

**Q.15) Consider the below statements in regard to Cheras dynasty:**

1. The Cheras were an ancient Dravidian royal dynasty of Tamil origin.
2. They were known for their distinct temple architecture which had complicated plans with numerous angled projections.
3. Temples from the Cheras period can still be seen at Venad, Kuttanad, Kudanad and Pazhinad.

**Which of the statements given above is/are correct?**

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

**Q.15) Solution (a)**

Statement (1) is correct. The Cheras were an ancient Dravidian royal dynasty of Tamil origin.

Statements (2) and (3) are wrong. Reason –

- Cheras had no particular religion - even the caste system was absent from their society - but ancestral worship was popular.
- They worshipped war goddess known as Kottavai, but there existed no structural temples. Instead, images of gods were kept in the open air, probably under a tree.

### Do you know?

#### About Cheras:

The Cheras were an ancient Dravidian royal dynasty of Tamil origin. The first to establish an historical ruling dynasty in the area, they ruled wide-ranging areas of Tamil Nadu and Kerala

in south-eastern and south-western India respectively, areas that had been settled since at least 5000 BC, when Neolithic carvings had been left in Edakkal Caves.

Chera territory included regions such as Venad, Kuttanad, Kudanad, Pazhinad, and others, encompassing the area between Kanya Kumari in the south to Kasargod in the north (now in the far north of Kerala). Also included in this list are Palghat, Coimbatore, Salem and Kollimalai, although they quite probably did not rule all of these areas at all times as ancient borders could be quite fluid at times. Their core territory was in Kerala, while the later rise of the Pallavas pushed them out of Tamil Nadu. However, they did establish a capital at Vanchi, which was known by the Romans as Muzris after an active sea-borne trade sprang up between the two powers.

Agriculture was the main occupation for the great majority of the populace. As mentioned in the Roman connection, foreign trade also flourished. Tools and tackles were made of iron, and fishing, hunting, spinning, weaving, carpentry, and salt manufacture were all important. Precious stones, pearls, and spices were exported from Kerala. Ports included Muzris, Tyndes, Barace, and Nelaynda. The ruler's income depended on the war booty he collected, plus land revenue and taxes. This individual was called 'ko', or 'kon', or 'kadumko' (meaning 'great king'), and these kings were generally known by their titles, which were based on personal peculiarity, a singular habit, or an important achievement.

**Q.16) With reference to the contributions of India to the world in the field of Mathematics and Science, consider the following pairs:**

***(Ancient Indian scientists) : : (Contributions/Works)***

1. Baudhayana : : Sulva Sutra
2. Brahmgupta : : Siddanta Shiromani
3. Mahaviracharya : : Ganit Sara Sangraha

**Which of the pairs given above is/ are correctly matched?**

- a) 1 and 2 only
- b) 1 and 3 only
- c) 2 and 3 only
- d) 1, 2 and 3

**Q.16) Solution (b)**

**Baudhayana**



Baudhayan was the first one ever to arrive at several concepts in Mathematics, which were later rediscovered by the western world. The value of pi was first calculated by him. As you know, pi is useful in calculating the area and circumference of a circle. What is known as **Pythagoras theorem** today is already found in **Baudhayan's Sulva Sutra**, which was written several years before the age of Pythagoras.

### **Brahmgupta**

In 7th century, Brahmgupta took mathematics to heights far beyond others. In his methods of multiplication, he used place value in almost the same way as it is used today. He introduced **negative numbers** and **operations on zero** into mathematics. He wrote **Brahm Sputa Siddantika** through which the Arabs came to know our mathematical system.

### **Bhaskaracharya**

Bhaskaracharya was the leading light of 12th Century. He was born at Bijapur, Karnataka. He is famous for his book **Siddanta Shiromani**. It is divided into four sections: Lilavati (Arithmetic), Beejaganit (Algebra), Goladhyaya (Sphere) and Grahaganit (mathematics of planets). Bhaskara introduced Chakrawat Method or the Cyclic Method to solve algebraic equations. This method was rediscovered six centuries later by European mathematicians, who called it inverse cycle. In the nineteenth century, an English man, James Taylor, translated Lilavati and made this great work known to the world.

