

## RAS Prelims 2024

### AAKALAN-II

DATE : 19/01/2025

Test Code:01192501

#### Answer Key

1. (2)	26. (2)	51. (1)	76. (1)	101. (3)	126. (1)
2. (4)	27. (3)	52. (3)	77. (2)	102. (3)	127. (3)
3. (3)	28. (3)	53. (3)	78. (1)	103. (2)	128. (3)
4. (3)	29. (4)	54. (2)	79. (1)	104. (4)	129. (4)
5. (3)	30. (1)	55. (3)	80. (3)	105. (4)	130. (1)
6. (4)	31. (4)	56. (1)	81. (4)	106. (1)	131. (1)
7. (1)	32. (4)	57. (2)	82. (1)	107. (2)	132. (1)
8. (1)	33. (3)	58. (4)	83. (4)	108. (2)	133. (2)
9. (4)	34. (1)	59. (2)	84. (4)	109. (3)	134. (3)
10. (3)	35. (3)	60. (2)	85. (2)	110. (2)	135. (3)
11. (3)	36. (2)	61. (3)	86. (4)	111. (4)	136. (3)
12. (3)	37. (4)	62. (2)	87. (4)	112. (1)	137. (4)
13. (2)	38. (1)	63. (4)	88. (2)	113. (1)	138. (2)
14. (4)	39. (2)	64. (4)	89. (2)	114. (3)	139. (2)
15. (2)	40. (4)	65. (4)	90. (3)	115. (2)	140. (4)
16. (2)	41. (1)	66. (4)	91. (1)	116. (3)	141. (2)
17. (4)	42. (2)	67. (3)	92. (2)	117. (3)	142. (2)
18. (2)	43. (4)	68. (4)	93. (2)	118. (2)	143. (3)
19. (4)	44. (2)	69. (4)	94. (3)	119. (2)	144. (1)
20. (4)	45. (1)	70. (3)	95. (3)	120. (2)	145. (1)
21. (2)	46. (4)	71. (4)	96. (3)	121. (2)	146. (3)
22. (3)	47. (1)	72. (1)	97. (3)	122. (3)	147. (3)
23. (2)	48. (3)	73. (4)	98. (1)	123. (4)	148. (3)
24. (2)	49. (1)	74. (4)	99. (4)	124. (2)	149. (1)
25. (4)	50. (2)	75. (1)	100. (3)	125. (3)	150. (1)

Note: Q.25 and Q.125 Marks to All

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## AAKALAN-II

### Prelims Test Series 2024 | Explanations

1. (2)

#### Maharana Sanga

Maharana Sanga was born on 12th April, 1482. His coronation took place on 24th May, 1509. His reign lasted from 1509 AD to 1528 AD. Rana Sanga is renowned in Indian history by the name 'Hindupat'. Colonel James Tod referred to Rana Sanga as a 'soldier's fragment'. Maharana Sangram Singh was the grandson of the illustrious Maharana Kumbha of Mewar and the son of Maharana Raymall.

**Note** – In 1517 AD, the Battle of Khatoli was fought between Rana Sanga and Ibrahim Lodi, in which Rana Sanga emerged victorious.

**Note** – In 1518 AD, the Battle of Bari was fought between Rana Sanga and the army of Ibrahim Lodi, in which Rana Sanga emerged victorious.

**Note** – On 16th February, 1527, the Battle of Bayana was fought between Sanga and Babur, in which Rana Sanga achieved victory.

On 17th March, 1527, the Battle of Khanwa was fought between Rana Sanga and Mughal emperor Zahir-ud-din Muhammad Babur at the plains of Khanwa. The plains of Khanwa are presently located in Roopwas tehsil of Bharatpur district.

In the Battle of Khanwa, Sanga's army included Afghan Sultan Mahmud Lodi, Meo ruler Hasan Khan Mewati, Maldev, son of Rao Ganga of Marwar, Kunwar Kalyanmal, son of Rao Jaitsi of Bikaner, Raja Prithviraj of Amer, Raja Bharmal of Eder, Raimal Rathore of Medta, Salhadi Tanwar of Raisen (who withdrew support at the last moment), Medini Rai of Chanderi, Khana Jada of Nagaur, Akhairaj of Sirohi, Rawal Uday Singh of Vagad (Dungarpur), Rawat Ratansingh of Salumbar, Veermadev Medatiya, Rawat Bagsingh of Devaliya, Narbad Hada, Veersingh Dev, Gokuldas Parmar, Jhala Aja, among others.

Before the Battle of Khanwa, Rana Sanga revived the Rajput tradition of 'Pati Peravan' by sending invitations to every Rajput chief in Rajasthan to join him in battle. Sanga was the last Hindu king under whose command all Rajput clans united to drive foreigners out of India.

2. (4)

#### Avanaddha (membranous) instruments:

Instruments that are covered with skin on one side are known as membranous instruments. They are also referred to as percussion instruments.

**Key examples** – Madal, Pakhawaj, Tasha, Damama, Dhol, Damak, etc.

#### String instruments:

Instruments that have strings attached to them are classified as string instruments.

**Key examples** – Ravanhatta, Jantar, Sarangi, Kamaycha, Rabab, Rabaj, Chikara, Gaurja, etc.

**Note** – The Gaurja instrument is played by the Garasia tribe during the Gangaur festival.

#### Wind instruments:

This category includes instruments that are played by blowing air into them.

Key examples – Flute, Algoza, Satara, Mashak, Nad, Morchang, etc.

Note – Satara is mainly played in western Rajasthan. It is a hybrid instrument that combines the features of Algoza, Flute, and Shehnai.

**Solid instruments:**

These instruments are played by striking or hitting.

**Key examples** – Manjira, Jhanjh, Thali, Kartal, Khadtal, Jhalar, Lezim, etc.

Note – The Jhanjh instrument is played during the Kachhi Ghodi dance in the Shekhawati region. It resembles the Manjira in shape.

3. (3)

**Forest status in Rajasthan (ISFR 2023)**

According to the India State of Forest Report 2023, the recorded forest area in Rajasthan is **32,869 sq. km**, which constitutes **9.60%** of the total geographical area of the state. This includes:

**Reserved Forests:** 12,176 sq. km

**Protected Forests:** 18,588 sq. km

**Unclassified Forests:** 2,105 sq. km

As per the report, a total increase of **394.46 sq. km** was recorded in forest and tree cover in Rajasthan, including a **decrease of 83.80 sq. km** in forest cover and an **increase of 478.26 sq. km** in tree cover.

The total forest and tree-covered area in the state is **27,389.33 sq. km**, which is **8%** of the total geographical area of Rajasthan.

Forest cover: **16,548.21 sq. km**, i.e., **4.84%** of the total geographical area.

Tree cover: **10,841.12 sq. km**, i.e., **3.16%** of the total geographical area.

