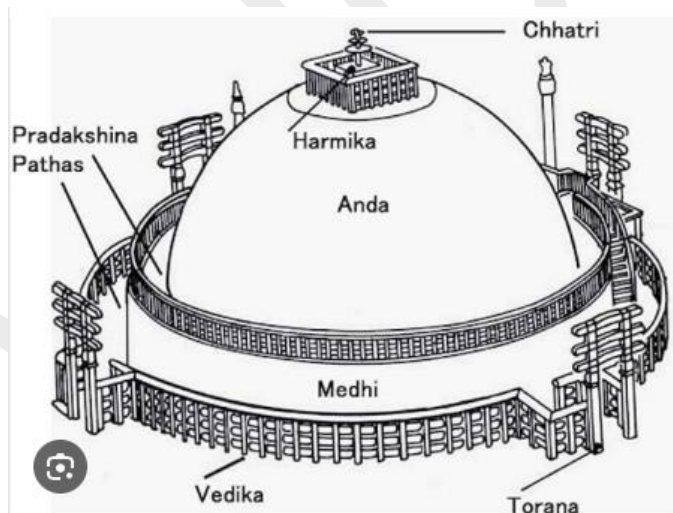


## ANSWERS & EXPLANATIONS GENERAL STUDIES (P) TEST – 4137 (2024)

### Q 1.D

- **Buddhist stupa structure:** The Buddhist stupa is a sacred monument that represents important aspects of Buddha's teachings and serves as a place of meditation and veneration.
- **The structure of a stupa can vary, but the following elements are commonly found from bottom to top:**
  - **Platform/Base (Adhisthana):** The stupa is usually elevated on a square or circular platform, called the adhisthana. It symbolizes the earth element and provides a solid foundation for the entire structure.
  - **Hemispherical Dome (Anda):** Atop the base, there is a hemispherical dome representing the abode of enlightenment or nirvana. The dome represents the water element and embodies the vastness of the cosmos.
  - **Harmika:** Above the dome, there is a square railing known as the harmika. It symbolizes the transition from the human to the divine realm. The harmika represents the air element.
  - **Chattra (Umbrella):** On top of the harmika, there is an umbrella-like structure called the chattra, which represents protection and spiritual guidance. It signifies the fire element.
  - **Yashti (Shaft):** Rising from the center of the chattra, there is a vertical shaft known as the yashti, which symbolizes the axis mundi, connecting the earthly and heavenly realms. The yashti represents the space element.
  - **Chhatra (Finial):** At the top of the yashti, there is a crowning element known as the chhatra. It is usually in the shape of a lotus or other decorative forms, symbolizing purity and enlightenment.



- Hence option (d) is the correct answer.

### Q 2.C

- **During Shah Jahan's reign, Aurangzeb, as governor of Deccan, followed an aggressive Deccan policy.** Shah Jahan carved four Mughal provinces in the Deccan – Khandesh, Berar, Telungana and Daulatabad. **Hence, statement 1 is correct.**
- **To contain the spread of the Marathas, Aurangzeb decided to invade Bijapur and Golkonda.** He defeated Sikandar Shah of Bijapur and annexed his kingdom. Then, he proceeded against Golkonda and eliminated the Kutb Shahi dynasty. It was also annexed by him. In fact, the destruction of the Deccan kingdoms was a political blunder on the part of Aurangzeb. **Hence, statement 2 is not correct.**

- Aurangzeb was a staunch and orthodox Muslim in his personal life. His idea was to transform India into an Islamic state. **He created a separate department to enforce moral codes under a high-powered officer called Muhtasib. Hence, statement 4 is correct.**
- **He was also not tolerant of other Muslim sects. The celebration of Muharram was stopped. His invasions against the Deccan sultanates were partly due to his hatred of the Shia faith. Hence, statement 3 is correct.**

### Q 3.C

- **Gandhara Art:** The home of the Gandhara school of art is the territory in and around Peshawar in northwestern India. The best of the Gandhara sculpture was produced during the first and second centuries A.D. It originated during the reign of Indo-Greek rulers but the real patrons of this school of art were the **Sakas and the Kushanas, particularly Kanishka. Gandhara art was a blend of Indian and Graeco-Roman elements. Hence statement 2 is correct.**
- Specimens of Gandhara sculpture have been found in Taxila, Peshawar and in several places of northwest India. The Gandhara school made sculptures of the Buddha in various sizes, shapes and postures. The reliefs depict Buddha's birth, his renunciation and his preaching.
- **The salient features of Gandhara art are:**
  - Moulding human body in a realistic manner with minute attention to physical features like muscles, moustache and curly hair.
  - Thick drapery with large and bold fold lines.
  - Rich carving, elaborate ornamentation and symbolic expressions.
  - **The main theme was the new form of Buddhism – Mahayanism and the evolution of an image of Buddha. Hence statement 1 is correct.**

### Q 4.B

- **Recent context:** The Centre for Marine Fisheries Research Institute (CMFRI), Visakhapatnam centre, is currently breeding 'Groupers' (locally known as 'bonthalu' in Telugu), John's Snapper (appalu chepa) and Indian Pompano (chanduvapara) in its mariculture lab. **These fishes are available in deep waters but are not well distributed in the shallow waters.**
  - The CMFRI has developed technologies and established protocols for development of brood stock, captive breeding and seed production techniques of selected marine fish. The objective is to provide sustained income to coastal fish farmers, whose livelihood is being hit by frequent cyclones.
- The Indian Pompano commands the maximum demand. A fully grown adult of this species can weigh between 2.5 kg and 5 kg. Groupers can grow up to 9 kg and John's Snapper weighs up to 8 kg.
- **Hence option (b) is the correct answer.**

### Q 5.D

- **The first to cross the Hindukush were the Greeks who ruled Bactria.** In the beginning of the second century BC, Indo-Greeks occupied a large part of North-western India. The most famous Indo-Greek ruler, Menander ruled between 165-145 BC.
- **The Greeks were followed by the Shakas,** who controlled a much larger part of India than the Greeks did. Shaka is the Indian term used for the people called **Scythians**, who originally belonged to central Asia. Defeated by their neighbours the Yueh-chis (the tribal stock to which the Kushanas belonged) they gradually came to settle in northwestern India around Taxila in the first century B.C Under the successive Shaka rulers their territories extended up to Mathura and Gujarat.
- **The Shaka domination in the North-west is followed by that of the Parthians** and in many ancient Indian Sanskrit texts, the two people are together called as Shaka-Pahlavas. In comparison with the Greeks and the Shakas, Parthians occupied a very small portion of North-western India. They ruled approximately from 100 BC to 400 CE.
- **Parthians were followed by the Kushans** who are also called as Yuehis or Tocharians. We come across successive dynasties of the Kushans, The first dynasty was founded by a house of chiefs called as Kadphises who ruled for about 28 years from about 50 A.D. **Hence, option (d) is the correct answer.**

### Q 6.B

Advaita Vedanta and Dvaita Vedanta primarily differ in their views on the nature of reality (Brahman) and the self (Atman).

- **Advaita Vedanta: ( Shankaracharya )**
  - In Advaita Vedanta, the philosophy is based on Non-Dualism (Advaita), which emphasizes the ultimate oneness and identity of the individual soul (Atman) and the ultimate reality (Brahman).

- It posits that Brahman is formless, attributeless, and the only true reality, while the phenomenal world is considered an illusion (Maya).
- The individual soul (Atman) is identical with Brahman, and liberation (Moksha) is attained through self-realization and transcending the illusion of individuality.
- **Dvaita Vedanta: ( Madhavacharya )**
  - In contrast, Dvaita Vedanta is based on Dualism (Dvaita), which emphasizes a clear distinction between the individual soul (Jiva) and the ultimate reality (Brahman).
  - According to Dvaita philosophy, Brahman is a personal, supreme God (Vishnu) who is separate from the individual souls. The Jiva and Brahman have eternal and distinct existences.
  - Liberation is attained through devotion (Bhakti) to the personal form of God, and the individual soul attains eternal service to God in a blissful state.
- While both philosophical schools acknowledge the existence of God, the crucial difference lies in their understanding of the **relationship between the individual soul and the ultimate reality (Brahman) and how they interpret the nature of reality. Hence option (b) is the correct answer.**

#### Q 7.D

- In a significant step towards vulture conservation, the Centre has prohibited the sale, manufacture and distribution of the drugs ketoprofen and aceclofenac and their formulations for animal use.
- The government said that ketoprofen and aceclofenac are harmful to cattle and can kill vultures too if they eat the carcasses of the animals that were administered with these two drugs.
- The vultures are classified as endangered species in India. Web journal The Print, in a recent report, had quoted the assistant director of Bombay Natural History Society as saying that in 1980's India had around 4 crore vultures and by the late 1990s, 99 percent of the population had been wiped out because of a non-steroid anti-inflammatory drug administered to cattle as a painkiller.
- **Hence, option (d) is the correct answer.**

#### Q 8.B

- **Hindustani Music is one of the two distinct schools of Indian Classical Music practiced mainly in North India. The other school of Indian Classical Music is Carnatic music which is practiced mainly in Southern India.** Forms of Hindustani Music are:
- **Dhrupad:** It is one of the oldest and grandest forms of Hindustani classical music. It finds mention even in Natyashastra (200 BC–200 AD). It reached its zenith in the court of Emperor Akbar.
- **Khayal:** The word 'Khayal' is derived from Persian and means "idea or imagination".
  - **The origin of this style was attributed to Amir Khusrau.** It is popular amongst the artists as this provides greater scope for improvisation. Based on the repertoire of short songs ranging from two to eight lines. Is also referred to as a 'Bandish'.
  - Major gharanas in khayal: Gwalior, Kirana, Patiala, Agra, and Bhendibazaar Gharana. **Gwalior Gharana is the oldest and is also considered the mother of all other gharanas. Hence, statement 3 is not correct.**
- **Thumri and Tappa** are popular types heard in concerts. **The thumri is very lyrical in its structure and presentation. These forms are termed as 'semi' or 'light' classical. Thumri is a love song and hence the textual beauty is very important.** This is closely coordinated with the musical rendition. Thumri is usually set to ragas like Khamaj, Kaphi, Bhairavi and so on and the musical grammar is not strictly adhered to. **Hence, statement 1 is correct.**
- **The Tappa consists of the song uttered in fast note patterns.** It is a difficult composition and needs much practice. Both the Thumri and Tappa require special training as do the Dhrupad and Khyal forms of singing. **Hence, statement 2 is correct.**

#### Q 9.B

- The story of Malik Ambar, an African slave-turned-warrior, is an unusual one. Sold and bought several times by slave dealers during his youth, fate brought him miles away from his **home in Ethiopia to India**, not only did Ambar get his freedom back, but he also rose up the social ladder, got an army, vast estates, and founded a city that today goes by the name 'Aurangabad'. **Hence statement 1 is not correct.**
- In the early 1570s, Ambar was taken to the Deccan. **Here he was purchased by a certain Chengiz Khan (not the infamous Chengiz Khan of Central Asia).** Khan himself was a former slave who had risen to hold the office of Peshwa or chief minister of the Nizam Shahi sultanate of Ahmadnagar in India. **However, in Deccan society, the slaves did not have a permanent status.** Upon the death of their masters, they were usually "set free" and served as per their free will in service of powerful commanders in the Empire.

- Five years after taking him on, Ambar's master and patron Chenghiz Khan died, and Ambar was set free. For the next 20 years, he served as a mercenary for the Sultan of neighboring Bijapur. It is here he was given charge of a small troop and bestowed with the title "Malik".
- In 1595, Malik Ambar returned to the Ahmadnagar Sultanate and served under another Habshi lord. This was the time when Mughal Emperor Akbar laid eyes on the Deccan and began a significant military expedition towards Ahmednagar. This was also Akbar's last expedition before he passed away. Thus Malik Ambar was a contemporary of Akbar. **Hence statement 2 is correct.**
- It was really during the Mughal invasion of Ahmednagar in the late 1590s that Malik Ambar truly came into his own. The Mughals took the capital of the Ahmadnagar Sultanate, but the wider country around it was still in rebellion. Edging out a rival, Ambar became the leader of the resistance. Other Deccan princes sent money and resources to Ambar to prevent inroads by Akbar and Jahangir's armies into their territories. Apart from being an able fighter, Ambar was also a fine administrator. In 1610, after briefly expelling the Mughals from Ahmednagar, Ambar established a new capital, a city named Khirki (present-day Aurangabad in Maharashtra) for the sultanate.

#### Q 10.C

- **Pattachitra painting:** This form of art is closely related to the **cult of Shri Jagannath** and the **temple traditions in Puri (Odisha)**. **It is believed to have originated as early as the 12th century. Hence, statement 1 is correct.**
- **The art is also based in West Bengal, and parts of Bangladesh.**
  - **Painting process:** Traditionally the painters are known as chitrakars. Chitrakars follow a traditional process of preparing the canvas.
    - ✓ **A gauze-like fine cotton cloth is coated with white stone powder and gum made out of tamarind seeds.** This makes the canvass ready to accept the paint, made of natural colors.
    - ✓ **The gum of the kaitha tree is the chief ingredient,** used as a base for making different pigments by adding available raw materials.
    - ✓ Upon completion of a painting, the **canvas is held over a charcoal fire and lacquer is applied to the surface.**
  - **Pattachitra from Odisha and West Bengal have received GI Tag. Hence, statement 2 is correct.**

#### Q 11.C

- Akbar made some experiments in the land revenue administration with the help of Raja Todar Mal. The land revenue system of Akbar was called Zabti or Bandobast system. It was further improved by Raja Todar Mal. It was known as Dahsala System which was completed in 1580.
- By this system, Todar Mal introduced a uniform system of land measurement. **The revenue was fixed on the average yield of land assessed on the basis of the past ten years. The land was also divided into four categories – Polaj (cultivated every year), Parauti (once in two years), Chachar (once in three or four years), and Banjar (once in five or more years). Payment of revenue was made generally in cash. Hence, option (c) is the correct answer.**

#### Q 12.B

- By the second decade of the 18th century the Maratha powers under Peshwa Baji Rao I were striking out against the Mughals in the Deccan and in central India.
- In 1719 Balaji Vishwanath returned from Delhi with firmans for Chauth and Sardeshmukhi. The Maratha king became the Sardeshmukh of the entire Deccan (Aurangabad, Berar, Bidar, Bijapur, Hyderabad, and Khandesh) and Karnataka.
- Originally the Peshwa was only a mukhyapradhan or prime minister and his post was not hereditary.
- **When Baji Rao, Balaji Vishwanath's son, became Peshwa in 1720, the office became hereditary. In 1740 Balaji Baji Ra'o (Nana Saheb) became Peshwa. Hence option (b) is the correct answer.**
- **Till Shahu's death in 1749, he was still under the restraint of the Raja of Satra. Thereafter, he virtually dislodged the Raja from sovereign power.**

#### Q 13.D

- **Bihu** is a traditional **folk dance** of **Assam**. It is usually celebrated **in accordance with the agricultural cycle**:
  - **Rongali/Bohag Bihu (April)**- It is a festival of merriment and heralds the **Assamese New Year** and the onset of spring.
  - **Kongali/Kati Bihu (October)**



- **Bhogali/Magh Bihu (January)**- It is quintessentially the **festival of food**. It marks the end of the harvesting season.
- Each Bihu coincides with an idiosyncratic phase in the farming calendar. The Bohag Bihu marks the New Year at the advent of seeding time, the Kati Bihu marks the completion of sowing and transplanting of paddies, and the Magh Bihu marks the end of the harvesting period.
- On **April 13, 2023, 11,304 dancers and musicians performed** the traditional Assamese dance of **Bihu**, in Guwahati's Sarusajai Stadium and created **two world records i.e. of both the largest performance by folk musicians and the largest Bihu dance performance**.
- Hence option (d) is the correct answer.