### **Mahaviracharya**

There is an elaborate description of mathematics in Jain literature (500 B.C -100 B.C). Jain gurus knew how to solve quadratic equations. They have also described fractions, algebraic equations, series, set theory, logarithms and exponents in a very interesting manner.

Jain Guru Mahaviracharya wrote **Ganit Sara Sangraha** in 850A.D., which is the first textbook on arithmetic in present day form. The current method of solving Least common Multiple (LCM) of given numbers was also described by him. Thus, long before John Napier introduced it to the world, it was already known to Indians.

### **THINK!**

- Contributions of Aryabhata

### **Q.17) Consider the below statements:**

1. He was a sixth century scientist of Vaisheshika School.
2. His original name was Aulukya.
3. According to him, material universe is made up of atoms which cannot be seen through any human organ.

4. His atomic theory can be a match to any modern atomic theory.

**Identify the correct ancient Indian scientist with respect to above statements**

- a) Bhaskaracharya
- b) Kanad
- c) Nagarjuna
- d) Varahamihira

**Q.17) Solution (b)**

**Kanad**

Kanad was a sixth century scientist of **Vaisheshika School**, one of the six systems of Indian philosophy. His original name was **Aulukya**. He got the name Kanad, because even as a child, he was interested in very minute particles called "**kana**". His atomic theory can be a match to any modern atomic theory. According to Kanad, material universe is made up of *kanas*, (*anu/atom*) which cannot be seen through any human organ. These cannot be further subdivided. Thus, they are indivisible and indestructible. This is, of course, as you may be knowing, what the modern atomic theory also says.

**THINK!**

- Works of Nagarjuna and Varahamihira

**Q.18) Consider the following pairs:**

**(Foreign Travellers) : : (Visited during)**

- 1. Megasthenes : : Chandragupta Maurya
- 2. Fa-Hien : : Vikramaditya
- 3. Hiuen-Tsang : : Harshavardhana
- 4. Marco Polo : : Rudramadevi

Which of the pairs given above are matched correctly?

- a) 2 and 3 only
- b) 3 and 4 only
- c) 1 and 3 only
- d) 1, 2, 3 and 4

**Q.18) Solution (d)**

**Do you know?**

**LIST OF FOREIGN TRAVELLERS WHO CAME TO INDIA****1. MEGASTHENES (GREEK) (302-298 BC) :**

- Megasthenes was a famous Foreign Envoy and ambassador of Seleucus Nikator of Syria .
- He visited the Chandragupta Maurya (Sandrokottos) court.
- He wrote the great book Indica which explains the reign of Chandragupta Maurya.
- He explained Social and administrative status at the time of Mauryas.
- Megasthenes was the first foreign envoy who visited India.

**2. FA-HIEN (CHINA) (405-411 AD):**

- Fa-Hien is a Foreign Envoy who visited India at the time of Chandragupta II, known as Vikramaditya.
- He was a Chinese pilgrim. Fa-Hien was the first Chinese pilgrim to visit India.
- Fa-Hien came to India to collect Buddhist texts and relics.
- Fa-Hien visited Lumbini, the Buddha's birth place.
- He compiled his experiences in a travelogue "Record of Buddhistic Kingdoms"

**3. HIUEN-TSANG (CHINA) (630-645 AD):**

- Hiuen-Tsang is a Foreign Envoy who visited India during the time of Harshavardhana.
- He Reached India through Tashkent and Swat Valley
- He wrote his experiences in his book Si-yu-ki or the 'Records of Western World .

**4. I-TSING (671-695 AD):**

- I-tsing was A Chinese traveler, I-tsing visited India in connection with Buddhism.

**5. AL-MASUDI (957 AD):**

- Al-Masudi was An Arab traveler, he explained about India in his book Muruj-ul-Zehab.

**6. AL-BERUNI (PARSIA) (1024-1030 AD):**

- Al-beruni is a Foreign Envoy who visited India along with Ghazni at the time of his

Indian raids.

- Al-beruni is the first muslim scholar who studied Inida.
- He travelled all over India .
- He popularly known as Founder of Indology.
- His famous book was 'Tahqiq-i-Hind' which explains about India.