**Top districts with an increase in forest area:**

Sikar (19.14 sq. km)

Barmer (19.00 sq. km)

Alwar (16.39 sq. km)

Udaipur (12.46 sq. km)

**Top districts with a decrease in forest area:**

Baran (33.29 sq. km)

Pratapgarh (30.79 sq. km)

Ajmer (18.34 sq. km)

Bikaner (14.85 sq. km)

**Districts with the highest forest cover:**

Udaipur (2766.30 sq. km)

Alwar (1198.74 sq. km)

Pratapgarh (996.86 sq. km)

Chittorgarh (988.08 sq. km)

**Districts with the lowest forest cover:**

Churu (62.73 sq. km)

Hanumangarh (92.29 sq. km)

Jodhpur (111.23 sq. km)

Sri Ganganagar (113.46 sq. km)

**Districts with the highest forest percentage:**

Udaipur (23.60%)

Pratapgarh (22.48%)

Sirohi (17.50%)

Karauli (15.18%)

**Districts with the lowest forest percentage:**

Churu (0.45%)

Jodhpur (0.49%)

Bikaner (0.86%)

Jaisalmer (0.89%)

**Districts with the highest shrub area:**

Pali (453 sq. km)

Alwar (321 sq. km)

Jaipur (319 sq. km)

**Districts with the lowest shrub area:**

Hanumangarh (9 sq. km)

Sri Ganganagar (16 sq. km)

Churu (36 sq. km)



4. (3)

In the given question, pairs 1, 2, and 4 are correctly matched, while pair 3 is incorrect because, according to the Census 2011, the infant sex ratio (0 to 6 years) of the state is 888.

As per the Census 2011, the sex ratio of the state is 928, which is higher than the sex ratio of 921 recorded in the Census 2001.

According to the Census 2001, the population density of the state was 165, which increased to 200 after the Census 2011. Therefore, an increase in population density has been recorded in the state.

As per the Census 2011, the decadal population growth rate of the state is 21.31%, which is lower than 28.41% recorded in 2001.

According to the Census 2011, the literacy rate of the state is 66.1%, which is higher than 60.41% recorded in 2001.

As per the Census 2011, the working population of the state is 43.60%, the highest in Pratapgarh and the lowest in Jaipur.

5. (3)

**Indira Gandhi Canal Project**

The foundation stone of this project was laid by the then Home Minister Shri Govind Ballabh Pant on 31st March 1958, but water was first released into the canal by the then Vice President Dr. Sarvepalli Radhakrishnan on 11th October 1961 from the Norangdesar distributary (Hanumangarh).

The former/original name of this project was 'Rajasthan Canal,' which was renamed as 'Indira Gandhi Canal' on 2nd November 1984. This canal is also known as the "Maruganga of Rajasthan" and "Lifeline of the State".

The father/planner of this project is Kanwar Sen, who presented its blueprint in his book “Water Requirement of Bikaner State” in 1948. He was inspired to build this canal by the Ganga Canal.

The origin and water source of this canal is the Hari Ke Barrage Dam at the confluence of the Sutlej and Beas rivers (Ferozepur, Punjab). This project was completed in two phases:

In the first phase, the “Rajasthan Feeder”, 204 km long (169 km in Punjab and Haryana, and 35 km in Rajasthan), extends from Hari Ke Barrage to Masitawali Head (Hanumangarh).

In the second phase, initially, a stretch of 256 km was planned, which was later extended to 445 km. This phase extends from Masitawali Head (Hanumangarh) to Mohangarh (Jaisalmer), which was further extended by 165 km to the final point at Gadra Road (Barmer), known as Zero Point.

Note – The canal spans 480 km in Rajasthan and 169 km outside Rajasthan, making its total length 649 km.

Seven lift canals have been constructed from this canal, as listed below:

**Chaudhary Kumbharam Lift Canal** (Nohar-Sahaba Lift Canal) – Hanumangarh, Churu, Bikaner, Jhunjhunu

**Kanwar Sen Lift Canal** (Bikaner-Lunkaransar Lift Canal) – Bikaner and Ganganagar. This is the longest lift canal (151.64 km) among all seven lift canals.

**Pannalal Barupal Lift Canal** (Gajner Lift Canal) – Bikaner, Nagaur. Water from the Kanasar distributary originating from this canal is supplied to some villages in Nagaur district and the Kolayat and Nokha tehsils of Bikaner.

**Veer Tejaji Lift Canal** (Bhairudan Chalani Bangadsar Lift Canal) – Bikaner

**Dr. Karni Singh Lift Canal** (Kolayat Lift Canal) – Jodhpur and Bikaner

**Guru Jambheshwar Lift Canal** (Phalodi Lift Canal) – Jodhpur, Bikaner, and Jaisalmer

**Jai Narayan Vyas Lift Canal** (Pokaran Lift Canal) – Jaisalmer, Jodhpur

## 6. (4)

### Major crops of the state:

#### (1) Kharif (Syalu or Siyalu or Chaumasa or Savanu) –

These crops are sown in June-July and harvested in September-October.

Major Kharif crops: Rice, Jowar, Bajra, Maize, Arhar, Urad, Moong, Cowpea, Moth, Groundnut, Castor, Sesame, Soybean, Cotton, Sugarcane, Guar, etc.

Kharif crops are sown over approximately 140 to 160 lakh hectares (around 60-65% of the total agricultural area) in the state. About 90% of Kharif crops in the state are grown in rain-fed areas, which are entirely dependent on rainfall. Among food grains, Bajra has the largest cultivated area.

#### (2) Rabi (Unhalu) –

Rabi crops are sown in October-November and harvested in March-April.

Rabi crops are grown in about 70 to 95 lakh hectares in the state, of which approximately 60-65 lakh hectares are irrigated. Wheat occupies the largest area among Rabi crops. Rabi pulses are also mainly grown in rain-fed areas.

Major Rabi crops: Wheat, Barley, Gram, Lentil, Pea, Mustard, Linseed, Taramira, Sunflower, Coriander, Cumin, Fenugreek, etc.

## 7. (1)

### Main tributaries of Luni River:

The major tributaries joining Luni on the left bank (from north to south in sequence) are Lilri, Mithri, Jawai, Sukri, Bandi, Khari, Bandi II, and Sagi.

The main tributary joining Luni on the right bank is Jojari.

**Tributaries of Chambal River:**

Chambal's tributaries include Chhoti Kali Sindh, Kali Sindh, Ahu, Parvan, Niwaj, Parvati, Andheri, Kunu, Sip, Gujali, Bamni, Ej, Kural, Mej, Mangli, Ghoda Pahad, and Piplaj.

Note – The tributaries of Kali Sindh River are Parvan, Niwaj, Ahu, and Ujad.

**Tributaries of Mahi River:**

The tributaries of Mahi include Bhader, Som, Jakham, Moran, Anas, Chap, Iru, Panam, Kun, and Goma.

**Tributaries of Banas River:**

The tributaries of Banas include Bedach, Kothari, Khari, Mansi, Dai, Morel, Dhundh, Dhil, Menali, Sohadra, and Kalisil.

Note – Mej is a tributary of Chambal, while Sagi is a tributary of Luni.

**Tributaries of Sabarmati River:**

The tributaries of Sabarmati include Wakal, Sei, Meshwa, Mazam, Watrak, and Hathmati.