#### Q 14.A

- The **Avadānaśataka** or the "**Century of Noble Deeds**" is a part of **Buddhist** literature. It is an **anthology** (collection of poems) of one hundred Buddhist legends (thus, Shataka). **Hence statement 1 is correct.**
- Possibly compiled in the **first-second centuries**, approximately dating to the same time as the Ashokavadana, the stories are thematically **organized into ten "books"** that portray the truth of the doctrine of **karma (action)** and the power of **religious dāna (giving), faith, and devotion**.
- The **language** used in these anthologies is **Sanskrit** (and not Pali). **Hence statement 2 is not correct.**

#### Q 15.B

- **Recent context: China has released its first homegrown open-source desktop operating system, named OpenKylin.**
- **It is based on the existing open-source Linux operating system, China's version was built by a community of about 4,000 developers, and is used in its space programme and industries such as finance and energy.**
- China's massive market for operating systems is worth 15.5 billion yuan (\$2.1 billion).
- Developing an operating system independent of U.S. technology has been an important goal for China's tech industry in recent years, with many companies and organisations having contributed to the development of the OpenKylin system.
- More than a dozen Chinese companies are trying to develop operating systems that could replace Microsoft's Windows and Apple's MacOS operating systems.
- Hence option (b) is the correct answer.

#### Q 16.D

- **Recent context: Bengaluru has become the first Indian city to become part of the World Cities Culture Forum (WCCF),** a global network of cities that share research and intelligence, and explore the role of culture in future prosperity. **Hence statement 2 is not correct.**
- The network currently has 40 cities spanning six continents. Bengaluru being the latest addition is set to join the league of cities like New York, London, Paris, Tokyo and Dubai among others.
- **The global consortium was founded in 2012 by Justine Simons OBE, London's Deputy Mayor for Culture & the Creative Industries.** Hence statement 1 is not correct.

#### Q 17.D

- There are **eight classical dances** in India, including Bharatanatyam, **Kathak**, Kuchipudi, Odissi, Kathakali, Sattriya, Manipuri, and Mohiniyattam, as acknowledged by the **Sangeet Natak Academy**. **Hence statement 1 is correct.**
- **Kathak**, in particular, has historically been practiced in **northern India**. The other dances, including Bharatanatyam, Kuchipudi, Kathakali, and Mohiniyattam, are concentrated in South India. **Hence statement 2 is correct.**
- **It was primarily a temple or village performance wherein the dancers narrated stories from ancient scriptures.**
- For the South Indian dances, **Carnatic music** is incorporated, e.g., **Bharatnatyam**. For **Sattriya and Odissi**, **local music** is incorporated. Herein, **Kathak** is the **only classical dance that makes use of Hindustani Music**. **Hence statement 3 is correct.**
- Unlike other classical dances, the **Kathak** dance has particularly evolved in **Gharanas**. For example, **Pandit Birju Maharaj** belonged to the **Lucknow** gharana, whereas **Sitiradeviji** belonged to the **Jaipur** gharana. These different Gharanas focus on various aspects of the dance, thus creating separate specialties. E.g., the Lucknow gharana focuses on Lasya and face expressions. **Hence statement 4 is correct.**

### Q 18.C

- A team of researchers from Gandhinagar-based Gujarat Ecological Education and Research (GEER) Foundation has discovered a new species of saltwort called *Salsola oppositifolia* Desf., a perennial shrub that grows in saline, arid to semi-arid environments of the Kutch district.
- The discovery of *Salsola oppositifolia* Desfontania, a species that belongs to the family of Amaranthaceae, has been reported in the latest issue of Plant Discoveries, an annual compendium published by the Botanical Survey of India (BSI) since 2007.
- The new plant species, according to the paper, is a perennial, succulent shrub that can grow one to two metres tall and have a smooth, cylindrical, woody base. It is rarely prostrate and unlike other species of *Salsola*, does not have any hairs. As the name *oppositifolia* suggests, the leaves of this plant grow opposite each other in the stem. It is a halophyte — a plant adapted to growing in saline conditions.
- **Hence, option (c) is the correct answer.**

### Q 19.A

- **Recently, a private Chinese company launched into orbit the world's first methane-liquid oxygen rocket called Zhuque-2, beating U.S.**
  - It was the second attempt by Beijing-based LandSpace, one of the earliest firms in China's commercial launch sector, to launch the Zhuque-2. **Hence pair 1 is correctly matched.**
- **Recently, The Falcon Heavy of Space X launched the Jupiter 3 satellite.**
  - The launch kicked off a record-breaking mission: Jupiter 3 is the largest commercial communications satellite ever built, according to its operator, Hughes Network Systems. **Hence pair 2 is not correctly matched.**
- **Recently, the central government's Computer Emergency Response Team (CERT-In) issued an advisory flagging the emergence of a new ransomware called Akira.**
  - Ransomware is essentially a kind of malware — software used to gain unauthorized access to systems to steal data. This data can then be used by cyber criminals to demand a ransom. **Hence pair 3 is not correctly matched.**
- **Hence option (a) is the correct answer.**

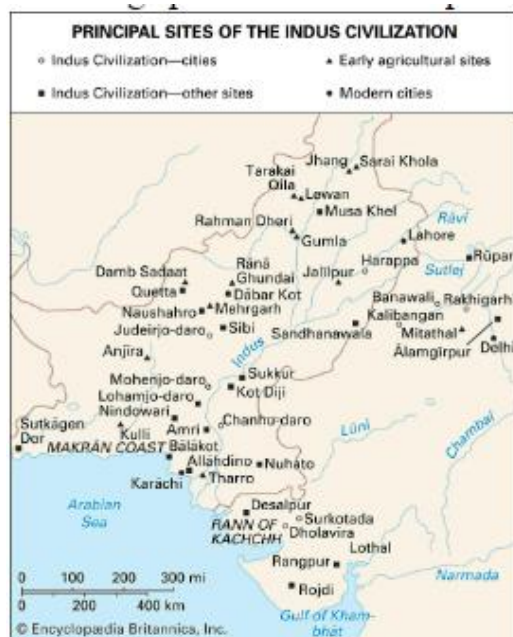
### Q 20.B

- Apart from the non-sectarian movement led by Kabir and Nanak, the Bhakti movement in north India developed around the worship of Rama and Krishna, two of the incarnations of the god Vishnu. The childhood escapades of the boy Krishna and his dalliance with the milkmaids of Gokul, especially with Radha, became the themes of a remarkable series of saint poets who lived and preached during the fifteenth and early sixteenth centuries. According to Chaitanya (15th century), worship consisted of love and devotion and song and dance which produced a state of ecstasy in which the presence of God, whom he called Hari, could be realised. Such worship could be carried out by all, irrespective of caste or creed.
- The writings of Narasimha Mehta in Gujarat, of Meera in Rajasthan, of Surdas in western Uttar Pradesh and of Chaitanya in Bengal and Orissa reached extraordinary heights of lyrical fervour and of love which transcended all boundaries, including those of caste and creed.
- Born and schooled in Nadia, the centre of Vedantic rationalism, Chaitanya's tenor of life was changed when he visited Gaya at the age of twenty-two and was initiated into the Krishna cult by a recluse. He became a god-intoxicated devotee who incessantly uttered the name of Krishna. **Chaitanya is said to have travelled all over India, including Vrindavan, where he revived the Krishna cult. Hence, statement 1 is correct.**
- But most of his time was spent at Gaya. He exerted an extraordinary influence, particularly in eastern India, and attracted a wide following, including some Muslims and people from the low castes.
- **He did not reject the scriptures or idol worship, though he cannot be classified as a traditionalist. Hence, statement 2 is not correct.** The Vedantist philosophy had been propounded by a number of thinkers, but the one who probably influenced the saint-poets the most was Vallabha, a Tailang Brahman, who lived in the last part of the fifteenth and the early part of the sixteenth century.
- Like the other non-sectarians, they were not able to make an effective breach in the caste system. However, they softened its rigour and built a platform for unity which could be apprehended by wider sections. The Bhakti songs of the Vaishnavite saints written in Hindi and other languages touched the hearts of the Sufis more than Persian poetry did.
- The use of Hindi songs became so popular that an eminent Sufi, Abdul Wahid Bilgrami, wrote a treatise Haqiq-i-Hindi in which he tried to explain such words as 'Krishna', 'Murli', 'Gopis', 'Radha', 'Yamuna', etc., in Sufi mystic terms.

- Thus, during the fifteenth and the early part of the sixteenth century, the Bhakti and the Sufi saints had worked out in a remarkable manner a common platform on which people belonging to various sects and creeds could meet and understand each other. **According to historians and scholars, Chaitanya Mahaprabhu did not pen down any written text. However, his words were recorded by one of his followers, which came to be known as 'Siksastaka' (eight verses). Hence, statement 3 is correct.**
- These eight verses are believed to house the philosophy of Gaudiya Vaishnavism. Though Chaitanya Mahaprabhu did not write down his teachings and philosophy, he did request a few of his followers (Six Gosvamis of Vrindavan) to systematically present his teachings in their own writings.

#### Q 21.D

- **The Harappan Civilisation** appeared in the north-western part of India and Pakistan in **third millennium BCE** and is collectively called the Indus Civilisation. It represents the first phase of urbanisation in India.
- The Indus Civilisation and the contemporary cultures covered nearly 1.5 million sq. km area in India and Pakistan.
- The northernmost site is Manda in the Jammu district of Jammu and Kashmir, the southernmost is Daimabad in Maharashtra. **The westernmost site is Sutkagendor on the Makran coast of Pakistan**, and the easternmost is Alamgirpur in the Saharanpur district of Uttar Pradesh.



- Hence, option (d) is the correct answer.

#### Q 22.B

- The **Pratiharas** were also called **Gurjara**. They ruled **between the 8th and 11th century A.D. over northern and western India**. The Pratiharas stood as a fortification of India's defense against the hostility of the Muslims from the days of Junaid of Sind (725. A.D.) to Mahmud of Ghazni.
- **Rulers of the Pratihara dynasty:**
  - **Nagabhata I (725-740 A.D.):** Founder of the Pratihara dynasty with Kanauj as its capital.
  - **Mihirabhoja:** The **most powerful Pratihara king**. During his period, the empire expanded from Kashmir to Narmada and from Kathiawar to Bihar. He was a devotee of Vishnu and **took the title "Adivaraha"**. Hence pair 1 is correctly matched.
  - **Mahendrapala I (885-908 A.D.):** Son of Mihirabhoja, was also a powerful ruler. He extended his control over Magadha and North Bengal. Hence pair 2 is not correctly matched.
- **Rashtrakutas:** While the Palas and the Pratiharas were ruling over north India, **the Deccan were being ruled by the Rashtrakutas**, a remarkable dynasty that produced a long line of warriors and able administrators.
- The **Rashtrakuta empire** was founded by **Dantidurga** who set up his capital at **Manyakheta or Malkhed near modern Sholapur**. The Rashtrakutas soon dominated the entire area of northern Maharashtra.
- **Govinda III annexed Kanauj, Malwa, turned south, and defeated Lankan rulers.**
- **Amoghvarsha:** preferred the **pursuit of literature and religion to that of war**. He wrote the first **Kannada book on poetics**. Faced many rebellions in far-flung areas of the empire. Hence pair 3 is correctly matched.

### Q 23.C

- **Condition of India on the eve of Mahmud Ghazni (970-1031) invasion:**
  - On the eve of the invasion, North India was divided into a number of independent states.
  - On the **frontier of India**, there existed the **Hindushahi kingdom** which extended from the **Punjab to Kabul**. Its capital was **Waihind**. Hence statement 1 is correct.
  - **Jayapala (964 to 1001) and his son Anandapala** were the prominent rulers of the kingdom. Hence statement 2 is correct.
  - **Kashmir** was an independent state ruled over by the **Lohara dynasty** and it had family relations with the **Hindushahis**. Hence statement 3 is correct.
  - **Kanauj** was ruled over by **Rajyapala**, the **Gurjara Pratihara king**
  - There were independent kingdoms in **Bengal (Pala dynasty)**, **Gujarat (Solanki dynasty)**, **Malwa (Paramara dynasty)**, and **Bundhelkhand (Chandella dynasty)**.
  - In the south, the later **Chalukyas** and **Cholas** have their powerful kingdoms

### Q 24.C

- **Pradakshinapath** refers to the **circumbulatory or pathway around the main shrine**.
- In the **Nagara style of temple architecture**, there were three kinds of the temples on the basis of access and the **circumambulatory path built in it**. They are:
  - **Sandhara type** -with pradikshinapath. Hence pair 1 is correctly matched.
  - **Nirandhara type** -without pradakshinapath. Hence pair 2 is correctly matched
  - **Sarvatobhadra type** -which can be accessed from all sides. Hence pair 3 is correctly matched.

### Q 25.C

- Haptic technology (also kinaesthetic communication or 3D touch) is technology that can create an experience of touch by applying forces, vibrations, or motions to the user. **Hence, statement 1 is correct.**
- Haptic technologies are a fascinating way of enhancing our interaction with the digital world. They can simulate the sense of touch by applying different kinds of forces, vibrations, and motions to a person using the tech. This can make us feel more immersed in virtual reality, gaming, or remote control applications. For example, if you touch a virtual button on a screen, you might feel a click or a buzz. If you drive a car in a game, you might feel the steering wheel resist your movement or shake when you hit an obstacle. **Hence, statement 3 is correct.**
- Mid-air haptics can improve the quality and safety of medical procedures, by providing haptic guidance and feedback for surgeons, nurses, and patients, such as palpation, needle insertion, and wound dressing.
- Mid-air haptics can facilitate learning and exploration, by enabling students to feel and manipulate abstract concepts and phenomena, such as molecular structures, sound waves, and magnetic fields.
- This technology can assist people with visual impairments, by providing spatial and directional cues, such as navigation, obstacle detection, and object recognition. **Hence, statement 2 is correct.**
- **Therefore, option (c) is the correct answer.**

### Q 26.C

- In Buddhism, "Anicca" (or "Anichcha" in Pali) refers to the **concept of impermanence**. It is one of the three marks of existence, along with "Dukkha" (suffering) and "Anatta" (non-self). **Hence option (c) is the correct answer.**
- **Anichcha:**
  - The principle of Anicca teaches that all **conditioned phenomena**, whether physical or mental, are impermanent and subject to change.
  - **Nothing in the world, including ourselves, remains fixed or permanent.** Everything arises, undergoes change, and eventually ceases to exist.
  - This impermanence is a fundamental aspect of existence and is inherent in the cycle of birth, aging, illness, and death.
  - In understanding the nature of Anicca, Buddhists aim to develop wisdom and insight into the true nature of reality. By recognizing impermanence and letting go of attachments to transient things, individuals can find **liberation from suffering and attain enlightenment (Nirvana)**.
  - Embracing the **impermanent nature of reality** is considered essential for the path to spiritual realization and freedom from the cycle of suffering.