**7. MARCO POLO (1292-1294 AD):**

- Marco Polo was a Foreign Envoy and Venetian traveler
- In 1294 A.D. he visited South India.
- Marco Polo visited Rudramadevi's Kakatiya dynasty.
- He is very popular to travel through number of eastern countries.
- He wrote his experiences in his book 'The Book of Sir Marco Polo'.
- This book explains the economic history of India.

**8. IBN BATUTA (1333-1347 AD):**

- Ibn Batuta was A Morrish traveler, he wrote the book 'Rehla' (The Travelogue).
- In his book he explained the dynasty of Muhammad-bin-Tughlaq and also the economical, social and geographical status of his time.

**9. SHIHABUDDIN AL-UMARI (1348 AD):**

- Shihabuddin al-Umari was a traveller from the country Damascus.
- His book is Masalik albsar fi-mamalik al-amsar. He explained Indian History in it.

**10. NICOLO CONTI (1420-1421 AD):**

- Nicolo Conti was A Venetian tourist.
- He visited India at the time of Devaraya I of Vijayanagar empire (Sangam dynasty).

**11. ABDUR RAZZAQ (1443-1444 AD):**

- Abdur Razzaq was aforeing envoyer

- He was the Ambassador of Shahrukh of Timurid Dynasty
- A Persian tourist. In India he stayed at the court of the Zamorin at Calicut.
- He give a clear account of the Vijaynagar empire and his kingdom.
- Ambassador of Shahrukh of Timurid Dynasty
- Came during the rule of Devaraya II of Sangam dynasty of Vijayanagar empire.

**12. ATHANASIUS NIKITIN (1470-1474 AD):**

- Athanasius Nikitin was a merchant from Russian.
- He explained the living conditions of the Bahmani kingdom which is under Muhammad III (1463-82).

**Q.19) Which of the following statements are correct regarding the Post Mauryan India?**

1. The Sungas revived Brahmanism and horse sacrifice
2. The Sungas promoted the Sanskrit language
3. The Sungas defended the Gangetic valley from foreign invasions

Select the correct answer using the codes given below:

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

**Q.19) Solution (d)**

The founder of the **Sunga dynasty** was **Pushyamitra Sunga**, who was the commander-in-chief under the Mauryas. He assassinated the last Mauryan ruler and usurped the throne. Pushyamitra was a staunch follower of Brahmanism. He performed two asvamedha sacrifices.

The rule of the Sungas was important because they defended the Gangetic valley from foreign invasions. In the cultural sphere, the Sungas revived Brahmanism and horse sacrifice. They also promoted the growth of Vaishnavism and the Sanskrit language. In short, the Sunga rule was a brilliant anticipation of the golden age of the Guptas.

**THINK!**

- Satavahanas rule after the decline of Mauryas.

**Q.20) Who among the following foreign travelers visited Vijayanagara during the Krishna Deva Raya period?**

1. Domingo Peas
2. Ibn Battutah
3. Abdur Razzak
4. Barbosa

**Choose the correct code:**

- a) 1 and 2 only
- b) 1 and 4 only
- c) 1, 2 and 3 only
- d) 1, 2, 3 and 4



**Q.20) Solution (b)**

**List of Foreign Travellers visited Vijayanagar Kingdom**

Name of Travellers	Place they came from
Abu Abdullah/Ibn Batuta	Morocco
Nicolo de Conti	Italy
Abdur Razzaq	Persia
Athanasius Nikitin	Russia
Ludvico de Vortheima	Italy
Duarte Barbosa	Portugal
Dominigo Paes	Portugal
Fernao Nuniz	Portugal
Marco Polo	Republic of Venice

However, among these travelers, only Duarte Barbosa and Dominigo Paes visited Vijayanagar during the reign of Krishna Deva Raya.

**THINK!**

- Try to know about other foreign travelers visiting different emperors/kings.