8. (1)

**1. Classification by the State Agriculture Department:**

The State Agriculture Department has classified the soils of Rajasthan into 14 types:

**Types of Soil:**

Sai Rozems

Reverina

Gypsiferous

Mountainous Soil

Red Clayey Soil

Calcareous Brown Desert Soil

Non-Calcareous Brown Soil

Newly Formed Alluvial Soil

Grey Brown Soil/Dusky Brown Alluvial Soil (Nooni Kesin)

Yellow-Brown Soil (Banas Basin)

Desert Soil

Desert Sandy Dune Soil

Alluvial Soil

Black Soil (Medium Deep Black Soil)

**District-wise distribution of soils:**

**Sai Rozems Soil:**

Sri Ganganagar

**Reverina Soil:**

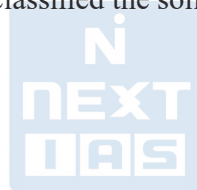
Sri Ganganagar

**Gypsiferous Soil:**

Bikaner

**Mountainous Soil:**

Udaipur, Kota



**Red Clayey Soil:**

Banswara, Dungarpur, Pratapgarh (Mahi Basin)

**Calcareous Brown Desert Soil:**

Jaisalmer, Bikaner

**Non-Calcareous Brown Soil:**

Nagaur, Ajmer, Sikar, Jhunjhunu, Jaipur, Alwar

**Newly Formed Alluvial Soil:**

Ajmer, Bhilwara

**Grey Brown Soil/Dusky Brown Alluvial Soil:**

Pali, Jodhpur, Nagaur, Jalore, Sirohi

**Yellow-Brown Soil:**

Rajsamand, Bhilwara, Chittorgarh, Udaipur, Ajmer, Sawai Madhopur

**Desert Soil:**

Jaisalmer, Bikaner, Barmer, Jodhpur, Shekhawati

**Desert Sandy Dune Soil:**

Jaisalmer, Bikaner, Barmer, Jodhpur

**Alluvial Soil:**

Alwar, Bharatpur, Karauli, Dholpur, Sawai Madhopur, Tonk

**Black Soil:**

Hadoti (Kota, Bundi, Baran, Jhalawar)



9. (4)

**Public Enterprises**

Public enterprises refer to such institutions, companies, boards, or corporations in which more than 50% of the capital is held by the government (central or state, or jointly). Currently, there are 34 public enterprise units under the Bureau of Public Enterprises (established in September 1984). The primary objectives of establishing public enterprises are to accelerate the pace of economic development, generate new employment opportunities, promote investments, and support the development of small ancillary industries. Public enterprises located in Rajasthan can be classified into two categories –

(A) Central Government Enterprises

(B) Rajasthan Government Enterprises

**Central Government Enterprises**

**Hindustan Zinc Limited (Udaipur)**

This enterprise, engaged in the mining and refining of zinc in the state, was established on **10th January 1966**. Its zinc smelters are located at Debari (Udaipur) and Chanderiya (Chittorgarh). The management of this enterprise has now been handed over to Vedanta Resources.

**Hindustan Copper Limited (Khetri)**

It was established on **9th November 1967** with the assistance of the United States of America. This enterprise is involved in the mining and refining of copper ore from Khetri and nearby copper deposits in the state. Apart from Rajasthan, its plants are also located in Jharkhand, Maharashtra, Gujarat, and Madhya Pradesh.



**Hindustan Machine Tools (HMT)**

Established in **1953**, this factory manufactures engineering machinery and grinding machines. At that time, HMT was referred to as the 'Jewel of the Nation.' Across the country, HMT has a total of 13 units (6 machine tools, 3 watch assembly units, and 4 dairy machinery units). The **Ajmer unit of HMT** was started in **1970**.

**Sambhar Salts Limited (Jaipur)**

Established in **1964** as a subsidiary unit of Hindustan Salts Limited for salt production in Sambhar Lake.

**Instrument Limited (Kota)**

This enterprise was established in **1964** for manufacturing electronic machines, electrical equipment, and chemical instruments in the state.

**Modern Bakeries (Jaipur)**

The bread unit of Modern Food Industries (India) Limited, established in **1965**.

**Rajasthan Eggs and Pharmaceuticals Limited (Jaipur)**

This enterprise was set up in **1978** in Jaipur as a subsidiary of the Central Government company Indian Eggs and Pharmaceuticals Limited, in collaboration with RIICO. This unit is currently closed.

**10. (3)**

In the given question, pairs 1, 2, and 4 are correctly matched, while pair 3 is incorrect. The wildlife mascot of Sikar district is **Shaheen**, whereas the wildlife mascot of Dholpur district is **Panchheera**.

**Wildlife Mascots Declared by Districts:**

To protect the state's wildlife species and increase public awareness about wildlife conservation, an important wildlife species found in each district was declared its mascot in the year 2016. Each district will work on the conservation of its respective wildlife species.

The district-wise wildlife mascots are as follows:

District – Wildlife Mascot

**Ajmer** – Kharmour

**Jhunjhunu** – Black Partridge

**Alwar** – Sambar

**Jalore** – Bear

**Banswara** – Water Pipit

**Jhalawar** – Gagrani Parrot

**Baran** – Crocodile

**Jodhpur** – Kurja (Demoiselle Crane)

**Barmer** – Desert Fox

**Karauli** – Gharial

**Bharatpur** – Sarus Crane

**Kota** – Otter

**Bhilwara** – Peacock

**Nagaur** – Flamingo

**Bikaner** – Sand Partridge



- Pali** – Leopard
- Bundi** – Red Duck
- Rajsamand** – Wolf
- Chittorgarh** – Four-horned Antelope
- Pratapgarh** – Flying Squirrel
- Churu** – Blackbuck
- Sawai Madhopur** – Tiger
- Dausa** – Rabbit
- Sri Ganganagar** – Chinkara
- Dholpur** – Panchheera
- Sikar** – Shaheen (Indian Screamer)
- Sirohi** – Jungle Fowl
- Dungarpur** – Wild Dhok
- Tonk** – Swan
- Hanumangarh** – Lesser Kestrel
- Udaipur** – Civet
- Jaisalmer** – Great Indian Bustard
- Jaipur** – Chital



11. (3)

**(A) Latitudinal extent of Rajasthan:**

Rajasthan lies between **23°3' N latitude to 30°12' N latitude.**

Note – Rajasthan spans **7°9' of latitude.**

The **northernmost point** of Rajasthan is **Kona village (Ganganagar)** at **30°12' N latitude.**

The **southernmost point** of Rajasthan is **Borkund village (Banswara)** at **23°3' N latitude.**

Note – The north-south length of Rajasthan is **826 km.**

**(B) Longitudinal extent of Rajasthan:**

The entire state of Rajasthan lies between **69°30' E to 78°17' E longitude.**

The **westernmost point** of Rajasthan is **Katra (Jaisalmer)** at **69°30' E longitude.**

The **easternmost point** of Rajasthan is **Silana (Dholpur)** at **78°17' E longitude.**

Rajasthan spans **8°47' of longitude**, and the east-west length of Rajasthan is **869 km.**

Note – The east-west length of Rajasthan is greater than its north-south length.

12. (3)

**Aravalli Mountain Region**

**Origin:**

The Aravalli mountain region originated **4.8 billion years ago** during the **Archaean Eon**, also known as the **Azoic Era** or **Pre-Paleozoic Era**, specifically during the **Precambrian period.**

Note – The Archaean Eon was the **first era** after the formation of the Earth.

The Aravalli range was formed due to folding processes in the **Gondwanaland** during the Precambrian

period of the Archaean Eon. It represents the elevated part of the Indian Peninsular Plateau.

**Extent of the Aravalli Range in India:**

The Aravalli range stretches from **Palanpur (Gujarat) to Delhi**, with a total length of **692 km**.

Note – In **Delhi**, the Aravalli range is known as **Raisina Hills**, and in **Haryana**, it is called **Dhosi Hills**.

The range spans across **3 states** and **1 union territory (Delhi)**:

Gujarat

Rajasthan

Haryana

**Extent of the Aravalli Range in Rajasthan:**

In Rajasthan, the Aravalli range stretches **550 km** from **Sirohi to Jhunjhunu**. The predominant rock type in the Aravalli mountain region is **granite**, which is responsible for the abundance of metallic and non-metallic minerals. In contrast, the **Hadoti plateau** in Rajasthan predominantly consists of **basaltic rocks**.