### Q 27.C

- **Among the biggest mysteries about the Harappan civilization is the language the Harappan spoke and their writing system.** It is likely that people living in various parts of the Harappan culture zone speak different languages and dialects. The writing on the seals was probably the language of the ruling elite. A total of about 3700 inscribed objects have been found at Harappan sites. Most of the inscriptions are very short, with an average of five signs the longest one has 29 signs.
- **There are 400-450 basic signs and the script is logo-syllabic means each symbol stood for a word or syllable. The script seems to have a fully evolved state and does not show any significant changes over time. Hence, option (c) is the correct answer.**
- It was generally written and meant to be read from right to left. This is evident from the fact that in inscriptions, the letters are cramped on the left side, where space had completely run out, and form overlapping letters scratched onto pottery. There are few instances, however, of writing from left to right. Longer inscriptions that consisted of more than one line were sometimes written in the **boustrophedon** style- with consecutive lines starting in opposite directions.

### Q 28.A

- **Nahapana (c. 119–25 CE)** was a **Western Kshatrapas ruler**. In his earlier inscriptions, Nahapana has the title kshatrapa, and in his later ones maha kshatrapa and rajan.
- **Rudradaman I (130-150 CE)** was a **Saka ruler** from the **Western Kshatrapas dynasty**. He was instrumental in the decline of the Satavahana Empire and took up the title of Mahakshatrapa.
- **Vasudeva I (191–232 CE)** belonged to the **Kushana empire**. Kushana empire started declining from the time of Vasudeva I, in about the mid-2nd century CE, and Vasudeva II was the last Kushana emperor.
- **Simuka** founded the **Satavahana Dynasty** and is credited with destroying the Shunga Power. He was succeeded by his brother Kanha, who extended the empire westward at least as far as Nashik.
- **Hence, option (a) is the correct answer.**

### Q 29.B

- **Recent context:** Many economists have questioned the validity of the argument that corporate thirst for higher profits is the cause behind inflation.
- **Greedflation refers to price inflation caused by corporate greed for high profits.**
  - In essence, greedflation implies that companies exploited the inflation that people were experiencing by putting up their prices way beyond just covering their increased costs and then used that to maximise their profit margins. That, in turn, further fuelled inflation.
- In the developed countries — in Europe and the US — there is a growing consensus that greedflation is the real culprit.
- Greedflation has been compared to other theories of “cost-push” inflation which attribute inflation to a rise in input costs.
  - For example, in the past, a rise in the wages demanded by workers has been blamed for the rise in the prices of goods and services. In the case of greedflation, it is the rise in the corporate thirst for profits that is seen as a cost that is driving up prices.
- **Hence option (b) is the correct answer.**

### Q 30.B

- **The Battles of Tarain**
  - The Tarain battles changed the course of the history of the Indian subcontinent as **they led to the establishment of the first Islamic sultanates** in India. **Both battles were fought between Mohammed Ghori and Prithviraj Chauhan.**
- **The first battle of Tarain (1191 CE)**
  - **The first battle of Tarain was fought in 1191 between the Ghurids, a Turkish tribe, led by Muhammad Ghori, and the Rajputs led by Prithviraj Chauhan and his allies. Hence statement 1 is not correct.**
  - The resulting engagement **ended in victory for the Rajput forces.**
  - **Mohammed Ghori was defeated as Prithviraj annexed Tabarhind** after a siege of 12 months.
  - But Ghori managed to escape to Ghazni where he regrouped and raised another army.
- **The second battle of Tarain (1192 CE)**
  - The Rajput confederacy weakened because of a fallout between Prithviraj and Jayachandra (Gahadaval ruler of Kanauj).
  - Muhammad Ghori now made careful preparations and marched with 120000 men.

- The fate of Prithviraj Chauhan is disputed about whether he was captured or killed or ruled under the suzerainty of Ghurids.
- **Aftermaths of Battles of Tarain**
  - After the Battles of Tarain, the Ghurid armies **captured the forts of Hansi, Saraswati, and Samana**. Then they attacked and **captured Ajmer**.
  - It is also said that Prithviraj was allowed to rule over Ajmer as a Ghurid vassal for a while, before being executed for conspiracy.
  - The **Tomar ruler of Delhi was also ousted soon and Delhi and eastern Rajasthan came under Ghurid rule**.
  - Meanwhile, **Prithviraj's son moved to Ranthambore and found a new Chauhan Dynasty. Hence statement 2 is correct.**

#### Q 31.D

- **Sohrai Khovar is a traditional and ritualistic mural art. It is done by local tribal women during local harvest and marriage seasons using local, naturally available soils of different colours in the area of Hazaribagh district of Jharkhand. Hence statements 1, 2 and 3 are correct.**
- Style features a profusion of lines, dots, animal figures and plants, often representing religious iconography i.e. visual image and symbols.
- It has been painted on the walls of important public places in Jharkhand, such as the Birsa Munda Airport in Ranchi.
- **It has received GI tag in 2020. Hence statement 4 is correct.**

#### Q 32.D

- **Samkhya philosophy**
- The Samkhya is the **oldest of all six systems of philosophy**.
- **It teaches the existence of twenty-five basic principles (tattva).**
- Of these twenty-five tattvas, the first is Prakriti i.e. "matter".
- **The Samkhya system believes that the evolution of the universe is not due to God but due to the inherent nature of the Prakriti.**
- It is from Prakriti that all things like air, water, ether (akasa), intelligence (buddhi), self-consciousness, sight, touch, hearing, speech, etc. develop.
- One of the most important tattvas in all this is Purusa, the "soul".
- As in Jainism, the Samkhya believes that there are an infinite number of souls and Purusa is not dependent on Prakriti nor is Prakriti dependent on Purusa.
- Yet Purusa is involved in some way in the Prakriti i.e. the matter and salvation lies in recognizing their differences.
- **A very important feature of Samkhya is the doctrine of three qualities (guna). These are virtue (Sattva), passion (Rajas) and dullness (Tamas).**
- It is said that in the beginning, these three gunas are present in all beings in equilibrium, but as they evolve, one or other of these three gunas come to dominate.
- The Sattvaguna represents truth, wisdom, beauty and goodness; the Rajas signify fierceness, activeness, violence, energy and; while the Tamas is darkness, foolishness, gloom, unhappy, etc.
- However, the distinction between the Purusa (soul) and Prakriti (matter) was modified in Tantricism which developed in later days. In Tantricism Purusa came to signify "man" and Prakriti "woman".
- **Hence, option (d) is the correct answer.**

#### Q 33.C

- **Kamakhya Temple:**
  - Kamakhya Temple, a Shakti Peeth, dedicated to Goddess Kamakhya is in Guwahati, Assam. **It is predominantly built in the Ahom style of architecture.** The temple complex underwent significant renovations and reconstructions under the patronage of the Ahom kings during their rule in Assam. **Hence option (c) is the correct answer.**
  - While the Kamakhya Temple displays influences from various architectural styles due to multiple renovations and additions over the centuries, the Ahom rulers significantly contributed to its present form and style.
  - The temple remains an essential pilgrimage site for devotees of Goddess Kamakhya and a symbol of Assam's rich cultural and architectural heritage.

- **Ahom style of architecture:**
  - The Ahom style of architecture is known for its distinctive features, including the **use of durable and indigenous materials, such as bricks and terracotta tiles.**
  - The temple's design typically includes a **hemispherical dome atop a square sanctum, decorated with intricate sculptural details and motifs.**

#### Q 34.D

- The course of the evolution of Indian music saw the emergence of two different sub-systems as Hindustani and Carnatic music.
- **Purandara Das** a saint from Karnataka, is known as the **father of Carnatic music.**
- After Purandaradasa, **Tallapakam Annamacharya Narayana Tirtha, Bhadrachalam Ramdas and Kshetranja** made contributions to the wealth of compositions
- **The birth of the Musical Trinity – Tyagaraja, Muthuswami Dikshitar and Syama Sastri – at Tiruvarur between the years 1750 to 1850 A.D. ushered in an era of dynamic development in Carnatic music.** The Trinity were not only contemporaries among themselves but, also contemporaries of great composers of Western Music, as Beethoven, Mozart, Wagner and Haydn.
- **Hence, option (d) is the correct answer.**

#### Q 35.C

- **Chanakya, also known as Kautilya and Vishnugupta,** was a Brahmin and a sworn adversary of the Nandas. His **intrigues and brilliant strategy to subvert the intended invasion of Magadha** is the theme of the play, **Mudrarakshasa, a Sanskrit-language play by Vishakhadatta.** It is dated variously from the late 4th century to the 8th century CE.
- **Mricchakatika** is a ten-act Sanskrit drama credited to **Sudraka** (composed around the 5th century CE), it is about a young man named **Charudatta, and his love for Vasantasena,** a rich courtesan.
- **Sariputra Prakaran** is a Sanskrit drama written by **Asvaghosa,** it deals with the story of Sariputta or Sariputra - the disciple of Buddha.
- **Priyadarshika** is a Sanskrit play attributed to King **Harsha (606 - 648).** It deals with the story of Priyadarshika, the daughter of Dridhavarman, king of Anga.
- **Hence, option (c) is the correct answer.**

#### Q 36.D

- **Sana Lamok, Manipur:** It is sung at the time of the coronation ceremony by the Maiba (priest).
  - It may also be sung to welcome the king. It is sung to evoke the spirit of Pakhangba, the presiding deity. There is a belief that this song is potent with magical powers.
- **Hence, option (d) is the correct answer.**

#### Q 37.A

- A **geographical indication (GI) tag** is a **name or sign** used on certain products that **correspond to a specific geographical location or origin.** For example, **Darjeeling Tea,** etc. As an instrument of **intellectual property,** it protects the local artisans and ensures the **authenticity** of the product.
- **Kandhamal haldi** (turmeric) is grown in the southern-central part of the state of **Odisha.** It is a famous aromatic turmeric grown locally that is known to have medicinal properties. **Hence pair 1 is not correctly matched.**
- The **Idu-Mishmi tribe of Arunachal Pradesh** has a rich tradition of weaving **textiles** on backstrap looms. Idu Textile received GI accreditation in 2019. **Hence pair 2 is correctly matched.**
- The 14th-century **Assamese Ramayana,** written by Kaviraja Madhava Kandali, mentions that food items made from **Joha Rice** were used by Ravana to awaken his brother Kumbhakarna from his deep sleep. The Rice from **Assam** has been Conferred with Geographical Indication (GI) Status by the Government of India. **Hence, pair 3 is not correctly matched.**

#### Q 38.D

- Mystics, who are called Sufis, had risen in Islam at a very early stage. Most of them were persons of deep devotion who were disgusted by the vulgar display of wealth and degeneration of morals following the establishment of the Islamic empire. Hence, these saints wanted to have nothing to do with the state a tradition that continued later on.

- Some of the early Sufis, such as the woman mystic **Rabia (eighth century)** and Mansur bin Hallaj (tenth century), laid great emphasis on love as the bond between God and the individual soul. **Nizamuddin Auliya (1238 – 1325)**, also known as Hazrat Nizamuddin, and Mahbub-e-Ilahi (lit. 'Beloved of God) was an Indian Sunni Muslim scholar, Sufi saint of the Chishti Order, and is one of the most famous Sufis from the Indian Subcontinent. **Thus Rabia was not contemporaneous with Nizamuddin Auliya.**
- **But their pantheistic approach led them into conflict with the orthodox elements who had Mansur executed for heresy. Despite this setback, mystic ideas continued to spread among the Muslim masses. Hence, statement 2 is not correct.**
- **Bibi Fatima: The first woman Sufi saint of India, a simple woman who didn't show off her saintliness, Bibi Fatima was dear to many including Nizamuddin Aulia, who thought of her as an older sister. Hence, statement 1 is not correct.**

#### Q 39.C

- The institution of wizarat (or wikalat since both were used interchangeably), according to some accounts, can be traced back to the Abbasi Caliphs. Under the Delhi Sultans, the wazir enjoyed both civil and military powers. But under Balban his powers were reduced when the Sultan bifurcated the military powers. As for Sher Shah, this office remained almost in abeyance under the Afghans.
- **The position of the Wazir revived under' the early Mughals.** Babur's Wazir Nizamuddin Muhammad Khalifa enjoyed both civil and military powers. Humayun's Wazir Hindu Beg also virtually enjoyed great powers.
- **The period of Bairam Khan's regency (1556-60) saw the rise of the wakil-wazir with unlimited powers under Bairam Khan. In the 8th regnal year (1564-65). Akbar took away the financial powers of the wakil and entrusted it into the hands of the diwan-i-kul (Finance Minister). Separation of finance gave a jolt to the wakil's power. However, the wakil continued to enjoy the highest place in the Mughal bureaucratic hierarchy despite the reduction in his powers. Hence, option (c) is the correct answer.**

#### Q 40.C

- **Tirukkural** also called Kural is the most celebrated in Sangam literature and work that has had an immense influence on Tamil culture and life. **It is usually attributed to the poet Tiruvalluvar.** An **all-inclusive ethical guide**, the Tirukkural has as its foremost moral imperatives the avoidance of killing and the avoidance of falsehood. It also commends to the reader a feeling of compassion for **all individuals, regardless of caste or creed. It deals with philosophy and wise maxims. Hence pair 2 is correctly matched.**
- **Silappadikaram is the earliest epic poem in Tamil, was written in the 5th–6th century AD by Ilango Adigal.** Its plot is derived from a well-known story. The text tells of the young merchant **Kovalan's marriage to the virtuous Kannaki (Kannagi), his love for the courtesan Matavi,** and his consequent ruin and exile in Madurai, where he is unjustly executed after trying to sell his wife's anklet to a wicked goldsmith who had stolen the queen's anklet and charged Kovalan with the theft. **Hence pair 1 is correctly matched.**
- **Tolkappiyam is one of Tamil grammar texts and the oldest extant long work of Sangam literature.** The surviving manuscripts of the Tolkappiyam consist of three books (atikaram), each with nine chapters (iyal), with a cumulative total of 1,612 sutras. **It is a comprehensive text on grammar and includes poetics on orthography, phonology, etymology, morphology, semantics, prosody, sentence structure, and the significance of context in language. Hence pair 3 is correctly matched.**

#### Q 41.B

- **Recent context:** European Space Agency has recently launched the Euclid mission. it is set to make its way to its destination at the L2 Lagrange point — the same location shared by several other spacecraft including the James Webb Space Telescope.
- **Lagrange Points are positions in space where the gravitational forces of a two body system like the Sun and the Earth produce enhanced regions of attraction and repulsion.**
  - **These can be used by spacecraft to reduce fuel consumption needed to remain in position. Hence statement 1 is not correct and statement 2 is correct.**
- There are five special points where a small mass can orbit in a constant pattern with two larger masses. The Lagrange Points are positions where the gravitational pull of two large masses precisely equals the centripetal force required for a small object to move with them.
  - This mathematical problem, known as the "General Three-Body Problem."



- Of the five Lagrange points, three are unstable and two are stable. The unstable Lagrange points - labeled L1, L2 and L3 - lie along the line connecting the two large masses.
  - The stable Lagrange points - labeled L4 and L5 - form the apex of two equilateral triangles that have the large masses at their vertices. L4 leads the orbit of earth and L5 follows.