**Q.21) Match the following:**

**(Popular Ruler) :: (Kingdom)**

- |               |            |
|---------------|------------|
| 1. Udayana    | a) Kosala  |
| 2. Pradyota   | b) Avanti  |
| 3. Prasenajit | c) Magadha |
| 4. Bimbisara  | d) Vatsa   |

**Code:**

**1 – 2 – 3 – 4**

- a) A – B – D – C
- b) C – D – B – A
- c) D – B – A – C
- d) A – B – C – D

**Q.21) Solution (c)****Vatsa**

The Vatsa kingdom was situated on the banks of the river Yamuna. Its capital was Kausambi near modern Allahabad. Its most popular ruler was Udayana. He strengthened his position by entering into matrimonial alliances with Avanti, Anga and Magadha. After his death, Vatsa was annexed to the Avanti kingdom.

**Avanti**

The capital of Avanti was Ujjain. The most important ruler of this kingdom was Pradyota. He became powerful by marrying Vasavadatta, the daughter of Udayana. He patronized Buddhism. The successors of Pradyota were weak and later this kingdom was taken over by the rulers of Magadha.

**Kosala**

Ayodhya was the capital of Kosala. King Prasenajit was its famous ruler. He was highly educated. His position was further strengthened by the matrimonial alliance with Magadha. His sister was married to Bimbisara and Kasi was given to her as dowry. Subsequently there

was a dispute with Ajatasatru. After the end of the conflict, Prasenajit married the daughter of Bimbisara. After the death of this powerful king, Kosala became part of the Magadha.

### Magadha

Of all the kingdoms of north India, Magadha emerged powerful and prosperous. It became the nerve centre of political activity in north India. Magadha was endowed by nature with certain

geographical and strategic advantages. These made her to rise to imperial greatness. Her strategic position between the upper and lower part of the Gangetic valley was a great advantage. It had a fertile soil. The iron ores in the hills near Rajgir and copper and iron deposits near Gaya added to its natural assets. Her location at the centre of the highways of trade of those days contributed to her wealth. Rajagriha was the capital of Magadha. During the reign of Bimbisara and Ajatasatru, the prosperity of Magadha reached its zenith.

### Q.22) Consider the following statements about 'Global Innovation & Technology Alliance (GITA)'

1. It was initiated by Confederation of Indian Industry (CII) and the Department of Science & Technology (DST)
2. Technology Acquisition and Development Fund (TADF) is implemented through GITA
3. It extends financial support in form of Grant or Loan to promote industrial R&D, Technology Acquisition and International S&T Collaborative efforts.

### Select the correct statements

- a) 1 Only
- b) 1 and 2
- c) 2 and 3
- d) 1, 2 and 3

### Q.22) Solution (d)

In order to stimulate private sector's investment in R&D, an innovative pilot project named Global Innovation & Technology Alliance (GITA) was initiated by CII and the Department of Science & Technology (DST), Government of India in 2007-08.

Technology Acquisition and Development Fund (TADF) implemented through Global Innovation and Technology Alliance (GITA), a joint venture company

### Mandate



- **Funding** - GITA extends financial support in form of Grant /Loan/Conditional Grant to promote industrial R&D, innovation, Technology Acquisition and International S & T Collaborative efforts.
- **Capacity Building** - GITA catalyses innovation and empowers ideas through training and offering specialized information, matchmaking, IP protection etc. in the areas of technology design and IPR management.
- **Strengthening Eco System** - GITA is involved in Technical, Financial, Strategic policy research and recommendation to industry, research institution, State & Central Government and offers global networking platforms.
- **Deployments** - GITA is mandated to facilitate the implementation of various innovative and revolutionary scientific and technological industrial research and development projects worldwide.

**Q.23) Consider the following statements about 'Indian Technical and Economic Cooperation (ITEC) Programme'**

1. It was launched in 2014 by Ministry of External Affairs and Ministry of Science and Technology
2. SCAAP (Special Commonwealth African Assistance Programme) is a corollary of the ITEC
3. It is strictly bilateral in nature

**Select the correct statements**

- a) 1 Only
- b) 2 Only
- c) 1 and 2
- d) 2 and 3

**Q.23) Solution (b)**

The Indian Technical and Economic Cooperation (ITEC) Programme was instituted by a decision of the Indian Cabinet on 15 September 1964 as a bilateral programme of assistance of the Government of India.

Under ITEC and its sister programme SCAAP (Special Commonwealth African Assistance Programme), 161 countries in Asia, Africa, East Europe, Latin America, the Caribbean as well as Pacific and Small Island countries are invited to share in the Indian developmental experience acquired over six decades of India's existence as a free nation.