The Aravalli range is also known as the **Great Indian Water Divide**.

**13. (2)**

In the given question, statements 1, 3, and 4 are correct; therefore, the correct answer is option 2. The highest mountain peak in the state is **Guru Shikhar**, with a total height of **1722 meters**. This peak is located in **Sirohi district**, which is a part of **South Aravalli**.

Note – The highest mountain peak of **Central Aravalli** is **Gaumukh**, which is located in **Ajmer district**.

The **Kanthal plain** is a part of the **Mahi basin**, which lies in the eastern plain region of the state, situated along the banks of the **Mahi river**. Its extent is limited to **Pratapgarh district**.

There are three types of deserts in the state: **Hammada, Reg, and Erg**.

**Hammada** is a rocky or stony desert region, and its extent is between **Pokhran, Phalodi, and Balotra**. Due to immense potential for solar energy in this rocky region, a **SEEZ (Solar Enterprises Economic Zone)** is being established here.

**Reg** refers to the surrounding area of Hammada, which is also a rocky or stony desert.

**Erg** refers to the entire sandy desert region.

**14. (4)**

The renowned geographer Dr. Vladimir Köppen classified the world into various climatic regions based on vegetation. Based on his classification, the state can be divided into the following climatic regions:

**Aw (or Tropical Humid) Climatic Region:**

**Region:** Banswara district, southern part of Dungarpur district, Chittorgarh, and Jhalawar districts.

**Annual Rainfall and Temperature:** The annual average rainfall is **80 cm (800 mm) or more**. In summer, the average temperature ranges between **30°C to 34°C**, and in winter, it ranges from **12°C to 15°C**.

**Vegetation:** Dense natural vegetation, monsoonal deciduous forests, and savanna-like grasslands.

**Bshw (or Semi-Arid or Steppe) Climatic Region:**

**Region:** Found in districts such as Barmer, Jalore, Jodhpur, Nagaur, Churu, Sikar, Jhunjhunu, etc. (western region of Aravalli).

**Rainfall and Temperature:** The annual rainfall is **20-40 cm (200-400 mm)**. The summer temperature ranges between **32°C to 35°C**, and in winter, it ranges from **5°C to 10°C**.

**Vegetation:** Thorny bushes and bamboo, primarily steppe-type grasslands.

**Bwhw (or Tropical Dry) Climatic Region:**

**Region:** This region covers parts of northwestern Jodhpur district, western Barmer, Jaisalmer, western Bikaner, the southwestern part of Ganganagar district, and parts of Churu district. This is a vast arid desert region.

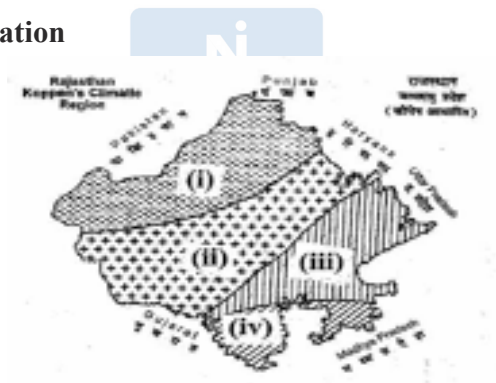
**Cwg (or Sub-Humid) Climatic Region, i.e., Monsoonal Climatic Region:**

**Region:** Found in the southeastern and eastern parts of the Aravalli range, such as parts of Jaipur district, Alwar, Bharatpur, Sawai Madhopur, Dausa, Karauli, Kota, Bundi, Hadoti, Dang, and Mewar regions.

**Rainfall and Temperature:** The annual average rainfall in this climatic region ranges between **60-80 cm**. In summer, the temperature ranges between **32°C to 38°C**, and in winter, it ranges from **14°C to 16°C**.

**Other Features:** The region is known for the **ravines of the Chambal River**.

**Köppen's Climate Classification**



15. (2)

**Mica**

**Uses** – Used in cosmetics and rubber tire manufacturing.

**Production:**

**Bhilwara** – Danta, Bhunas

**Shahpura** – Phulia

**Udaipur** – Champagudha

**Asbestos**

**Uses** – Used in cement sheets and the cement industry.

**Note** – It is a natural fiber-containing mineral.

**Production:**

**Ajmer** – Nerala, Arjunpura

**Beawar** – Sendra, Manpura

**Rajsamand** – Tikhi Gudha

**Gypsum**

**Nagaur** – Goth Manglod, Bhadan, Bhadwasi, Jodhyasi, Dhakoria

**Sri Ganganagar, Bikaner, Churu regions** –

The **Jamsar (Bikaner)** mine is the largest gypsum mine in the state.

**Rock Phosphate**

**Uses** – Used in the production of phosphate fertilizers.

**Production:**

**Udaipur** – Jhamarkotra

**Jaisalmer** – Fatehgarh

**Jaipur Rural** – Achrol

**Alwar (Aduka)** – Andawari

**Manganese**

This mineral comes under the **Vagad region**. It is primarily found in **Lilwani, Kalakhunta,** and **Talwara** regions of **Banswara**.

Note – Rajasthan is the only state that produces **lead and zinc ores, selenite,** and **wollastonite**.

**16. (2)**

According to the study conducted at a height of 150 meters by the National Institute of Wind Energy under the Ministry of New and Renewable Energy, Government of India, the wind energy production capacity in the state is **284 MW**.

The highest potential for wind energy in the state is in **Jaisalmer district**.

The state's first wind energy plant was established at **Amarsagar, Jaisalmer**, while the second wind energy plant was established at **Devgarh, Pratapgarh**.

The major wind energy plants in the state are as follows:

**Pohra, Akal, Hansua, Bada Bagh,** and **Sodha Bandhan** wind energy plants are located in **Jaisalmer district**.

**Bithri** wind energy plant is located in **Phalodi**.

**Harsh Wind Energy Plant** is located in **Sikar district**.

Note – The largest wind energy park in the state is **Bada Bagh, Jaisalmer**.

The state's first wind energy policy was formulated in **2012**, while the latest wind energy policy was passed in **2019**.

**17. (4)**

According to **Article 320** of the Constitution of India, the functions of the State Public Service Commission are as follows:

Conducting various recruitment examinations and interviews.

Advising the state government on various matters, such as:

- (i) Methods of recruitment
- (ii) Pension-related matters of state government employees
- (iii) Matters related to disciplinary actions against state government employees
- (iv) Granting relaxation in experience for promotions

- (v) Merging one service with another
- (vi) Advising on policy formulation related to state government employees, such as transfer policy, training policy, and promotion policy

**Note** – Matters on which the state government does not seek advice from the commission:

- Creation of a new public service
- Classification of posts
- Determining the **probation period**
- Determining the **training period**
- Fixing salaries after the first appointment
- Fixing salaries after promotion
- Transferring state government employees
- Appointing state government employees

**18. (2)**

Under **Section 22** of the **Protection of Human Rights Act, 1993**, the Chairperson and members of the commission are appointed by the Governor on the recommendation of a selection committee.

The committee formed for the appointment of the Chairperson and members of the State Human Rights Commission is chaired by the Chief Minister. The members of this committee include the Speaker of the State Legislative Assembly, the Home Minister of the state, and the Leader of the Opposition in the Legislative Assembly.

In states with a bicameral legislature (i.e., where there is both a Legislative Assembly and a Legislative Council), in addition to the above members, the Chairman of the Legislative Council and the Leader of the Opposition in the Legislative Council are also included in the selection committee.