#### Q 42.B

- **The Rise Of The Chola Empire:-**
  - **The founder of the Chola empire was Vijayalaya, who was at first a feudatory of the Pallavas. Hence statement 1 is not correct.**
  - **He captured Tanjore in AD 850 and by the end of the ninth century, the Cholas had defeated both the Pallavas of Kanchi (Tondaimandalam) and weakened the Pandyas, bringing the southern Tamil country under their control.**
  - **The Cholas were hard put to defend their position against the Rashtrakutas as Krishna III defeated the Chola king, and annexed the northern part of the Chola empire. Hence statement 2 is correct.**
- **Age Of Rajaraja And Rajendra- I:**
  - **The greatest Chola rulers were Rajaraja (985–1014) and his son Rajendra I (1014–1044).**
  - **Rajaraja destroyed the Chera navy at Trivandrum and attacked Quilon.**
  - **He then conquered Madurai and captured the Pandyan king. and also invaded Sri Lanka and annexed its northern part to his empire. Hence statement 3 is correct.**
  - **One of the most remarkable exploits in the reign of Rajendra I was the march across Kalinga to Bengal in which the Chola armies crossed the river Ganga, and defeated two local kings.**
  - **This expedition took place in 1022 and followed in reverse the same route that the great conqueror Samudragupta had followed.**
  - **To commemorate this occasion, Rajendra I assumed the title of Gangaikondachola**

#### Q 43.B

- **Ramman** is a multiform cultural event and **festival** that combines **drama (theater)**, music, historical reconstructions, and traditional oral and written narratives to represent the community's environmental, spiritual, and cultural concepts, recalling its foundation myths and reinforcing its sense of self-worth. **Hence, statement 1 is correct.**
- It takes place every year in **late April** in the twin villages of **Saloor-Dungra in the state of Uttarakhand (Garhwal Region)**. **This festival is unique to this village and is not held anywhere else in the Himalayas. Hence, statement 2 is not correct.**
- The festival honors the tutelary god, **Bhumiya Devta, a local divinity** whose temple houses most of the celebrations.
- The festival is held **every year after Baisakhi**. During the festival, after some ritual dances, the locals perform **Ramkatha**. They enact **episodes from Rama's life**, beginning with his visit to Janakpur and culminating with his **coronation** following his return from exile. It takes place in the courtyard of **Bhumiya Devta's temple**.
- In 2009, it was included in the **UNESCO List of Intangible Cultural Heritage. Hence, statement 3 is correct.**

#### Q 44.A

- A geographical indication is a name or sign used on products which corresponds to a specific geographical location or origin.
- Among the three products to get GI tag is Veeravanallur Chedibutta Saree woven by weavers of Veeravanallur in Tirunelveli district in Tamil Nadu. These sarees are known for its iconic plant and flower motifs woven on the edges **Hence, option (a) is the correct answer.**
- The two other products in line to get the GI tag include the Jaderi Tiruman (NamaKatti) produced in Jaderi village in Cheyyar taluk of Tiruvannamalai district, and Kanniyakumari Matti bananas which are cultivated in Agatheeswaram, Thovalai and Thiruvattar taluks of Kanniyakumari district. The highly fragrant matti variety of bananas contains medicinal value.

#### Q 45.C

- **Recent context : The capital markets regulator has said it may allow companies to delist shares at a fixed price, as against the current 'reverse book-building' process.**
  - The Securities and Exchange Board of India (SEBI) is reviewing delisting regulations for listed companies in an attempt to rein in the manipulation of shares of a company that has opted for delisting from the stock exchanges.

- Delisting means removing the securities of a listed company from a stock exchange. Once delisted, the securities of that company can no longer be traded on the stock exchange.
- Delisting can be either voluntary or compulsory. In voluntary delisting, a company decides on its own to remove its securities from a stock exchange; in compulsory delisting, they are removed as a penal measure for the company not making submissions or complying with requirements set out in the listing agreement within the prescribed timeframes.
- **Reverse book-building is the process used for price discovery. During the period for which the reverse book-building is open, offers are collected from shareholders at various prices, which are above or equal to the floor price. The buyback price is determined after the offer closing price.**
- **Reverse book-building is a technique used to delist a company's shares from the stock exchange by allowing existing shareholders to tender their shares back to the company. It is the opposite of the traditional book-building process used in initial public offerings (IPOs), where investors bid for shares they want to buy.**
- **Hence option (c) is the correct answer.**

#### Q 46.C

- The history of the later Vedic period is mainly based on the Vedic texts which were compiled after Rig Veda. These texts show that Aryans expanded from Punjab over the whole of western Uttar Pradesh covering the Ganga-Yamuna doab.
- The main factor in the expansion of the Aryan culture during the later Vedic period was the beginning of the use of iron around 1000 BC. The northern and eastern parts of India to which the Aryans later migrated receive more rainfall than the north-western part of India. The use of iron tools now helped people clear the dense rain forests particularly the huge stumps left after burning, in a more effective manner. Large tracts of forestland could be converted into cultivable pieces in relatively lesser time.
- **Painted Grey Ware (PGW): There has been a continuous increase in the population during the later Vedic period due to the expansion of the economy based on agriculture. The increasing number and size of Painted Grey Ware (PGW) settlements in the doab area shows this. Hence, statement 1 is correct.**
- **The institution of gotra:** The changes in the economy and expansion also impacted politico-social-religious practices too. The later Vedic family became large enough to be called a joint family with three or four generations living together. **The institution of gotra developed in this period. This means that people having a common gotra descended from a common ancestor and no marriage between the members of the same gotra could take place. Hence, statement 3 is correct.**
- **Status of women:** Some restrictions on women appeared during this period. In a text, women have been counted as a vice along with dice and wine. In another text, a daughter has been said to be the source of all sorrows. Women had to stay with their husbands at their place after marriage. **The participation of women in public meetings was restricted.** In the later Vedic period, popular assemblies lost their significance and royal power increased at their cost. The vidhata disappeared completely. The sabha and samiti continued to hold ground but their character changed. **They came to be dominated by princes and rich nobles. Women were no longer permitted sit on the sabha and it was dominated by nobles and brahmins. Hence, statement 2 is correct.**
- **Religious Rituals:** Religion-wise, the people still worshipped gods for material gains but ritualism took shape during this period. Prayers ceased to be the dominant mode of worship. Another important feature was the increase in the frequency and number of the yajna which generally ended with the sacrifices of a large number of animals. Some of the important yajnas were - ashvamedha, vajapeya, rajasuya etc. Hence, statement 4 is not correct.

#### Q 47.A

- The Satavahanas kept some of the administrative units found in Asokan times. Their district was called, 'ahara', as it was called during the Asokan times. Their officials were known as 'amatyas' and 'mahamatras' as they were known in Mauryan times.
- **But Historians notice significant military and feudal elements in their administration. It is significant that the 'Senapati' was appointed provincial governor.**
- **Since the tribals in the Deccan were not thoroughly Hinduized and reconciled to the new rule, it was necessary to keep them under strong military rule. Hence, statements I and II are correct and statement II is the correct explanation to statement I.**
- The military character of the Satavahana rule is also evident from the common use of such terms as '**kataka**' and '**skandhavaras**' in their inscriptions. These were military camps and settlements which served as administrative centers as long as The King was present.

#### Q 48.C

- The researchers developed a tiny, magnetically operated robot that is capable of travelling deep into the lungs and able to detect and treat the first signs of cancer. Their approach makes use of a 2.4 mm diameter, ultra-soft, patient-specific magnetic catheter – or tentacle – which can be delivered from the end of a standard bronchoscope to reach the periphery of the lungs. In addition, the tentacles possess a laser fibre designed to enable targeted photo-thermal therapy to cancer cells.
- Lung cancer has the highest worldwide cancer mortality rate. In early-stage non-small cell lung cancer, which accounts for around 84% of lung cancer cases, surgical intervention is the standard of care. In addition to being able to navigate within the lungs during a biopsy, the magnetic tentacle robot could pave the way for far less invasive treatment, allowing clinicians to target only cancer cells while allowing healthy tissue and organs to continue normal function. **Hence, statement 1 is correct.**
- Magnetic nanoparticles (MNPs) have gained recent popularity in the past decade due to their applications in medicine, specifically cancer and biosensing. MNPs have been proven to be efficacious thermoelectric materials, imaging agents, and drug delivery of vehicles. **Hence, statement 2 is correct.**
- They range between one and 100nm in diameter, and the small size lends them to a diverse range of applications. Among them, they are useful in the biomedical setting as they have diverse physicochemical properties, are easy to prepare, are stable and biocompatible. They have been used as a novel approach to cancer theranostics (the simultaneous or sequential diagnosis and treatment of medical conditions).
- **Hence, option (c) is the correct answer.**

#### Q 49.C

- **Sunyata" or "Emptiness"** is a fundamental concept, particularly in the **Madhyamika school of thought, which was propounded by the Indian philosopher Nagarjuna. Hence option (c) is the correct answer.**
- **Explanation of Sunyata:**
  - **Meaning:** Sunyata is often translated as "emptiness," but it does not refer to literal nothingness. **Instead, it denotes the absence of inherent or independent existence in all phenomena.**
  - **Interconnectedness:** Sunyata highlights the interdependent and interconnected nature of reality. All phenomena are interrelated and depend on each other for their existence.
  - **No Inherent Self:** Sunyata refutes the concept of an eternal and unchanging self (Atman). Instead, it teaches that all phenomena, including the self, are devoid of an inherent or unchanging essence.
  - **Middle Way:** The Madhyamaka school, founded by Nagarjuna, emphasizes the Middle Way (Madhyamika) between the extremes of eternalism and nihilism. **Sunyata is the heart of the Middle Way,** as it transcends inherent existence without falling into absolute negation.
  - **Liberation:** **The understanding of Sunyata is crucial for achieving liberation (Nirvana) in Mahayana Buddhism.** Realizing the emptiness of all phenomena leads to the cessation of suffering and the attainment of enlightenment.

#### Q 50.C

- **Noah's Ark, from a dispersed Diwan-i Hafiz painted manuscript of 1590, is an excellent painting in subdued colour palette and has been ascribed to Miskin, one of the masters at Akbar's imperial atelier.** Prophet Noah is in the ark, which is carrying animals in pairs so that they may continue to flourish after the threatening flood sent by God to punish human beings for their sins. This painting lies in the collection of Freer Gallery of Art, Smithsonian Institution, Washington D. C., USA. **Hence pair 2 is correctly matched.**
- **Falcon on a Bird Rest is a painting by Ustad Mansur, Nadir ul Asr, a title received from Jahangir, is in the collection of Cleveland Museum of Art, Ohio, USA.** Jahangir had fine falcons brought to his collection, and as a keen connoisseur, he had them painted. These images were included in his official biography *Jahangir nama*. **Hence pair 1 is correctly matched.**
- **Tiller of the soil was made by Nandalal Bose in 1938 for the Haripura Congress. In this panel, a farmer is shown ploughing a field — the daily activity of a common man and in a village.** To capture the essence of village life in his Haripura panels, Bose made pen-and-ink brush studies of local villagers. He used thick tempera in a bold cursory style and broad brushwork. This technique and style was reminiscent of the folk art practice of patuas or scroll painters. **Hence pair 3 is correctly matched.**

### Q 51.C

- **Recent context: The third unit of the Kakrapar Atomic Power Project (KAPP-3) in Gujarat achieved its 'first criticality'.**
  - This is a landmark event in India's domestic civilian nuclear programme given that KAPP-3 is the country's first 700 MWe (megawatt electric) unit, and the biggest indigenously developed variant of the Pressurised Heavy Water Reactor (PHWR).
  - The PHWRs, which use natural uranium as fuel and heavy water as moderator, are the mainstay of India's nuclear reactor fleet.
  - PHWR technology started in India in the late 1960s with the construction of the first 220 MWe reactor, Rajasthan Atomic Power Station.
- Reactors are the heart of an atomic power plant, where a controlled nuclear fission reaction takes place that produces heat, which is used to generate steam that then spins a turbine to create electricity.
  - Fission is a process in which the nucleus of an atom splits into two or more smaller nuclei, and usually some byproduct particles.
  - When the nucleus splits, the kinetic energy of the fission fragments is transferred to other atoms in the fuel as heat energy, which is eventually used to produce steam to drive the turbines.
  - For every fission event, if at least one of the emitted neutrons on average causes another fission, a self-sustaining chain reaction will take place.
  - **A nuclear reactor achieves criticality when each fission event releases a sufficient number of neutrons to sustain an ongoing series of self sustained chain reactions.**
    - ✓ **Criticality is the state of a nuclear reactor when enough neutrons are created by fission to make up for those lost by leakage or absorption such that the number of neutrons produced in fission remains constant.**
- **Hence option (c) is the correct answer.**

### Q 52.C

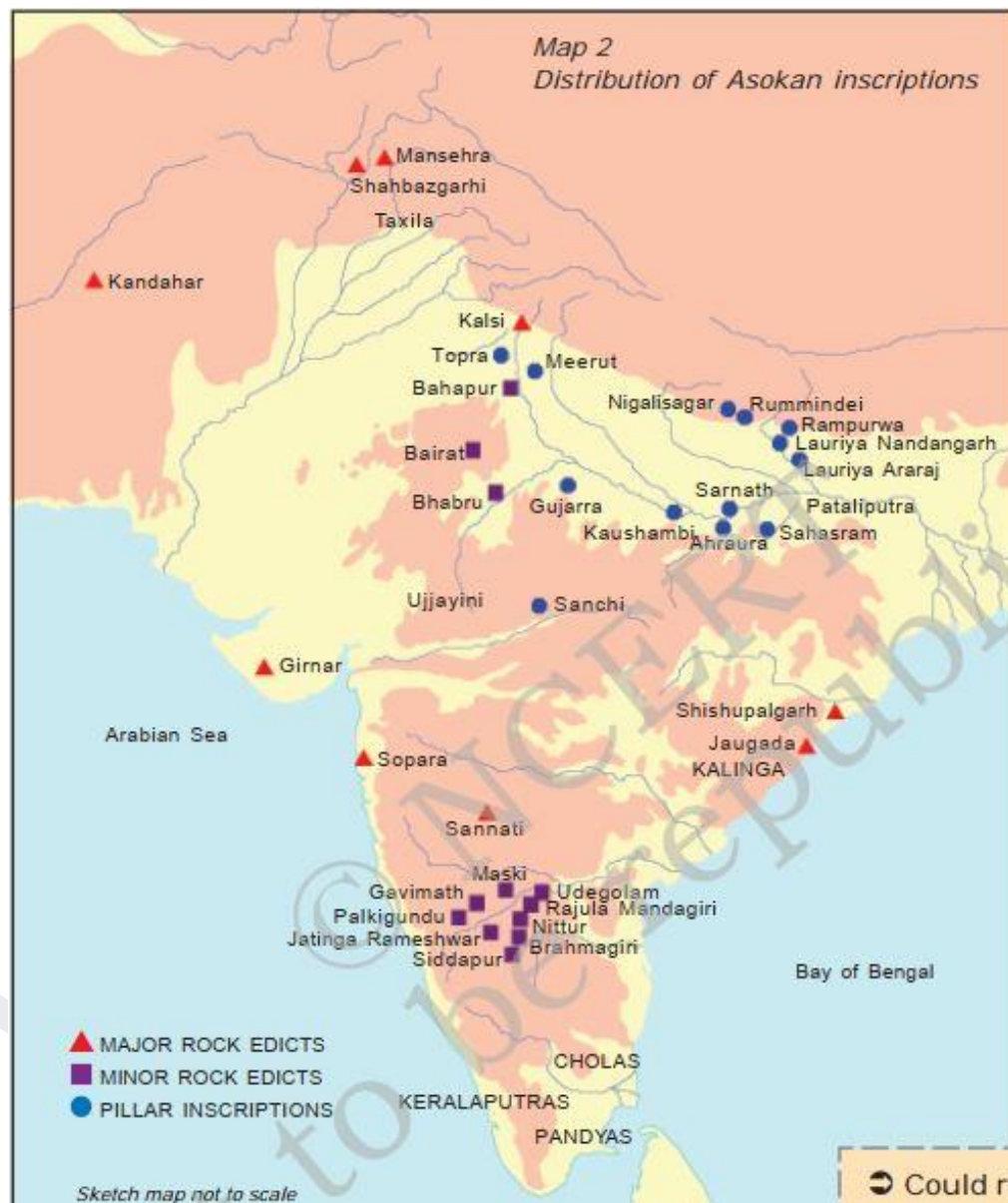
- The important non-Harappan chalcolithic cultures lay mainly in western India and Deccan. These include **Banas culture (2600BC–1900 BC)** in south-east Rajasthan, with Ahar near Udaipur and Gilund as its key sites; **Kayatha culture (2100BC–2000 BC)** with Kayatha in Chambal as its chief site in Madhya Pradesh; **Malwa Culture (1700BC–1400BC)** with Navdatoli in Western Madhya Pradesh as an important site, and **Jorwe culture (1400BC– 700BC)** with Inamgaon and Chandoli near Pune in Maharashtra as its chief centers.
- The non-Harappan Chalcolithic cultures though flourished in different regions they were marked by basic uniformity in various aspects such as their mud structures, farming and hunting activities, use of wheel-made pottery, etc. **The pottery of these chalcolithic cultures included ochre-colored pottery (OCP), and black-and-red ware (BRW) and has been found in the shape of various kinds of bowls, basins, spouted jars with concave necks, dishes on stands, etc.**
- **To this culture belonged a large number of very small-sized stone tools known as microliths. Also, people knew the art of spinning and weaving because spindle whorls have been discovered in Malwa.**
- **The non-Harappan chalcolithic communities founded the first villages in India and cultivated far more cereals than is known in the case of neolithic communities. Despite this, the rate of infant mortality was very high. This general weakness of these communities is evident from the burial of a large number of children in western Maharashtra. Hence, option (c) is the correct answer.**