The ITEC Programme is essentially bilateral in nature. However, in recent years, ITEC resources have also been used for cooperation programmes conceived in regional and inter-regional context such as Economic Commission for Africa, Commonwealth Secretariat, UNIDO, Group of 77 and G-15. In more recent years, its activities have also been associated with regional and multilateral organizations and cooperation groupings like Association of South East Asian Nations (ASEAN), Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), Mekong-Ganga Cooperation (MGC), African Union (AU), Afro-Asian Rural Development Organization (AARDO), Pan African Parliament, Caribbean Community (CARICOM), World Trade Organization (WTO) and Indian Ocean Rim - Association for Regional Cooperation (IOR-ARC) and India-Africa Forum Summit.

In 2012, the Ministry of External Affairs (MEA) set up a Development Partnership Administration (DPA) under its Economic Relations Division to consolidate outgoing aid and to streamline administrative matters related to such aid.

**Q.24) World Inequality Report is published by**

- a) OXFAM International
- b) World Economic Forum
- c) World Bank
- d) None of the above

**Q.24) Solution (d)**

World Inequality Report is a report by the World Inequality Lab at the Paris School of Economics that provides estimates of global income and wealth inequality based on the most recent findings compiled by the World Wealth and Income Database (WID).

**Q.25) India employs the '2 + 2 dialogue' format with which of the following countries?**

- 1. Japan
- 2. Australia
- 3. Russia

**Select the correct code:**

- a) 1 Only
- b) 1 and 2
- c) 1, 2 and 3

d) 1 and 3

**Q.25) Solution (b)**

Japan and Australia

**2+2 dialogues**

- The two-plus-two dialogue comprising ministries of defence and foreign affairs discusses issues of bilateral cooperation threadbare and identifies new areas of cooperation, which are generally finalised later at the summit level interactions between the political leadership of the two states.

Source:

[http://mea.gov.in/press-releases.htm?dtl/29174/Inaugural IndiaAustralia 2432 Foreign Secretaries and Defence Secretaries Dialogue New Delhi December 12 2017](http://mea.gov.in/press-releases.htm?dtl/29174/Inaugural%20IndiaAustralia%202432%20Foreign%20Secretaries%20and%20Defence%20Secretaries%20Dialogue%20New%20Delhi%20December%2012%202017)

**Q.26) Consider the following statements about SANKALP and STRIVE Projects**

1. It will be supported by the World Bank
2. SANKALP is associated with health system development
3. STRIVE is aimed at improving childhood nutrition

**Select the correct statements**

- a) 1 Only
- b) 1 and 2
- c) 2 and 3
- d) 1 and 3

**Q.26) Solution (a)**

**STRIVE Project**

- The objective of the Skills Strengthening for Industrial Value Enhancement Operation Project for India is to improve access to quality and market-driven vocational training provided in ITIs and apprenticeships.
- STRIVE is a Rs. 2,200 crore - central sector scheme, with half of the scheme outlay as World bank loan assistance.

- World Bank has committed USD 125 million (around Rs 800 crore) loan to India for the STRIVE project for skill development.

**The result areas for the project include**

- improved performance of industrial training institutes
- increased capacities of state governments to support industrial training institutes and apprenticeship training
- improved teaching and learning; and improved and broadened apprenticeship training

**SANKALP Project**

- World Bank's financing arm IBRD (International Bank for Reconstruction and Development) will provide this USD 250 million loans.
- Skills Acquisition and Knowledge Awareness for Livelihood Promotion” (SANKALP) Project
- SANKALP is Rs 4,455 crore Centrally sponsored scheme including Rs. 3,300 crore loan support from World Bank
- The Objective of the project is to enhance institutional mechanisms for skills development and increase access to quality and market-relevant training for the work force.

**The Key result areas for the project include Institutional Strengthening at the National and State Levels for**

- Planning, Delivering, and Monitoring High-Quality Market-Relevant Training;
- Improved Quality and Market Relevance of Skills Development Programs;
- Improved access to and completion of skills training for female trainees and other disadvantaged groups;
- Expanding skills training through private-public partnerships (PPPs)