The appointment of the Chairperson or any member will not be deemed invalid merely because a position in the selection committee is vacant. Any appointment made by the Governor will be valid.

**19. (4)**

**Venkatachaliah Commission:**

This commission was constituted on **12th February 2000** under the chairmanship of **M. N. Venkatachaliah** for the review of the Constitution.

The commission recommended that the Governor should be appointed by the President on the recommendation of a selection committee, which should consist of the **Prime Minister, Union Home Minister, Vice President, Speaker of the Lok Sabha**, and the **Chief Minister**.

**Punchhi Commission:**

This commission was constituted on **27th April 2007**, and it submitted its final report on **31st March 2010**. The commission was chaired by **Madan Mohan Punchhi**, and its other members were **N. R. Madhava Menon, Vinod Kumar, Dharendra Singh**, and **Vijay Shankar**.

Note – **Vijay Shankar** was appointed as a member of the Punchhi Commission in 2008 after the death of **Amresh Bagchi**.

**Key recommendations of the Punchhi Commission:**

The Governor should have a fixed tenure, and their removal should not be at the discretion of the Central Government.

The Governor should take a decision on a bill passed by the state legislature within **4 months**.

The Governor should have the authority to order prosecution against a minister without the consent of the state government.

Governors should not be made Chancellors of universities.

The Governor should be removed through an **impeachment process**, similar to that of the President, by the **state legislature**.

20. (4)

**Article 124(4)** mentions the procedure for the removal of judges of the Supreme Court, which also applies to High Court judges as per **Article 218**. There are two grounds for the removal of a High Court judge: **proven misconduct** and **incapacity**.

**Initiation of the Proposal:**

An impeachment motion must have the support of at least **100 members in the Lok Sabha** or **50 members in the Rajya Sabha**.

The Speaker or the Chairman may either accept or reject the motion.

Note – In 2018, the proposal against Chief Justice **Dipak Misra** was rejected by the Speaker of the Lok Sabha.

**Formation of the Inquiry Committee:**

If the motion is accepted, the Speaker of the Lok Sabha or the Chairman of the Rajya Sabha forms a **three-member committee** comprising:

The **Chief Justice of India** or a **Supreme Court judge**

A **Chief Justice of a High Court**

An **eminent jurist**

The committee conducts a thorough investigation, collects evidence, and examines witnesses to determine the validity of the charges.

The committee submits its findings to the presiding officer of the house where the motion was initiated. If the judge is found guilty of misconduct or incapacity, the report is debated in Parliament.

Both houses of Parliament must pass the motion with a **special majority** (i.e., a majority of the total membership of the house and a two-thirds majority of the members present and voting).

Note – The process of impeachment for High Court judges is the same as for Supreme Court judges.

21. (2)

**Jurisdiction of Lokayukta:**

In Rajasthan, the following fall under the jurisdiction of the Lokayukta:

All **ministers** of the state

Public servants, including **secretaries** and **heads of departments**

**Zila Pramukh** and **Up-Zila Pramukh**

**Pradhan** and **Up-Pradhan**

Chairpersons of standing committees of **Zila Parishads** and **Panchayat Samitis**

**Mayor** and **Deputy Mayor** of Municipal Corporations

Chairpersons and Vice-Chairpersons of **Municipal Councils**, **Municipal Boards**, and **Urban Development Trusts**

Chairpersons, officers, and employees of **state-owned companies**, **statutory authorities**, **state corporations**, and **boards**

The Lokayukta does not investigate cases if the cause of action is too old.

**Those not under the jurisdiction of the Lokayukta in Rajasthan:**

**Governor**

**Chief Minister**

**Accountant General of the state**

**Chief Justice and judges of the High Court and District Court** (including officers and employees of the judiciary)

**Chief Election Commissioner and election officers** of the State Election Commission

**Chairperson and members of the Rajasthan Public Service Commission (RPSC)**

**Retired public servants**

**Panch, Sarpanch, and Legislators**

Officers and employees of the **Legislative Assembly Secretariat**

22. (3)

Chapter 16 of the Rules of Procedure of the Rajasthan Legislative Assembly mentions the procedure for a no-confidence motion in the Council of Ministers, a motion of confidence in the Council of Ministers, and statements by ministers resigning from office.

**No-confidence motion in the Council of Ministers:**

- (1) A motion expressing lack of confidence in the Council of Ministers may be made subject to the following restrictions:
  - (a) Permission to present the motion must be sought **after the questions and before the commencement of the business on the agenda for that day.**
  - (b) The member seeking permission must give **written notice of the motion** he wishes to present to the **Principal Secretary before the commencement of the meeting** on that day.
- (2) If the Speaker is of the opinion that the motion is in order, he will read out the motion in the House and request those members who are in favor of granting permission to stand up. If at least **one-fifth of the total members** of the House stand up, the Speaker will inform that permission is granted, and the motion will be taken up on a day that is not more than **ten days after** the day on which permission was sought. If less than one-fifth of the members stand up, the Speaker will inform the member that the House has not granted permission.
- (3) If permission is granted under sub-rule (2), the Speaker may, after considering the state of business in the House, allocate **one or more days or part of a day** for discussion of the motion.
- (4) On the appointed day or the last of the appointed days, at the appointed time, the Speaker shall, without further debate, put every necessary question for the decision of the House on the motion.

23. (2)

“Biodiversity refers to the variety of life found among living organisms, including the diversity within species, between species, and of complex ecosystems.”

Biodiversity is the short form of **biological diversity**, and the term “biological diversity” was coined by **Walter G. Rosen**.

The **father of biodiversity** is considered to be **E. O. Wilson**.

The **16th International Conference on Biodiversity** was held from **October 21 to November 1, 2024**, in **Cali, Colombia**. The theme of this conference was **“Peace with Nature”**.

Note – **International Biodiversity Day** is observed on **May 22, 2024**, and the theme for this year is **“Be a part of the solution”**.



24. (2)

Article 40 of **Part IV** (Directive Principles of State Policy) of the Indian Constitution originally mentioned the formation of Gram Panchayats. Under this provision, the Panchayati Raj Department was formed in Rajasthan in **1949**. The **Panchayati Raj Act** was first enacted in **1953**, and it came into effect across the entire state on **January 1, 1954**.

Note – Bikaner was the first princely state where a Gram Panchayat Act was enacted.

The structure of Panchayati Raj institutions, whether **two-tier** or **three-tier**, is determined by the **State Legislature**. Rajasthan follows a **three-tier Panchayati Raj system**.

Whether the election of the President (Sarpanch) of the Gram Panchayat is **direct** or **indirect** is also determined by the **State Legislature**. In Rajasthan, the President (Sarpanch) of the Gram Panchayat is elected **directly**.

25. (4) Marks to All

**Bhairon Singh Shekhawat:**

He was the **first non-Congress Chief Minister** of Rajasthan. He served as the Chief Minister **three times** (1977 to 1980, 1990 to 1992, and 1993 to 1998).

Note – He was first sworn in as Chief Minister by then-Governor **Raghukul Tilak**. At the time of his swearing-in as Chief Minister, he was a **Rajya Sabha member from Madhya Pradesh**. The first mid-term election in Rajasthan was held during his tenure in **1980**.

He is the **only Chief Minister of Rajasthan** to have served as the **11th Vice President of India** (from 2002 to 2007).

He served as the **Leader of the Opposition** in the Rajasthan Legislative Assembly **three times**.

Bhairon Singh Shekhawat **never served as a Governor of any state**.