### Q 53.C

- **Asoka was the first ruler who inscribed his messages to his subjects and officials on stone surfaces-natural rocks as well as polished pillars. He used the inscriptions to proclaim what he understood to be dhamma. This included respect towards elders, generosity towards Brahmanas and those who renounced worldly life, treating slaves and servants kindly, and respect for religions and traditions other than one's own.**
- The Edicts of Ashoka are 33 inscriptions engraved on pillars, large stones, and cave walls by Ashoka the Great (r. 268-232 BCE), the third king of the Mauryan Empire (322-185 BCE) of India.
- One set, the so-called **Major Rock Edicts**, are consistent in their message that the people should adhere to the concept of Dhamma, defined as "right behavior", "good conduct" and "decency toward others". The edicts were inscribed throughout Ashoka's realm which included the areas of modern-day Afghanistan, Bangladesh, India, Nepal, and Pakistan and most were written in Brahmi Script (though one, in Afghanistan, is also given in Aramaic and Greek).



- **The Minor Rock Edicts** and Minor Pillar Edicts deal with Ashoka's early reign, the Major Pillar Edicts treat the end of his reign, while the Major Rock Edicts address Ashoka's vision of peaceful existence through Dhamma.
  - The Major Rock Edicts are the most famous of them all and include **Edict 13** which describes the dramatic turning point in Ashoka's life following the **Kalinga War**. Around 260 BCE, Ashoka launched a brutal military campaign of conquest against the peaceful coastal kingdom of Kalinga which resulted in 100,000 Kalingas killed, 150,000 deported, and thousands of others left to die of disease and famine.
  - Ashoka was so horrified by what he had done that he renounced violence and dedicated himself to the path of peace, embracing Buddhism, and developing his concept of Dhamma. Hence, option (c) is the correct answer.
- The below map presents the locations of various Asokan rock pillars and edicts:



Q 54.C

- **Rajput Kingdoms in North India (10th—12th centuries);**
- The middle of the 10th century saw the decay of two of the most powerful Rajput states which had dominated north and central India during the two preceding centuries.
- These were the **Gurjar-Pratihara Empire** with its capital at Kannauj with Banaras second capital., and the **Rashtrakuta Empire** with its capital at Manyakhet. Hence pair 3 is correctly matched.
- The Gujarat-Pratihara empire extended from the foothills of the Himalayas to Ujjain in the south, and from Gujarat in the west to Mongyr in the east. It contended with the Rashtrakutas for the mastery of Gujarat and Malwa, and with the Pala rulers of Bengal for the mastery of Bihar and modern east U.P.

- In the north-west, its rule extended to Thaneshwar. It declined rapidly during the second half of the 10th century, remaining confined largely to modern U.P.
- In the meantime, **a number of kingdoms rose up, the most prominent among them being the Chandels of Kalinjar and Mahoba, the Chauhans of Sakambhari in Rajasthan, the Paramars of Malwa, and the Chalukyas of Gujarat. Hence pairs 1 and 2 are correctly matched.**

#### Q 55.C

- **Ajivikas sect:** The Ajivikas were an ancient ascetic religious sect that emerged in ancient India during the 5th century BCE. Founded by **Makkhali Gosala**, the Ajivikas were contemporaries of other prominent philosophical and religious movements of the time, such as Buddhism and Jainism.
- **Features of the Ajivika sect:**
  - **Founder and Origin:** Makkhali Gosala, also known as Gosala Mankhaliputta, was the founder of the Ajivika sect. He was a contemporary of Mahavira, the 24th Tirthankara of Jainism, and Gautama Buddha.
  - **Determinism and Fatalism:** The Ajivikas adhered to a deterministic and fatalistic worldview, believing that everything in the universe was predestined and governed by fate. They held that all beings and events were subject to an unchangeable cosmic order (niyati) or law of nature.
  - **Ascetic Lifestyle:** The Ajivikas practiced strict asceticism, renouncing worldly comforts and possessions. They believed that by enduring hardships and leading austere lives, they could attain spiritual liberation from the cycle of birth and death (samsara). **Hence option 4 is correct.**
  - **Fatalistic Karma(Niyati):** The Ajivikas had their own concept of karma, which aligned with their deterministic philosophy. They believed that individual actions and deeds (karma) did not influence one's destiny, as everything was predetermined. **Hence option 1 is correct.**
  - **No Discrimination:** The Ajivikas were known for their egalitarian approach and did not discriminate among people based on caste or social class. They welcomed individuals from various backgrounds into their sect. **Hence option 3 is correct.**
  - **Clothing:** They practiced complete nudity and Jaina texts criticize them for not observing celibacy. **Hence option 2 is correct.**
- Despite their prominence during the time of Mahavira and Buddha, the Ajivikas gradually declined over the centuries and eventually disappeared as a distinct religious sect. Their teachings and practices were absorbed into other philosophical and religious traditions of ancient India.

#### Q 56.B

- The '**Masahat system**' during the Delhi Sultanate rule was the **procedure of measurement of land revenue**. It was part of agrarian reforms introduced by **Alauddin Khilji (r. 1296–1316)**. He introduced the system of land revenue based on the actual measurement of land.
- The magnitude of the state demand was set at half the produce of the land. The land was to be measured (masahat), and the land revenue was fixed on the yield of each unit of the area. The term used was wafa-i biswa (wafa = yield; biswa = 1/20th of a bigha). it was levied separately on the holding of each individual cultivator.
- The intermediaries and the peasants alike were to pay the same standard of the demand (50%) without any distinction, be they intermediaries or '**ordinary peasants**' (balahar). **Hence option (b) is the correct answer.**

#### Q 57.C

- In 1221, during the reign of Iltutmish, the Mongols, under Changez Khan, came up to the Indus in pursuit of the Khwarizmi prince Jalaluddin who had crossed the river into India. Despite remaining there for three months Changez Khan did not cross into India, instead preferring to devote his attention to conquering the remaining portions of the Khwarizmi empire.
- In the early years of Muhammad bin Tughlaq's reign (1324-51), the Mongols under their leader Tarmashrin burst into Sindh, and a force reached up to Meerut, about 65 km from Delhi.
- **The first time the Mongols launched a serious campaign to establish their rule over Delhi was in 1299** when a Mongol force under Qutlugh Khwaja entered many streets in the city. In 1303, the Mongols appeared again and the people of Delhi had to face many hardships. On both these occasions the Mongols retreated without achieving anything. The ruler of the Delhi Sultanate on both these occasions was Alauddin Khalji. **Hence option (c) is the correct answer.**
- There was no Mongol attack during the reign of Ibrahim Lodi.

### Q 58.B

- **Recent context : National Housing Bank (NHB) has operationalized the ₹10,000-crore Urban Infrastructure Development Fund (UIDF) announced in this year's Budget for creation of urban infrastructure in tier-2 and tier-3 cities.**
  - Urban Infrastructure Development Fund (UIDF) will be funded through Priority Sector Lending Shortfall and to be used by Public Agencies to create urban infrastructure in Tier 2 & Tier 3 cities.
- The initial corpus for this fund — managed by NHB— is ₹10,000 crore. UIDF has been launched to supplement efforts of the State governments by providing stable and predictable source of finance for creation of urban infrastructure in tier-2 and tier-3 cities.
- **As many as 459 tier-2 cities with population of 50,000 to less than a lakh and 580 tier-3 cities with population of one lakh to less than a million as per 2011 census are being covered under UIDF as of now.**
  - **Thus, UIDF would focus on mid-sized cities with the potential to develop them into regional economic hubs, while keeping the metropolitan and metro cities outside its scope. Hence statement 1 is not correct.**
- Interest rate on UIDF loans has been kept at bank rate minus 1.5 percent i.e., 5.25 percent at present.
  - The loan (principal) will be repayable in five equal annual instalments within seven years from the date of withdrawal, including a moratorium period of two years while interest will be payable on quarterly basis.
- **The eligible loan amount for financing under UIDF will be based on the size of project and geographical location of the project. Hence statement. Hence statement 2 is correct.**
- **Eligible Projects**
  - Water Supply & Sanitation
  - Solid Waste Management
  - Construction of roads (excluding maintenance works), Over bridges, grade separators, underpasses
  - Comprehensive Area Development Projects
  - Local Area Plan for de-congestion
  - **Heritage Conservation**
  - Town Planning Schemes for greenfield development
  - Parks with open Gym not involving major construction work, etc.
- **Hence statement 3 is correct.**
- Finance Department of States/ UTs have been designated as the nodal department for implementation of the fund while NHB is operationalising the fund through their regional offices spread across the country.

### Q 59.A

- The term **atavika** referred to **wild, savage tribes** who continued to be ensconced in the forest and posed a perennial problem for the state. They are described as independent, well-organized, brave, and given to looting and killing. **Hence, pair 1 is not correctly matched.**
- The term **aranyachara (forest-dwellers)**, on the other hand, had different connotations. **Hence, pair 2 is not correctly matched.**
- This is reflected in the Arthashastra's recommendation that fortresses under the command of frontier chiefs should be constructed at the frontiers of the kingdom and that the area between the frontier and these fortresses should be guarded by Chandalas, **trappers (vagurikas)**, tribes such as the Shabaras and Pulindas, and forest-dwellers (aranyacharas). **Hence, pair 3 is correctly matched.**
- Kautilya also refers to the **bahrikas (outsiders)**—dangerous wandering tribes, some with criminal propensities. The Arthashastra recommends that spies disguised as hermits could be used to spy on the territories of forest people, and it also suggests the possibility of winning over forest chiefs with bribes.
- Although the forest people were not considered part of an ideal janapada, Kautilya recognized the importance of the forest's resources. Forest produce was considered a state monopoly. The **dravyavana (material forests)** were sources of timber and metals such as iron, copper, and lead. Forests with **elephants (hastivana)** were considered especially important. The Arthashastra also recognized that forest people could be harnessed to serve the state's interests, and recommended that they could be used as **troops (atavibala)**, spies, and assassins.

### Q 60.A

- **An Imperial Capital-Vijayanagara**
  - **The first dynasty, known as the Sangama dynasty, exercised control till 1485.**

- They were supplanted by the Saluvas, military commanders, who remained in power till 1503 when they were replaced by the Tuluvas. Krishnadeva Raya belonged to the Tuluva dynasty. **Hence statement 1 is correct and statement 2 is not correct.**
- His rule was characterized by expansion and consolidation. This was the time when the **land between the Tungabhadra and Krishna rivers (the Raichur doab) was acquired (1512), the rulers of Orissa were subdued (1514) and severe defeats were inflicted on the Sultan of Bijapur (1520).**
- **He composed a work on statecraft in Telugu known as the Amuktamalyada.**
- He also founded a suburban township near Vijayanagara called Nagalapuram after his mother.
- **The strain began to show within the imperial structure following Krishnadeva Raya's death in 1529. His successors were troubled by rebellious nayakas or military chiefs.**
- By 1542 control at the center had shifted to another ruling lineage, that of the Aravidu, which remained in power till the end of the seventeenth century.
- In 1565 Rama Raya, the chief minister of Vijayanagara, led the army into battle at Rakshasi-Tangadi (also known as Talikota), where his forces were routed by the combined armies of Bijapur, Ahmadnagar, and Golconda. **Hence statement 3 is not correct.**

#### Q 61.B

- **Recent context : World's biggest permafrost crater in Russia's Far East thaws as planet warms.**
- **Stunning drone footage has revealed details of the Batagaika crater, a one-kilometre-long gash in Russia's Far East that forms the world's biggest permafrost crater.**
  - Thawing permafrost has already threatened cities and towns across northern and northeastern Russia, buckling roadways, splitting apart houses, and disrupting pipelines.
- Scientists aren't sure of the exact rate at which the Batagaika crater is expanding. But scientists says the soil beneath the slump, which is about 100 metres deep (328 feet) in some areas, contains an "enormous quantity" of organic carbon that will release into the atmosphere as the permafrost thaws, further fuelling the planet's warming.
- With an increasing air temperature we can expect (the crater) will be expanding at a higher rate.
- **Hence option (b) is the correct answer.**

#### Q 62.B

- **Agricultural surplus, the growth of crafts and trade, and the growing population led to the emergence of towns in the Gangetic plains known as Mahajanapadas. This is called the second urbanisation in Indian history after the first urbanisation evident in the Harappan Civilization. After the decline of the Harappan Towns urban centres now emerge again after a gap of more than a thousand years. Hence, option (b) is the correct answer.**
- However, this time towns developed in the middle Ganga basin and not in the Indus Plain. It is said that more than sixty towns and **cities such as Pataliputra, Rajagriha, Sravasti, Varanasi, Vaishali, Champa, Kaushambi and Ujjaini developed between 600 and 300 BC.** These cities became centres of craft production and trade and were inhabited by a large number of artisans and merchants. The goods produced by artisans like textiles, silk, jewellery, pottery etc, were carried by merchants to other towns.
- **Different types of towns came into being:**
  - Political and administrative centres such as Rajgriha, Shravasti, Kaushambi and Champa
  - Centres of trade and commerce such as Ujjain and Taxila
  - Holy centres such as Vaishali.

#### Q 63.B

- The First Battle of Panipat took place in 1526 between the invading forces of Babur and the last of the Delhi Sultanate Empire under Ibrahim Lodi. It took place at Panipat (Haryana) and marked the beginning of the Mughal Empire. The significance of this battle was that this was one of the earliest battles involving the use of gunpowder as firearms and field artillery in India.
- **Babur succeeded in winning the battle owing to new tactics introduced by him such as the Tulghuma and the Araba. Tulghuma is a tactic aimed at dividing the whole army into small units and placing them on the flanks. Araba meant carts that were placed in large numbers in rows facing the enemy and tied to each other with ropes. Hence, option (b) is the correct answer.**
- These two tactics made Babur's artillery lethal. The cannons could be fired without any fear of being hit, as they were shielded by the bullock carts held in place by ropes. The heavy cannons could also change their direction for new targets, as they could be maneuvered by the mantlets which were on wheels.



**Q 64.D**

- **Bindusara (298 – 273 B.C.) was called by the Greeks as “ Amitrochates (in Greek) or Amitraghata (in Sanskrit)” meaning slayer of enemies.** He is said to have conquered the Deccan up to Mysore.
- Taranatha, the Tibetan monk states that Bindusara conquered 16 states comprising ‘the land between the two seas’. The Sangam Tamil literature also confirms the Mauryan invasion of the far south. Therefore, it can be said that the Mauryan Empire under Bindusara extended up to Mysore.
- **Hence option (d) is the correct answer.**

**Q 65.B**

- The Harappans were engaged in external trade with Mesopotamia. It was largely through Oman and Bahrain in the Persian Gulf. It is confirmed by the presence of Harappan artefacts such as beads, seals, dice etc. in these regions. Though the artefacts from those regions are rarely found at the Harappan sites, a seal of West Asian or Persian origin has been discovered at Lothal which confirms this contact.
- Mesopotamian cities like Susa, Ur, etc. have yielded about two dozen Harappan seals. Besides seals, other artefacts of Harappan origin which have been discovered include potteries, etched carnelian beads and dice with Harappan features. **Mesopotamia imported copper, carnelian, ivory, shell, lapis-lazuli, pearls and ebony from Meluhha which is an ancient name for this region.**
- **The export from Mesopotamia to Harappans included items such as garments, wool, perfumes, leather products and silver. Except silver all these products are perishable. This may be one important reason why we do not find the remains of these goods at Harappan sites. Hence, option (b) is the correct answer.**

**Q 66.C**

- **The literal meaning of Kalamkari is a painting done by kalam (pen). These paintings are made in Andhra Pradesh.** It is hand painted as well as block printing with vegetable dyes applied on cloth. Vegetable dyes are used for colour in the Kalam Kari work.
- **A small place Sri-Kalahasti is the best known centre of Kalamkari art. This work is also found at Masaulipatnam in Andhra Pradesh.** This art is mainly related to decorating temple interiors with painted cloth panels, which was developed in the fifteenth century under the patronage of Vijaynagar rulers. This art was started on garments, bed covers and curtains. The artists use a bamboo or date palm stick pointed at one end with a bundle of fine hair attached to the other end to serve as brush or pen. **Hence, statement 1 is correct.**
- **Owing to Muslim rulers in Golconda, the Masulipatnam kalamkari was widely influenced by Persian motifs and designs.** The outlines and main features are done using hand carved blocks. The finer details are later done using the pen. **Hence, statement 3 is correct.**
- **GI is a tag used on products with a specific geographical origin, and ones that possess a reputation due to that origin.** While the owner of the GI tag has ‘exclusive rights’ over the product, and can even sue someone for trying to duplicate it
- **In Tamil Nadu, the Karuppur kalamkari paintings have recently received the geographical indication (GI) tags.** The paintings are intricately made on a cotton cloth using pens or brushes made out of bamboo tree and coconut tree stems. **Hence, statement 2 is correct.**

**Q 67.A**

- **Recent context:** In a sign of changing dynamics within Europe, Austria and Switzerland — known for their strong traditions of foreign policy neutrality — **have joined a regional grouping European Sky Shield Initiative (ESSI) called that seeks to develop a common air defence shield in the wake of Russia’s attack on Ukraine.**
  - **The initiative aims to create a European air and missile defence system through the common acquisition of air defence equipment and missiles by European nations to strengthen NATO’s Integrated Air and Missile Defence (IAMD).**
- **The initiative was spearheaded by Germany after Russia invaded Ukraine, pushing other European countries to worry about their own security.**
- **France is not a member of this initiative.**
  - Today, the number of ESSI members has gone up to 19.
- **Hence option (d) is the correct answer.**

Q 68.A

- **The Bahmani kingdom (1347-1526) reached its peak under the guidance of Mahmud Gawan (1411 - 1481).** He was a Persian merchant. He came to India at the age of forty-two and joined the services of the Bahmani kingdom. Slowly he became the Prime Minister due to his personal qualities.
- He made endowments to build a college at Bidar which was built in the Persian style of architecture. **He was also a military genius. He waged successful wars against Vijayanagar, Orissa, and the sea pirates on the Arabian Sea.** His conquests include Konkan, Goa, and Krishna-Godavari delta. Thus he expanded the Bahmani Empire through his conquests.
- His administrative reforms were also important. They were aimed to increase the control of the Sultan over the nobles and provinces. Royal officers were appointed in each province for this purpose.
- Most of the forts were under the control of these officers. Allowances were reduced for the nobles who shirked their responsibility. This was disliked by the nobles. So, the Deccani nobles organized a plot against Gawan. **They induced the Sultan to punish him with the death sentence.**
- **So, he was persecuted and sentenced to death in 1481 by Muhammad Shah III.** After the execution of Gawan, the Bahmani kingdom began to decline.
- **Hence option (a) is the correct answer.**

Q 69.D

- An area that was influenced by Islamic culture during the Mughal period was painting. **Humayun had spent more than twelve years in Persia as a refugee. He brought painters with him to India when he became the ruler of Delhi once again in 1555. Famous among them were Mir Sayid Ali and Abdus Samad who nurtured the tradition of painting manuscripts. An example of this is Dastan-e-Amir Hamza, which has nearly 1200 paintings.**
- Akbar, Jahangir, and Shah Jahan continued to give patronage to these artists and as a result, the Mughal school of painting continued to flourish. **Akbar as a liberal ruler extended his patronage to painting. He also employed a large number of Hindu painters like Daswant and Basawan Lal.** Consequently, there was a fusion of Persian and Indian styles (of painting) during his period. The European influence on Indian painting too was noticed. **Other notable Hindu painters during the Mughal period were Miskin, Govardhan, etc. Hence, option (d) is the correct answer.**
- The Mughal emperors Akbar, Jahangir, and Shah Jahan, patronized several musicians. Tansen, who adorned the court of Akbar, not only sang the classical ragas but also composed new ones. **It is said that Shah Jahan himself was quite a good singer. It is interesting to note that Aurangzeb was against music, but the largest number of books on classical Indian music in Persian were written during his time.**
- The Mughal rulers discarded the Afghan titles of Sultan and styled themselves as Badshah (emperor) and Din-e-Panah (protector of faith). **Further, to evoke reverence among the subject of the emperor, they started the practice of jharokha darshan or making public appearances through specially built windows.** They also encouraged the court practice of sijda (low prostration before the kings) and concentrated religious and political power more firmly in their hands.

Q 70.C

- The grand temple at **Rama Janmabhoomi in Ayodhya** will be inaugurated soon.
- The beautiful temple has been built following the **Nagara style of temple architecture. Hence statement 1 is correct.**
- The superstructure of the temple will be carved out of **Rajasthan Bansi Paharpur stone.** These are **rare pink marble** stones, world-renowned for their beauty and strength. **Hence, statement 2 is correct.**
- The **chief architect** of the temple is **Mr. Chandrakant Sompura.** His father, **Prabhakar Sompura,** was the architect of the **Somnath Temple** in Gujarat. **Hence, statement 3 is correct.**

Q 71.D

- In a remarkable initiative to revive and preserve the 2000-year-old technique of shipbuilding known as the **'stitched shipbuilding method' or the "Tankai Method"**, the Ministry of Culture and the Indian Navy have entered into a Memorandum of Understanding (MoU).
- The Tankai method is an ancient shipbuilding technique which entails stitching wooden planks together to build ships, eschewing the use of nails.
- The stitched ship holds significant cultural value in India, given its historical importance and the preservation of traditional craftsmanship.
- Throughout history, India has had a strong maritime tradition, and the use of stitched ships played a vital role in trade, cultural exchange, and exploration.

- These ships, constructed by stitching wooden planks together rather than using nails, offered flexibility and durability, making them less susceptible to damage from shoals and sandbars. Although the arrival of European ships led to a shift in shipbuilding techniques, the art of stitching ships has survived in a few coastal regions of India, primarily for small local fishing boats.
- **Hence, option (d) is the correct answer.**

#### Q 72.A

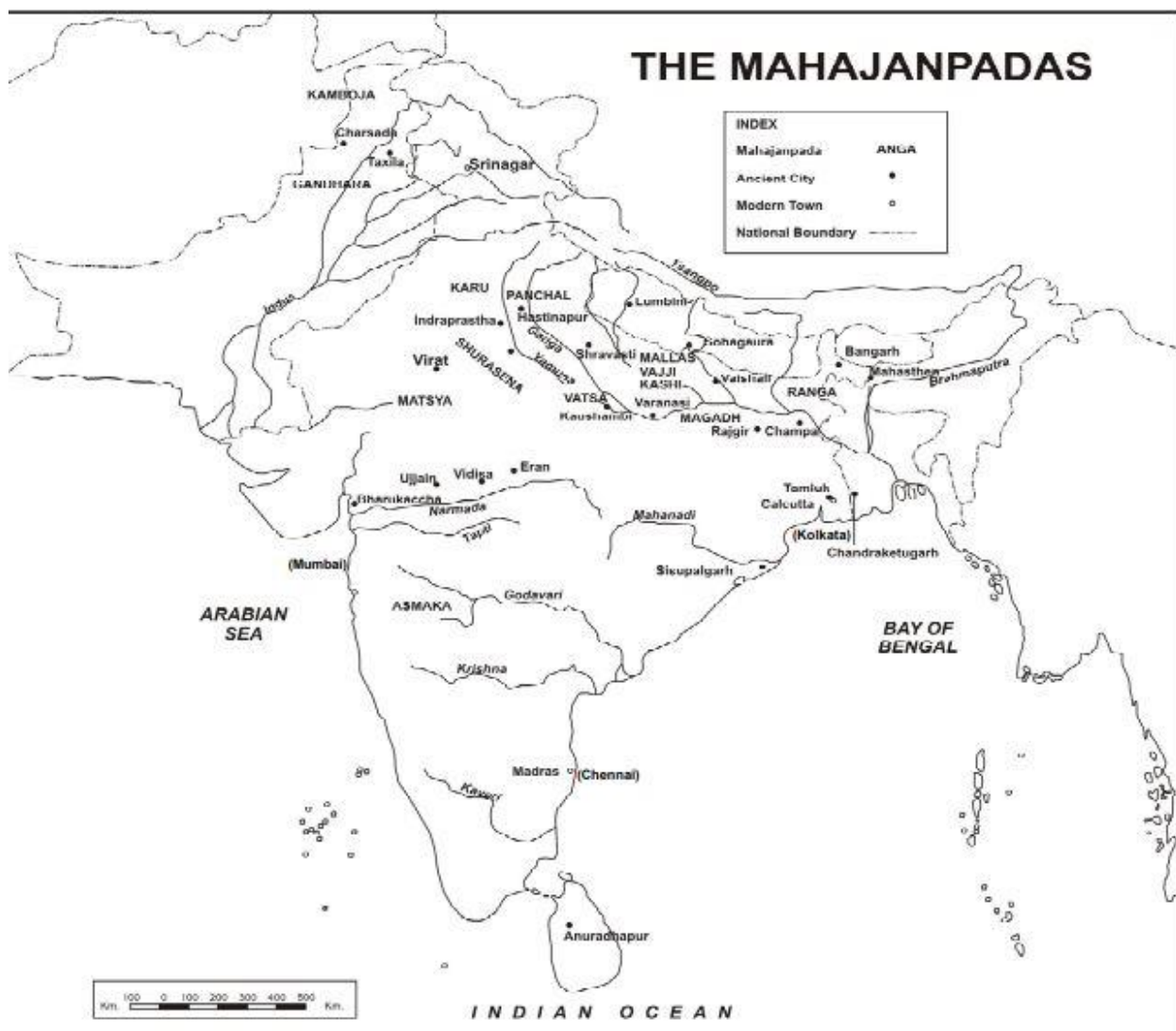
- **Recent context:** In a paper published recently, researchers at Microsoft announced that they had figured out a way to create an elusive kind of particle that could potentially revolutionize quantum computing.
- **The claim pertains to particles called Majorana zero modes, whose unique properties could help build quantum computers that are much less fragile than they are today, making them computationally superior.**
- All sub-atomic particles have four quantum numbers associated with them. No two particles in the same system can have the same four quantum numbers. The numbers are together like each particle's ID.
- The characteristic feature of fermions is that one of these numbers, called the quantum spin, has only half-integer values, like  $1/2$ ,  $3/2$ ,  $5/2$ , etc. This is why any particle, even something as large as an entire atom, can be a fermion: its total quantum spin needs to have a half-integer value.
  - This is also why two particles that are bound to each other in some way can be a fermion: again, their total quantum spin needs to have a half-integer value.
  - Most of the rules that apply to single fermions also apply to these pairs or bound states. When these bound states are their own antiparticles – i.e. if they meet, they annihilate each other – they are Majorana fermions.
  - **Physicists call such bound states Majorana zero modes.**
- One reason they're of so much interest is that Majorana zero modes can be used to realise the more powerful topological quantum-computing. In fact, historically, the search for Majorana zero modes and advances in topological quantum computing have often overlapped.
- **Hence option (a) is the correct answer.**

#### Q 73.B

- Alauddin Khalji is known for the reforms he undertook in military administration and market reforms. Alauddin Khalji maintained a large permanent standing army and paid them in cash from the royal treasury. **According to the Ferishta, he recruited 4,75,000 cavalymen. He introduced the system of 'dagh' (branding of horses) and prepared 'huliya' (descriptive list of soldiers). In order to ensure maximum efficiency, a strict review of the army from time to time was carried out. Hence, statement 1 is not correct.**
- **Malik Kafur was a slave of Alauddin Khalji found during the Gujrat campaign. He was taken to Delhi and later he was made the Malik Naib – military commander.** Alauddin sent Malik Kafur against the ruler of Devagiri, Ramachandra Deva, who submitted and paid rich tributes. In 1309 Malik Kafur launched his campaign against Warangal. Its ruler Prataparudra Deva was defeated and enormous booty was collected from him. Malik Kafur's next target was the Hoysala ruler Vira Ballala III. He was defeated and a vast quantity of booty was seized and sent to Delhi. Kafur next marched against the Pandyas. Vira Pandya fled the capital Madurai and Kafur seized enormous wealth from the Pandya kingdom and returned to Delhi. **Hence, statement 2 is correct.**

#### Q 74.A

- The sixth century BC was both a period of socio-economic and religious development and new political developments. In the later Vedic period, people started agriculture, which made them settle down at a particular place. These permanent settlements led to the foundation of janapadas or territorial states under the control of the king.
- In the sixth century BC, the main area of political activity gradually shifted from Western UP to Eastern UP and Bihar. This region was not only fertile on account of better rainfall and river systems but was also closer to iron production centers. The use of better iron tools and weapons enabled some territorial states to become very large and they came to be called Mahajanapadas. Most of them were situated north of Vindhya, between Bihar in the east to the northwest frontier of the subcontinent.
  - Anga-It is situated in present-day Bihar and West Bengal.
  - Magadh- It was located in present-day Bihar close to Anga, divided by river Champa.
  - Vatsa- It is situated at the confluence of river Ganga and Yamuna, modern Allahabad.
  - Matsya- It is situated around present-day Jaipur, Alwar and Bharatpur area of Rajasthan.
- The below-given map shows the extent of Mahajanapadas:



- Hence, option (a) is the correct answer.