Note – Former Chief Minister **Jagannath Pahadia** of Rajasthan served as the Governor of **Bihar and Haryana**.

He was the **Protem Speaker** of the Rajasthan Legislative Assembly from **December 14, 1998, to January 3, 1998**.

During the **6th Legislative Assembly (1977-1980)**, the Speakers of the Rajasthan Legislative Assembly were **Maharawal Laxman Singh** and **Gopal Singh**, while the Chief Minister during this period was **Bhairon Singh Shekhawat**.

26. (2)

Raja Man Singh was born on **December 21, 1550**, in **Amer, Rajasthan**. He was the son of Raja Bhagwandas. He was the **24th Maharaja of Amer** from **1589 to 1614**. He served in Akbar's court for **52 years** and was one of Akbar's **Navaratnas** (nine jewels).

Maharaja Man Singh of Amer was conferred the titles '**Farzand**' and '**Raja**' by Akbar.

Court poets of Maharaja Man Singh of Amer included **Harinath, Hapa Barhath (prominent), Rai Murari Das, Pundarik, Sundardas, Jagannath**, etc. During his time, Jagannath composed '**Mansingh Kirti Muktavali**', and Rai Murari Das composed '**Mancharitra**'. Pundarik Vitthal authored famous works such as **Ragchandrodaya, Ragmanjari**, and **Nartan Nirdesh**.

27. (3)

**Festivals of the Bhadrapada Month:**

**Kajli Teej / Badi Teej / Satuudi Teej** – Celebrated on **Bhadrapada Krishna Tritiya**.

**Krishna Janmashtami** – Celebrated on **Bhadrapada Krishna Ashtami**.

**Hartalika Teej** – Celebrated on **Bhadrapada Shukla Tritiya**.

**Jaljhulani / Devjhulani / Dol Gyaras Ekadashi** – Celebrated on **Bhadrapada Shukla Ekadashi**.

**Festivals of the Ashadha Month:**

**Devshayani Ekadashi** – Celebrated on **Ashadha Shukla Ekadashi**. No auspicious ceremonies are held for the next four months from this day.

**Guru Purnima** – Celebrated on **Ashadha Purnima**.

**Festivals of the Ashwin Month:**

**Sharad Purnima (Ashwin Purnima)** – Also known as ‘**Kojagari Purnima**’ or ‘**Raas Purnima**’. According to astrologers, this is the only day in the entire year when the moon is complete with all its 16 phases. It is believed that **Lord Krishna** performed **Maha Raas** on this night. In northern India, it is customary to prepare **kheer** and place it under the moonlight.

**Dussehra** – Celebrated on **Ashwin Shukla Dashami**.

Note – The **Dussehra fair of Kota** is famous in Rajasthan.

**Festivals of the Chaitra Month:**

**Ghudla Festival** – Celebrated from **Chaitra Krishna Ashtami to Chaitra Shukla Tritiya** in **Jodhpur**.

The origin of this festival dates back to **1578**, when the royal army of **Barmer** abducted women performing **Gangaur Puja** near **Pipar village** of Jodhpur under the leadership of **Ghudle Khan**. Upon learning of the incident, **Satal**, the son of **Rao Jodha**, rescued the abducted women and beheaded Ghudle Khan, bringing his head back to Jodhpur. Since then, this day has been celebrated as a **victory festival** in Marwar.

**Festivals of the Magha Month:**

**Til Chauth (Magha Krishna Chaturthi)** – Also known as **Sakat Chauth, Vakratundi Chaturthi**, or **Tilkuta Chauth**. On this day, **Lord Ganesha** and **Chauth Mata** are offered **tilkut (sesame sweets)**.

**Shattila Ekadashi (Magha Krishna Ekadashi)** – On this day, six types of sesame seeds are used, hence the name **Shattila Ekadashi**.

28. (3)

**Prominent dances of Garasia tribe:**

The dances performed by this tribe include **Bhoria, Mandal, Rayan, Kood, Valar, and Ganwara**.

**Prominent dances of Bhil tribe:**

**Ganwari/Rai dance** – Performed by men in Mewar

**Gair dance** – Performed by men in Mewar

**War dance** – Performed by men in Mewar

**Hathimana** – Performed by men

**Ghoomra dance** – Performed by women

**Prominent dances of Kalbelia caste:**

Kalbelia, Indoni, Panihari, Bagadiya, and Shankariya are prominent.

**Bagadiya dance** – Performed by Kalbelia women while begging.

The musical instrument **Chang** is used in this dance.

**Prominent dances of Gurjar caste:**

**Chari dance** – Performed by Gurjar women on auspicious occasions.

It is mainly popular in **Kishangarh (Ajmer)**.

**Prominent dances of Meena tribe:**

**Rasiya** and **Neja**.

**Prominent dances of Sahariya tribe:**

**Swang, Shikari, Lahangi, Jhela, and Bedini dance.**

Note – All dances, except **Jhela**, are performed by men. **Jhela** is a couple dance.

**Prominent dances of Kanjar tribe:**

**Chakri** (performed by women) and **Dhakad** (performed by men).

29. (4)

**Ornaments worn by women:**

**Ornaments worn on the nose:**

Bhogli, Nath, Bari, Kanta, Chuni, **Bulaka**, Latkan, Chop, Balni, etc.

**Ornaments worn on the neck:**

Thamanyo, Thedyo, Tedyo, Aad, Moothya, Jhalra, **Halra**, Khantla, Tussi/Thussi, Champakali, Madaliya, Kanthi.

**Ornaments worn on the head:**

Sheeshphool, Memand, Bor, Rakhdi, Tikda.

**Ornaments worn on the forehead:**

Moli, Phool, Borla (Bot), Tika, Phini, Jhela, Maang, Sankli, Khech (pearl ornament used in place of Sankli), Soor Maang, Tavit, Bindiya, Damani.

**Ornaments worn on the teeth:**

Rakhan (silver and gold plates on teeth), Chompchup (filling holes in the two front teeth with gold, silver, or colored materials).

**Ornaments worn on the ears:**

Karnphool, Peepal Patra, Phool Jhumka, Angotya, Jhela, Latkan, Bali, Top, Patti, Suralia, Morfavur, Jhale, Bareth, Eren, Ogania, Kundla, Loong, Pooji, Toti, Bhachuriya, Patisulia, Jamela, etc.

30. (1)

**Nathdwara Painting Style:**

Nathdwara painting style is famous under the **Mewar School**.

The prominent painters of this style include **Narayan, Chaturbhuj, Ramling, Ghasiram, Tulsidas Udayram, Devkrishna, and Bhagwan**, among others. Two prominent women painters of this style were **Kamla** and **Elaichi**.

**Kishangarh Painting Style:**

The credit for bringing Kishangarh painting style into prominence goes to **Eric Dickinson** and **Fayaz Ali**.

Note – The Government of India issued a postage stamp on this painting style in **1973**.

Note – The period of **Savant Singh** is considered the golden era of Kishangarh painting style.

Note – Prominent painters of this style include **Nankaram, Sitaram, Badansingh, Mordhwaj, and Nihalchand**.

Note – The famous painting ‘**Bani-Thani**’ belongs to this style.