Q 75.C

- The 'Trimurti' sculpture, depicting the Hindu trinity of Brahma, Vishnu, and Shiva, is found in the Elephanta Caves, specifically in Cave 1. Hence option (c) is the correct answer.
- The Elephanta Caves are a UNESCO World Heritage Site located on Elephanta Island in Mumbai, India.
- **Other information:**
  - The 'Trimurti' sculpture is a **monolithic rock-cut representation**, skillfully carved within the cave's interior.
  - The 'Trimurti' sculpture depicts the Hindu trinity known as the Trimurti, consisting of three major deities - **Brahma (the creator), Vishnu (the preserver), and Shiva (the destroyer)**.
  - In the 'Trimurti' sculpture, the **central figure is that of Lord Shiva, often depicted with a serene and meditative expression**. He is adorned with various symbols associated with his attributes, such as the third eye, matted hair (jata), and a snake around his neck.
  - On either side of Lord Shiva, the **figures of Brahma and Vishnu are depicted in smaller proportions**. Brahma is shown with four heads and four arms, while Vishnu is depicted with four arms, each holding his attributes such as the conch shell, discus, mace, and lotus.
  - The 'Trimurti' sculpture symbolizes the concept of the divine trinity, representing the cyclical nature of creation, preservation, and destruction in the Hindu cosmology. It embodies the interconnectedness and unity of these cosmic forces.



**Q 76.A**

- The murals of Ajanta are among the greatest surviving paintings of any ancient civilization. The subject matter of these paintings is almost exclusively Buddhist, except for decorative patterns on the ceilings and the pillars.
- The themes of the murals of the Ajanta Caves range from religious to secular like decorative designs that include a variety of animals, trees and flowers; portraits of various Buddhas and Bodhisattvas; and narrative scenes portraying Jataka stories. Hence, statement 2 is correct.
- There are flying apsaras in the cave No. X belonging to the late 6th century A.D. The rich ornamentation which was the characteristic of the period is beautifully portrayed in her turban decked with pearls and flowers. The backward movement of the necklace suggests the flight of the apsara which is painted in a masterly way. The later paintings at Ajanta by far the larger part of what survives were done between the mid-6th and 7th century A.D. They also illustrate the Jataka stories with greater details and ornamental designs. Hence, statement 1 is not correct.
- The representation of one of the memorable events of Buddha's life after enlightenment which ranks among the best of the paintings at Ajanta, is in cave No.XVII. This represents Buddha's visit to the door of Yashodhara's abode in the city of Kapilavastu while she herself has come out with her son Rahula to meet the Great King. Hence, statement 3 is not correct.

**Q 77.C**

- The magnificent Kailashanatha temple at Ellora, was built during the reign of Rashtrakuta king Krishna I. Hence statement 1 is correct.
- It consists of a Nandi shrine—since the temple is dedicated to Shiva—a gopuram-like gateway, surrounding cloisters, subsidiary shrines, staircases, and an imposing tower, or vimana, rising to thirty metres.
- Importantly, all of this is carved out of living rock. One portion of the monolithic hill was carved patiently to build the Kailashnath temple.
- Practically all the surfaces of the temple complex are richly ornamented with bold, dramatic, and exceptionally fine sculptures. Most of them are Shaiva, but there are also representations of Vishnu. In fact, the sculptures to the left of the entrance are mostly Shaiva, while those to the right are mostly Vaishnava. Hence statement 2 is correct.
- The sculptures include representations of Shiva, Shiva and Parvati, Durga, the Sapta-Matrikas, Ganesha, and the goddesses Ganga, Yamuna, and Sarasvati. Hence statement 2 is correct.

**Q 78.C**

- On the basis of the different types of tools and techniques, the stages of human development in the prehistoric period are described as the Palaeolithic or Old Stone Age, the Mesolithic or Middle Stone Age, and the Neolithic or New Stone Age.
- **Tools of the Palaeolithic Period:** The main tools of the lower Palaeolithic phase were handaxes, cleavers and choppers. These are called chopping tools. These were rough and heavy and were made by chipping the sides of the stones. Gradually, sharper and less heavy tools came to be made. Hence, statement 1 is correct.
- **Tools of the Mesolithic Period:** The microliths used during the Mesolithic period were very small in size varying in lengths from 1 to 8 centimeters and were largely made out of chipped or flaked pieces. Some of these tools have geometric forms such as triangles, lunates and trapezes. Their tools could be tied or fixed in other objects to form an arrow or a spear. Hence, statement 2 is correct.
- **Tools of the Neolithic Period:** The Neolithic tools consist of the ground tools having smooth surfaces, and well-rounded and symmetrical shapes. The grinding made the tools sharper, polished and more effective than those in the earlier period. The ground stone tools of the Neolithic period included different types of axes called 'celt'. Besides the stone tools, the sites of this period have also yielded various types of bone objects such as needles, scrapers, borers, arrowheads, pendants, bangles and earrings. Hence, statement 3 is correct.

**Q 79.C**

- **Chola Government—Local Self-Government**
  - The king was the most important person in the Chola administration. All authority rested in his hands, but he had a council of ministers to advise him.
  - The basic unit of administration was the nadu which consisted of a number of villages having close kinship ties and other close associations. Hence statement 1 is correct.

- The number of nadus increased as fresh lands were brought under cultivation by means of irrigation works such as ponds, wells, etc., and by converting hill or tribal people into agriculturists.
- **In the Chola kingdom, nadus were grouped into valanadus. The Chola state was divided into four mandalams or provinces. Hence statement 2 is correct.**
- The Chola rulers built a network of royal roads that were useful for trade as well as for the movement of the army. Trade and commerce flourished in the Chola empire, and there were some gigantic trade guilds that traded with Java and Sumatra.
- We hear of **two assemblies, called the ur, and the sabha or mahasabha. The ur was a general assembly of the village.**
- **The mahasabha was a gathering of adult men in the Brahman villages which were called agraharams. Hence statement 3 is correct.**
- These were **villages with Brahman settlements in which most of the land was rent-free.**
- These villages enjoyed a large measure of autonomy and **were managed by an executive committee to which educated persons owning property were elected either by drawing lots or by rotation.**
- These members had to **retire every three years.** There were other committees for helping in the assessment and collection of land revenue, for maintenance of law and order, justice, etc.
- One of the important committees was the tank committee which looked after the distribution of water to the fields.

#### Q 80.C

- Ancient India has been blessed with scholars who have provided record-breaking works that are relevant even today. In this regard, many scholars have developed excellence in their own niche fields. Scholars from such various fields include:
  - **Charaka:** He was an ancient Indian **physician** and scholar. He is well known as the editor of the **medical treatise Charaka Samhita**, which contains details about **diseases, cures, medicines**, and more. Charak is thus also known as the **father of Ayurveda**. Charaka studied the anatomy of the human body and various organs. **Hence pair 1 is correctly matched.**
  - **Sushruta:** He authored the **Sushruta Samhita**, a **treatise on medicine** and a foundational text of Ayurveda. Sushruta is also known as the **father of surgery**. He pioneered various **operations and techniques** in the field. For Sushruta, the concept of **shalya tantra (surgical science)** was all-encompassing. Examples of some of his groundbreaking operations include **rhinoplasty, lithotomy, etc.**
  - **Aryabhata:** He is the **earliest Indian mathematician** whose work and history are available to modern scholars. He flourished under the **Gupta dynasty**, where he composed at least two works, **Aryabhatiya** (c. 499) and the now-lost **Aryabhatasiddhanta**. Aryabhatiya was written in verse couplets and deals with **mathematics and astronomy**. Following an introduction that contains astronomical tables, the work is divided into three sections: **Ganita ("Mathematics")**, **Kala-kriya ("Time Calculations")**, and **Gola ("Sphere")**. He is also known to have worked with  **$\pi$ , right-angled triangles** (similar to the Pythagorean theorem), algebraic topics, and various other modern concepts. **Hence pair 2 is correctly matched.**
  - **Bāṇabhaṭṭa:** He was a **7th-century Sanskrit prose writer and poet** from India. He was the Asthana Kavi in the **court of the emperor Harsha**, who reigned c. 606–647 CE in north India. His compositions include **Harshacharitra** and others. **Hence, pair 3 is correctly matched.**
  - **Varāhamihira:** He was an **astrologer-astronomer** who lived in **Ujjain**, in present-day Madhya Pradesh, India. He authored the **Pancha-siddhantika ("Five Treatises")**, a compendium of Greek, Egyptian, Roman, and Indian astronomy. He wrote many treatises on **shakuna ("augury")** as well as the **Brihaj-jataka ("Great Birth")** and the **Laghu-jataka ("Short Birth")**. **Hence pair 4 is not correctly matched.**

#### Q 81.A

- The Delhi Sultans got the canals cut for irrigation. Ghiyasuddin Tughlaq (1320-25) is reported to be the first Sultan to dig canals. But the cutting of canals in a much bigger way was undertaken by Firuz Tughlaq (1351-88). **Firuz Tughlaq cut two canals, Rajabwah and Ulughkhani**, from the river Yamuna carrying them to Hissar, one from the Kali river in the Doab joining the Yamuna near Delhi; one each from the Sutlej and the Ghaggar. **Hence, pairs 2 and 3 are not correctly matched.**

- Mughals were known to build complex and intricate systems of water management. They built qanats (channels) in various parts of their empire. Among Mughal rulers **Shah Jahan (1628-1658 CE)** built many canals. He built **Nahr-i-Bihisht** and further improved the West Yamuna canal to irrigate the doab. He also constructed **dighis** which were square or circular reservoirs with steps to enter. Shah Jahan also lengthened the Nahr Faiz constructed by Firoz Shah Tughlak in the mid-14th century. **Hence, pair 1 is correctly matched.**

#### Q 82.C

- **Recent context** : National Company Law Tribunal (NCLT) has cleared the sale of India's first private hill station, Lavasa to Darwin Platform Infrastructure.
- **Lavasa is located in the Mulshi valley in Western Ghats, near Pune. It was developed by Hindustan Construction Company which had envisaged the hill station as a European-style city.**
- **Varasgaon is a dam on the Mutha River that supplies water to city of Pune, Maharashtra, India. It is also called Veer Baaji Pasalkar Dam. this dam is situated close to Lavasa.**
- **Hence option (c) is the correct answer.**

#### Q 83.B

- **India is the largest producer of jute** followed by Bangladesh and China. However, in terms of acreage and trade, Bangladesh takes the lead accounting for three-fourth of the global jute exports in comparison to India's 7%. **Hence, statement 1 is correct.**
- Jute Packaging Materials Act, 1987 protects the interest of Jute farmers, workers and persons engaged in jute goods' production. 75% of the total production of the Jute Industry is Jute Sacking Bags of which 85% is supplied to the Food Corporation of India (FCI) and State Procurement Agencies (SPAs) and remaining is exported/sold directly.
  - To give an impetus to the diversification of the jute industry, the Cabinet Committee on Economic Affairs (CCEA) recently **extended the norms for mandatory packaging of 100% food grains and 20% sugar in diversified jute bags. Hence, statement 2 is not correct.**
- Major jute producing states include **West Bengal, Bihar, Odisha, Assam, Andhra Pradesh, Meghalaya and Tripura. Hence, statement 3 is correct.**

#### Q 84.B

- **Recent context** : The WHO recently declared aspartame as 'possibly carcinogenic'. **Hence statement 3 is correct.**
- **Aspartame is an artificial sweetener has been in use since the early 1980s.** It is used in many foods and beverages because it is much sweeter than sugar, so much less of it can be used to give the same level of sweetness. **Hence statement 1 is correct.**
- The use of aspartame, often known by the brand name Equal, in food and beverage products has long been scrutinized. **World Health Organization declared that aspartame could possibly cause cancer and encouraged people who consume a significant number of beverages with aspartame to switch to water or other unsweetened drinks.**
- Most food and beverage companies use aspartame partly because aspartame is less expensive than other alternatives and **is 200 times as sweet as sugar. Hence statement 2 is not correct.**

#### Q 85.B

- **Commercial activities in the post-Mauryan period:** An important feature of commercial activities in the post-Mauryan period was the thriving trade between India and the West, where the Roman empire was at its height. The best account of Indo-Roman trade is given in the book called '**Periplus of the Erythrean Sea**' which was written in the first century AD by an anonymous author.
- **Exports from India:** The main requirements of the Romans were Indian products such as **spices, perfumes, jewels, ivory and fine textiles, i.e. muslin.** Spices exported from India to the Roman empire included pepper, also called *yavanapriya* (perhaps because of its popularity among Romans).
- **Imports to India:** Against this import, Romans exported gold and silver to India. It is proved by a large number of Roman coins of the first century AD found in the subcontinent. **Other exports include Wine, Sherds of Roman ware, Tin, Lead, Coral and slave girls. This indicates an enormous drain of gold from the Roman Empire towards India. Hence, statement 1 is not correct.**

- Crafts production started growing in this period with tremendous impetus, as trade and commerce, both internal and foreign, were dependent to a great extent on craft activities. **The text called Milindapanho mentions 75 occupations of which 60 were associated with crafts.** Ujjain was a prominent bead-making center. The textile industry was another prominent industry. Mathura and Vanga (east Bengal) were famous for their variety of cotton and silk textiles. **Hence, statement 2 is correct.**
- The communities of merchants were organized in groups known as Shreni or guilds under the head called Sreshthi. Another type of mercantile group was called *sartha* which signified mobile or caravan trading corporation of interregional traders. The leader of such a guild was called *Sarthavaha*. Like merchants almost all craft vocations were also organized into guilds, each under a headman called *Jyestha*. Apart from being an association of merchants and craftsmen following the same profession, they also served as banks and received deposits from the public on a fixed rate of interest. **Hence, statement 3 is correct.**

#### Q 86.B

- **Under the Mauryan state, justice was administered through courts, which were established in all the major towns.**
- **Two types of courts are mentioned in the texts.**
  - **The 'dharmasthiya'** courts mostly dealt with civil law relating to marriage, inheritance and other aspects of civil life. The courts were presided over by three judges well-versed in sacred laws and three amatyas (secretaries).
  - **Kantakasodhana** courts shall deal with measures to suppress disturbance to peace (kantakasodhanam kuryuh). According to the artha-shastra, these courts took cognizance of violations of the law by officials in the discharge of their official duties. Thus if traders used false weights or sold adulterated goods, or charged excessive prices, the Kantakasodhana courts intervened to punish the culprits.
  - **Hence, option (b) is the correct answer.**
- The main purpose of these courts was to clear the society of anti-social elements and various types of crimes, and it functioned more like the modern police and relied on a network of spies for information about such antisocial activities. Punishments for crimes were usually quite severe. The overall objective of the judicial system, as it evolved, was to extend government control over most aspects of ordinary life.

#### Q 87.C

- The earliest tradition of Indian music may be traced to Sama Veda which contained the slokas that were put to music.
- **The earliest text dealing exclusively with performing arts is Bharata's Natyashashtra (compiled between the second century BC and the second century AD) which has six chapters on music. Another major text is Matanga's Brihaddesi compiled between the eighth and ninth century AD.**
- **Sangeet Ratnakara written by Sarangdeva in the thirteenth century mentions 264 ragas. Hence pair 1 is correctly matched.**
- **Kitab-e Navras written by Ibrahim Adil Shah II during the seventeenth century is a collection of songs in praise of Hindu deities as well as Muslim saints. Hence pair 2 is correctly matched.**
- **Sri Tyagaraja is believed to have composed more than 1000 kritis. Nearly 750 compositions have already been published. They include simple as well as scholarly kritis. He brought into usage hundreds of Ragas. He was a devotee of Lord Rama. Majority of his Kritis are in Telugu, others are in Sanskrit. He has composed three beautiful musical operas, Prahlada Bhakti Vijayam, Nowka Charitram and Sri Sita Rama Vijayam. Hence pair 3 is correctly matched.**

#### Q 88.C

- **Mughal paintings used the style of miniature paintings that developed in the northern Indian subcontinent in the sixteenth century and continued till the mid-nineteenth century.** It was responsible for the amalgamation of indigenous themes and styles along with Persian and later European themes and styles.
- It was during **Humayun's exile in Shah Tahmasp's court** that he witnessed the magnificent artistic tradition of miniature paintings and manuscripts. With the assistance of Shah Tahmasp, **Humayun established his court in Kabul in 1545.** Humayun's rule began a period of intense patronage for the art of painting and calligraphy.
  - **He founded the Nigaa Khana (painting workshop), which was also a part of his library.** Not much is known about the size and composition of Humayun's workshop in India. However, it is known that he started the project of illustration of Hamza Nama that was continued by his son and successor Akbar. **Hence, statement 1 is correct.**



- **The Princes of the House of Timur (1545–50), is an extraordinary Mughal painting** from the early period, probably by Safavid artist, Abd us Samad, is a masterpiece in itself by its size and complex structure and display of historical portraits. **It has portraits that were painted over the original to register the portraits of successive members of the Mughal dynasty. Hence, statement 2 is correct.**

#### Q 89.C

- The Old Stone Age sites are widely found in various parts of the Indian subcontinent. These sites are generally located near water sources. Several rock shelters and caves used by the Paleolithic people are scattered across the subcontinent. They also lived rarely in huts made of leaves. Some of the famous sites of the Old Stone Age in India are:
  - The Soan Valley and Potwar Plateau in northwest India.
  - **The Siwalik Hills in north India.**
  - Bhimbetka in Madhya Pradesh.
  - **Adamgarh hill in Narmada valley.**
  - Kurnool in Andhra Pradesh and
  - **Attirampakkam near Chennai.**
- **Jorwe in Maharashtra is a chalcolithic site and not a Paleolithic or Old Stone Age site. Hence, option (c) is the correct answer.**
- **Other Famous Chalcolithic Sites:**
  - **Ahar (Banas Valley, South Eastern Rajasthan)**
  - **Daimabad (Ahmednagar, Maharashtra)**
  - **Chirand, Senuar, Sonpur (Bihar),**
  - **Mahishdal (West Bengal)**
  - **Paiyampalli in Tamil Nadu**
  - **Songaon, Inamgaon and Nasik (Maharashtra)**

#### Q 90.A

- **India is the second-largest producer of tea globally.**
- **Assam is the major tea producing state in India followed by West Bengal and Tamil Nadu.** Almost 52% of the entire tea produced in India comes from the state of Assam with 652.9 million kilograms. Lakhimpur, Kamrup, Goalpara, Sivasagar, Cachar, Nagaon and Derang districts of the state are major producers of tea. **Hence, statement 1 is correct.**
- The Tea Board of India is a state agency of the Government of India, established to promote the cultivation, processing, and domestic trade as well as export of tea from India.
  - **The Board's Head Office is situated in Kolkata** and there are two Zonal offices-one each in North Eastern Region at Jorhat in Assam and in Southern Region at Coonoor in Tamil Nadu. **Hence, statement 2 is not correct.**
- Ministry of Commerce and Industry is the nodal ministry overlooking the Tea Board of India. As an apex body, it looks after the overall development of the tea industry.

#### Q 91.B

- **Ajivikas** was a school of thought that developed in India during the same time as Jainism and Buddhism
- The Ajivikas were **naked ascetics**. The basic principle of the Ajivikas was **niyati or fate**: they believed that nothing in this world could be changed as **everything was predetermined**. Everyone has to pass through a series of transmigrations to put an end to pain.
- According to Buddhist records, **Nanda Vaccha** was considered the founder of the Ajivika sect. He was succeeded by **Kisa Samkicca**, followed by **Makkhali Gosala**, who was the third and the greatest of the Ajivikas.
- Two other preachers, **Purana Kassapa and Pakudha Kaccayana**, joined the Ajivikas after the death of Gosala and infused new life to it.
- **Hence, option (b) is the correct answer.**

#### Q 92.C

- **Imperial Capital-Vijayanagara**
- **The rayas and the nayakas**
  - Among those who exercised power in the Vijayanagara Empire were military chiefs who usually controlled forts and had armed supporters.

- These chiefs often moved from one area to another, and in many cases were accompanied by peasants looking for fertile land on which to settle.
- These chiefs were known as **nayakas** and they usually spoke Telugu or Kannada.
- The **amara-nayaka system** was a major political innovation of the **Vijayanagara Empire**. It is likely that many features of this system were derived from the **iqta system** of the **Delhi Sultanate**. Hence **statement 1 is correct**.
- The **amara-nayakas** were military commanders who were given territories to govern by the **Raya**. They collected taxes and other dues from peasants, craftspersons, and traders in the area. Hence **statement 2 is correct**.
- They retained part of the revenue for personal use and for maintaining a stipulated contingent of horses and elephants.
- These contingents provided the **Vijayanagara kings** with an effective fighting force with which they brought the entire southern peninsula under their control. Some of the revenue was also used for the maintenance of temples and irrigation works.
- The **amara-nayakas sent tribute to the king annually** and personally appeared in the royal court with gifts to express their loyalty.
- However, during the course of the **seventeenth century**, many of these **nayakas** established **independent kingdoms**. This hastened the collapse of the central imperial structure.

#### Q 93.B

- **Major Political Developments from 13th to 16th century:**
  - **1200-1300:**
    - Establishment of the **Delhi Sultanate (1206)**: **Qutubuddin Aibak**, a slave of **Mohammed Ghori**, founded the Slave dynasty in India.
  - **1300-1400:**
    - **Establishment of the Vijayanagara Empire (1336)**: The **Vijayanagara Empire** was based in the Deccan, in peninsular and southern India, from 1336 onwards. It was founded by **Harihara**, also known as **Hakka**, and his brother **Bukka Raya**.
    - **Establishment of the Bahmani Kingdom (1347)**: The **Bahmani kingdom** was a Muslim state of the Deccan in southern India and was one of the great medieval Indian kingdoms. It was founded by **Alauddin Hasan Bahaman Shah** in 1347
    - **Sultanates in Jaunpur**: It was founded in **1394** by **Khwajah-i-Jahan Malik Sarwar**, an eunuch slave and former wazir of **Sultan Nasiruddin Muhammad Shah IV Tughluq**, amidst the disintegration of the **Delhi Sultanate's Tughlaq dynasty**
  - **1400-1500:**
    - **Establishment of the Gajapati kingdom of Orissa (1434-35)**: The **Gajapati dynasty** was established by **Emperor Kapilendra Deva (1434–66 CE)** in 1434.
    - **Establishment of the Sultanates of Gujarat and Malwa;**
    - **Emergence of the Sultanates of Ahmadnagar, Bijapur and Berar (1490)**
  - **1500-1600:**
    - **Conquest of Goa by the Portuguese (1510)**: The **Portuguese conquest of Goa** occurred when the governor **Afonso de Albuquerque** captured the city in 1510 from the **Adil Shahis**.
    - **The collapse of the Bahmani kingdom,**
    - **Emergence of the Sultanate of Golconda (1518);**
    - **Establishment of the Mughal Empire by Babur (1526).**
  - Hence option (b) is the correct answer.

#### Q 94.B

- **Recent context:** **National Bank for Financing Infrastructure and Development (NaBFID)** plans to roll out take-out financing to help commercial banks overcome asset-liability mismatches in infrastructure financing.
- **Takeout financing, also known as permanent financing or long-term financing, is a form of funding used in the real estate industry. It refers to the process of securing a long-term loan or a mortgage to replace a short-term loan that was used to finance the development.**

- A takeout loan is a method of financing whereby a loan that is procured later is used to replace the initial loan.
- More specifically, a takeout loan, or takeout financing, is long-term financing that the lender promises to provide at a particular date or when particular criteria for completion of a project are met.
- Takeout loans are commonly used in property development. A developer might secure a short-term loan to scrap an existing structure and pay a crew to build a new one. Once the new structure is in place or a significant portion of it is finished, the developer might secure longer term financing to pay off the original loan.
- Hence option (b) is the correct answer.

#### Q 95.C

- **An Imperial Capital-Vijayanagara**
  - **Vijayanagara or “city of victory”** was the name of both a city and an empire.
  - **The empire was founded in the fourteenth century. In its heyday, it stretched from the river Krishna in the north to the extreme south of the peninsula.**
  - In 1565 the city was sacked and subsequently deserted. Although it fell into ruin in the seventeenth and eighteenth centuries, it lived on in the memories of people living in the Krishna-Tungabhadra doab.
  - **They remembered it as Hampi, a name derived from that of the local mother goddess, Pampadevi. Hence statement 2 is correct.**
  - These oral traditions combined with archaeological finds, monuments inscriptions, and other records helped scholars to rediscover the Vijayanagara Empire.
- **The Discovery of Hampi**
  - **The ruins at Hampi were brought to light in 1800 by an engineer and antiquarian named Colonel Colin Mackenzie.**
  - An employee of the English East India Company, he prepared the first survey map of the site.
  - **Much of the initial information he received was based on the memories of priests of the Virupaksha temple and the shrine of Pampadevi. Hence statement 1 is correct.**

#### Q 96.A

- According to **UNESCO, any language spoken by less than 10,000 people is potentially endangered.** Since 1971, the Census of India has stopped counting languages spoken by less than 10,000 people.
- According to the **Bhasa Research and Publication Centre, Vadodara, and Adivasi Academy, Gujarat, in the last 50 years, we have lost over 250 languages** including **Bo language in Andaman and the Majhi language in Sikkim. Hence statement 2 is not correct.**
- Most of these dying languages are from the indigenous **tribal groups** spread across the country. A few of them would be the languages spoken by the nomadic people in Maharashtra, Karnataka, and Telangana, including **Wadari, Kolhati, Golla, Gisari.**
- In 2018, a report by UNESCO stated that 42 languages in India were heading towards extinction
  - **The languages or dialects that were considered endangered,** include 11 from Andaman and Nicobar Islands (Great Andamanese, Jarawa, Lamongse, Luro, Muot, **Onge**, Pu, Sanenyo, Sentilese, **Shompen** and Takahanyilang), seven from Manipur (Aimol, Aka, Koiren, Lamgang, Langrong, Purum and Tarao) and four from Himachal Pradesh (Baghati, Handuri, Pangvali and Sirmaudi), etc. **Hence statement 1 is not correct and statement 3 is correct.**

#### Q 97.B

- **Sariputta, Moggallana, Ananda, Kassapa, and Upali are important figures in the religion of Buddhism. Hence option (b) is the correct answer.**
- **Other Information:**
- **Sariputta:** Sariputta, also known as Sariputra, was one of the foremost disciples of Gautama Buddha. Sariputta played a key role in spreading the Buddha's teachings (Dharma) and was known for his eloquent and precise explanations of Buddhist concepts. He was born in a brahmin family and became a monk after meeting the Buddha and attaining enlightenment (arhatship).
- **Moggallana:** Moggallana, also known as Maudgalyayana, was another prominent disciple of the Buddha and was renowned for his psychic powers (iddhis). Moggallana played a **significant role in supporting the**

**sangha** (Buddhist monastic community). He was known for his dedication and loyalty to the Buddha and his teachings.

- **Ananda:** Ananda was a **cousin of Gautama Buddha** and served as his personal attendant and assistant for many years. He was known for his excellent memory and was entrusted with the **task of preserving the Buddha's teachings and discourses**. Ananda was instrumental in **convening the First Buddhist Council** after the Buddha's passing, during which the Buddhist scriptures (Suttas) were recited and compiled.
- **Kassapa:** Kassapa, also known as Mahakassapa or Kassapa Buddha, was one of the Buddha's ten principal disciples. He was renowned for his **ascetic practices and rigorous adherence to monastic rules**. Kassapa played a pivotal role in upholding the **Vinaya (monastic code)** and was deeply respected for his commitment to monastic discipline.
- **Upali:** Upali was a well-known disciple of the Buddha and held an important position as an expert in Vinaya (monastic rules and discipline). **Upali was a former barber who became a monk** and earned great respect for his expertise in monastic conduct and Vinaya-related matters. These five figures played crucial roles in the early development and propagation of Buddhism. They contributed significantly to the preservation and dissemination of the Buddha's teachings, which eventually led to the spread and establishment of Buddhism as a major world religion.

#### Q 98.D

- Numerous religious sects emerged in the middle Gangetic basin in the sixth century B.C. which held a critical view of post-Vedic life and society. Of all these, Buddhism and Jainism were the most potent religious reform movements.
- **Vadhrhman Mahavira** was born in 540 B.C. in a Kshatriya clan connected with Magadha. At the age of 30, he left his home in search of truth and attained 'kaivalya' at the age of 42 and conquered misery and happiness. Because of this conquest, he is known as Mahavira or the great hero or 'jina' and his followers are known as Jainas.
- **In order to spread Jainism, Mahavira organized an order of his followers that admitted both men and women. It is said that his followers counted 14000. Hence, statement 1 is not correct.**
- **Jainism spread to Kalinga in the fourth century BC and in the second century BC it also seems to have reached Tamil Nadu.** In the first century BC it enjoyed the patronage of King Kharvaela of Kalinga. In later centuries, Jainism spread to Malwa, Gujarat and Rajasthan. **Hence, statement 2 is not correct.**
- **The early Jainas discarded Sanskrit and adopted the Prakrit language of the common people to preach its ideas. Many regional languages were developed out of Prakrit, particularly Sauraseni out of which grew the Marathi Language. Hence, statement 3 is correct.**

#### Q 99.A

- Rig Veda mentions a class of holy men different from the brahmins, the "silent ones" (munis), who wear the wind as a girdle, and who, drunk with their own silence, rise on the wind, and fly in the paths of the demigods and birds.
- Another class, mentioned in the Atharva Veda, was the **vratyas**. **This term, implies an Aryan who had fallen from the faith and no longer respected the Vedas. Hence option (a) is the correct answer.**
  - The Vratyas were a group of ascetics or religious practitioners who followed alternative **spiritual practices outside the mainstream Vedic tradition**.
  - They were considered to be non-conformist and practiced their unique rituals and beliefs. The Vratyas were often associated with practices like ecstatic chanting, singing, and dancing during religious ceremonies.
  - They stood apart from the orthodox Vedic rituals and were sometimes criticized by Vedic scholars.

#### Q 100.A

- **Iltutmish (1210-36) is credited for standardizing the coinage of the Delhi Sultanate.** The currency system established by him in its essentials survived the Delhi Sultanate. He introduced gold and silver tankas and a copper *jital* that was reckoned at 1/48th of tanka in North India and 1/50th in the Deccan after the conquest of Devagiri.



- 'A firm ratio of 1:10 between gold and silver appears to have been established. For studying the currency system we not only have the testimony of the chronicles but also the physical evidence available in the form of surviving coins (this is called numismatic evidence).
- The Sultanate mints generally uttered coins in three metals: gold, silver and billon (copper mixed with a very small quantity of silver).
- The main coins were tanka and jital but some smaller currencies were also in circulation. Barani mentions dangs and dirams in use at the capital Delhi.
- The equation between these currencies in the north has been worked out as **1 silver tanka = 48 jital = 192 dangs = 480 dirams. Hence, option (a) is the correct answer.**

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