#### **Jodhpur (Marwar) Painting Style:**

Prominent painters of this style include **Bhati Amardas, Danabhati, Jeetmal, Bishandas, Bhati Shivdas, Sama, Sefu, Natho, Veerji, Ratanji Bhati, Chhajju, Fej Ali, Udayram, Kaluram, Matiram, Kishandas, Devdas, Bhabhoot, Narayan Das, Ramsingh Bhati, Ladunath, Sartaj Satidas, Shankardas, Madhudas, etc.**

#### **Bikaner Painting Style:**

Prominent painters of this style include **Hameed Ruknuddin, Musavvir Ruknuddin, Usta Aseer Khan, Sahibdeen, Munnalal, Mukund, Qayyam, Qasim, Ahmad Ali, Abu Hamid, Ali Raza, Murad, Nathu, Ramlal, Chandulal, Jaykishan, Ramkishan, Shah Mohammad, Jeevan, Shivram Joshi, Meghraj, etc.**

31. (4)

**Chittorgarh Fort –**

**Kalika Mata Temple**

**Samidheshwar Temple**

**Satbees Deori Jain Temple**

**Shringar Chanvari (Jain Temple)**

**Meera Bai Temple**

**Tulja Bhavani Temple**



Note – The **Satbees/Satbees Deori Jain Temple**, built in the **11th century**, is a famous Jain temple in Rajasthan. It is called **Satbees Deori** because it houses **27 small shrines**.

**Ranthambore Fort (Sawai Madhopur) – Trinetra Ganesh Temple**

**Mehrangarh Fort (Jodhpur) – Chamunda Mata Temple**

**Siwana Fort (Barmer) – Haldeshwar Mahadev Temple**

Note – It is called **Haldeshwar Mahadev Temple** because it is located on **Haldeshwar Hill**.

**Amer Fort (Jaipur) – Shila Devi Temple**

Note – The idol of **Shila Mata** was brought by **Maharaja Man Singh** from **Jessore (Bengal)** after defeating its ruler **Kedar** in the **16th century**. This temple was built by **Sawai Man Singh** in **1906 AD**.

#### **Bhumija Style in Temple Architecture:**

The **Bhumija style** is a sub-style of **Nagara architecture**. Prominent temples of this style in Rajasthan include:

The oldest temple of this style in Rajasthan is the **Sewadi Jain Temple (Pali)**.

Other prominent temples of this style are:

2. **Mahaanaleshwar Temple of Maanal**

3. **Adbhut Nath Temple of Chittorgarh**

4. **Bhanddevra Temple of Ramgarh (Baran)**

5. **Udeshwar Temple of Bijolia (Bhilwara)**

32. (4)

**Major sects of Rajasthan, their founders, and principal seats:****Dadu Sect****Center/Seat** – Narayana, Jaipur**Founder** – Dadu Ji (also known as the Kabir of Rajasthan)

The Dadu sect has six main branches: Khalsa, Naga, Virakta, Sthanadhari, Nihang, Khaki.

Note – Dadu Ji composed works such as **Parichay Ka Ang** and **Kayabeli Granth**.**Ramanuj Sect****Center/Seat** – Galta Ji, Jaipur**Founder** – Ramanujacharya**Ramanandi Sect****Centers/Seats:**

- a. **Revasa Village (Sikar)** – Founded by Agradas Ji
- b. **Galta Ji (Jaipur)** – Established by Swami Krishnadas Payahari in **1503 AD**

**Parnami Sect****Center/Seat** – Adarsh Nagar, Jaipur**Founder** – Mahamati Prannath**Jasnathi Sect**The main seat of the Jasnathi sect is **Katariasar (Bikaner)**, founded by Jasnath Ji.

Important sub-seats established by disciples:

Bamlu – Founded by Haroji

Likhmadesar – Founded by Hansoji

Poonrasar – Founded by Paloji

Malasar – Founded by Todarji

Panchla Sidha – Founded by Boyat Ji

**Bishnoi Sect****Center/Seat** – Mukam-Talwa, Bikaner**Founder** – JambhojiJambhoji authored works such as **Jambhvani**, **Jambhsagar**, **Shabdavani**, and **Bishnoi Dharm Prakash**.**Gaudiya Sect****Centers/Seats:**

- a. **Govind Dev Ji Temple (Jaipur)** – Founded by Gorang Mahaprabhu Chaitanya
- b. **Madan Mohan Ji Temple (Karauli)**

**Dasi Sect****Center/Seat** – Merta, Nagaur**Founder** – Meera BaiMeera Bai composed works such as **Narsi Mehta Ki Hundi**, **Rukmani Mangal**, and **Satyabhama Ro Rusano**.

**Niranjani Sect**

**Centers/Seats** – Didwana and Gada, Nagaur

**Founder** – Sant Haridas Ji

**Laldasi Sect**

**Centers/Seats:**

a. Dhauli Dhoob – Alwar

b. Nagla – Bharatpur

**Founder** – Lal Das Ji

**Nishkalanki Sect**

**Center/Seat** – Sabla, Dungarpur

**Founder** – Sant Mawji

**Nimbark Sect**

**Center/Seat** – Salemabad (Ajmer)

**Founder** – Nimbarkacharya

**Vallabh Sect**

**Founder** – Vallabhacharya

Five main seats of this sect in Rajasthan:

**Mathuresh Ji** – Kota

**Shri Nath Ji** – Nathdwara

**Dwarkadhish Ji** – Kankroli

**Madan Mohan Ji** – Kamvan

**Gokul Chandra Ji** – Kamvan

**Ramsnehi Sect**

Four main seats of Ramsnehi sect in Rajasthan:

**Shahpura (Bhilwara)** – Founded by Sant Ramcharan Ji

**Ren (Nagaur)** – Founded by Sant Daryav Ji

**Khedapa (Jodhpur)** – Founded by Sant Ramdas Ji

**Singthtal (Bikaner)** – Founded by Sant Hariramdas Ji

**Charandasi Sect**

**Center/Seat** – Delhi

**Founder** – Charan Das Ji

**Terapanth Sect**

**Center/Seat** – Siriyari, Pali

**Founder** – Bhikhan Ji

**33. (3)**

**Rangeya Raghav** – His prominent novels include **Gharonde, Murdo Ka Teela, Kab Tak Pukaru,** and **Aaj Ki Awaaz.**

**Yadavendra Sharma** – His prominent novels include **Hoon Gori Kin Peev Ri, Jog Sanjog, Chanda Sethani, Mitti Ka Kalank, Ek Aur Mukhyamantri,** etc.



**Shivraj Chhangani** – His prominent novel is **Olkhan**.

**Mani Madhukar** – His prominent novels include **Pagfero** and **Sudhi Sapno Ke Teer**.

**Meghraj Mukul** – His prominent novels are **Sainani**, **Umang**, and **Kirtiya**.

34. (1)

**Bijolia Inscription, Bhilwara:**

This inscription dates back to **1170 AD** and was composed by **Gunabhadra**. It describes the Chauhans of **Sambhar (Shakambhari)** and **Ajmer**. According to the inscription, **Vasudev Chahman**, the progenitor of the Chauhans, established the Chauhan kingdom in **551 AD** at Shakambhari and constructed **Sambhar Lake**.

Vasudev Chauhan made **Ahichhatrapur (Nagaur)** his capital.

This inscription describes the Chauhans of Sambhar and Ajmer as '**Vatsagotriya Brahmins**'.

The inscription also mentions various ancient places such as **Jabalipur (Jalore)**, **Shakambhari (Sambhar)**, **Naddul (Nadol)**, **Dillika (Delhi)**, **Shrimal (Bhinmal)**, **Naghrud (Nagda)**, **Uttamadrik (Uparmal)**, **Mandalkar (Mandalgarh)**, **Vindhyavalli (Bijolia)**, and **Ahichhatrapur (Nagaur)**.

It further states that **Vigraharaj IV** conquered **Dillika (Delhi)**.

**Kumbhalgarh Inscription:**

This inscription is engraved on five stones and refers to Hammir as '**Visham Ghati Panchanan**'.

**Chirwa Inscription (Udaipur):**

This inscription mentions the descendants of **Bappa Rawal**.

**Amer Inscription:**

In the Amer inscription, the Kachhwaha rulers are referred to as '**Raghuvansh Tilak**'.

35. (3)

Among the listed customs, **Ikatai**, **Ojhan**, **Badhaar**, and **Mugdhana** are marital customs, while **Okh** and **Santarwada** are mourning rites. Hence, the correct answer is option 3.

**Okh:** A mourning rite in which, if someone dies during a festival, that festival is not celebrated by the family for generations.

**Santarwada:** A custom performed after cremation, where individuals who attended the funeral return to the deceased's house after bathing and console the bereaved family.

**Ikatai:** A custom where a tailor takes the groom's measurements for his attire (angrakha, kurta, and pajama) before the wedding. The groom wears these clothes on the wedding procession day.

**Ojhan:** The dowry given to the bride during the wedding rituals.

**Badhaar:** A communal feast provided by the bride's family on the second day of the wedding.

**Mugdhana:** The wood used for cooking food during the wedding.

36. (2)

**Tamasha Theatre Style:**

Tamasha is a traditional folk theatre style of Jaipur, which is a combination of Jaipur Khyal and Dhrupad Dhamar singing. It was influenced by the Tamasha folk theatre style of Maharashtra. This style originated during the reign of Maharaja Man Singh I of Amer (1594 AD) when the play 'Dhamaka Manjari' written by poet Mohan was performed in Amer.

Maharaja Pratap Singh of Amer patronized Bansidhar Bhatt (who was from Maharashtra) and



encouraged this folk theatre style. The Guru tradition in this family began with Phoolji Bhatt.

On Holi, the 'Jogi Jogan' Tamasha is performed; on the second day of Holi, 'Heer Ranjha' is staged; 'Gopichand' is performed on the new moon of Chaitra, and 'Jutthan Miyan' is staged on Sheetla Ashtami.

Prominent artists of Tamasha include Gopiji Bhatt, Phoolji Bhatt, Manuji Bhatt, and Vasudev Bhatt. Notable works by Bansidhar Bhatt include **Pathan, Kan-Gujari, Raseeli-Tambolan, Heer Ranjha, Jogi Jogan, and Chhuttan Miyan.**

#### **Gandharva Theatre:**

The Gandharvas are professional dancers from Marwar. Their musical plays are based on Jainism.

#### **Sawari Theatre:**

Sawari or procession-based theatre performances are an ancient tradition in Rajasthan. These performances are based on religious and mythological stories.

### 37. (4)

The integration of Rajasthan occurred in **seven phases**, spanning **8 years, 7 months, and 14 days**.

At the time of integration, Rajasthan consisted of **19 princely states** and **3 thikanas**.

#### **First Phase – Matsya Union**

Integration date: **March 18, 1948**

Included princely states: **Alwar, Bharatpur, Dholpur, Karauli, and Neemrana Thikana**

Inaugurator: **N.V. Gadgil**

Capital: **Alwar**

Rajpramukh: **Udaybhan Singh (Dholpur)**

Prime Minister: **Shobharam Kumawat**

#### **Second Phase – Rajasthan Union**

Integration date: **March 25, 1948**

Included princely states: **Banswara, Bundi, Dungarpur, Jhalawar, Kota, Pratapgarh, Tonk, Kishangarh, Shahpura, and Kushalgarh Thikana**

Inaugurator: **N.V. Gadgil**

Capital: **Kota**

Rajpramukh: **Maharao Bhim Singh (Kota)**

Prime Minister: **Gokul Lal Asawa**

#### **Third Phase – United Rajasthan**

Integration date: **April 18, 1948**

Udaipur princely state joined Rajasthan Union.

Inaugurator: **Jawaharlal Nehru**

Capital: **Udaipur**

Rajpramukh: **Bhupal Singh (Udaipur)**

Prime Minister: **Manikya Lal Verma (Udaipur)**

#### **Fourth Phase – Greater Rajasthan**

Integration date: **March 30, 1949 (Rajasthan Day)**

Princely states of **Jaipur, Jodhpur, Bikaner, and Jaisalmer** were merged with United Rajasthan.

Inaugurator: **Sardar Vallabhbhai Patel**

Capital: **Jaipur**

Maharaj Pramukh: **Bhupal Singh (Udaipur)**

Rajpramukh: **Man Singh II (Jaipur)**

Prime Minister: **Hiralal Shastri (Jaipur)**

**Fifth Phase – United Greater Rajasthan**

Integration date: **May 15, 1949**

Matsya Union was merged with Greater Rajasthan.

Capital: **Jaipur**

Rajpramukh: **Man Singh (Jaipur)**

Prime Minister: **Hiralal Shastri (Jaipur)**

**Sixth Phase – Rajasthan (Union)**

Integration date: **January 1950**

Sirohi princely state (except Abu and Delwara tehsils) was merged with United Greater Rajasthan.

**Seventh Phase – Present form of Rajasthan**

Integration date: **November 1, 1956**

Ajmer-Merwara, Abu and Delwara tehsils, and Sunel-Tappa from Madhya Pradesh were merged with Rajasthan.

38. (1)

**Bijolia Farmers' Movement:**

This was the first extensive and longest-running non-violent movement in India, lasting for 44 years (1897 to 1941). After Sitaram Das and Vijay Singh Pathik, the movement continued under the leadership of their disciples Manikyalal and Ramnarayan Chaudhary (from 1927 AD). The movement concluded in 1941 when Sir T. Vijay Raghavacharya became the Prime Minister of Mewar.

The Bijolia movement is divided into **three phases**:

**First Phase (Spontaneous Farmers' Movement):**

From 1897 to 1915, key leaders were Sitaram Das, Fatehkaran, Brahmdev Dadhich, Nathulal Kamdar, Nanj Patel, Thakri Patel, Premchand Bhil, and Ramjilal Sunar.

**Second Phase (Period of New Awareness among Farmers):**

From 1916 to 1922, key leaders were Narayan Patel and Vijay Singh Pathik.

**Third Phase:**

From 1923 to 1941, key leaders were Manikyalal Verma, Ramnarayan Chaudhary, and Jamnalal Bajaj.

**Note:**

Due to intense public opposition in Bijolia, the Bindulal Bhattacharya Commission (April 1919 AD) was formed. Its members were Bindulal Bhattacharya (Hakim of Mandalgarh), Afzal Ali (Dewan), and Amar Singh Ranawat. In 1920, Maharana appointed another commission (Second Commission) whose members were Mehta Takht Singh, Pandit Ramakant Malviya, and Rao Bedla.

39. (2)

**Jhalawar Prajamandal:**

It was formed in **1946** under the leadership of **Mangilal Bhavya**. Other associated persons were **Kanhaiyalal Mittal** and **Maqbool Alam**.

**Jaipur Prajamandal:**

It was initially formed in **1931** under the leadership of **Karpurchand Patni**, but it became inactive. It was reconstituted in **1936** under **Chiranjilal Mishra's** leadership. In **1938**, **Jamnalal Bajaj** became the president. This Prajamandal did not actively participate in the **Quit India Movement** of 1942.

**Bikaner Prajamandal:**

It was established in **1936** by **Magharam Vaidya**. It was later re-established in **1937** in Kolkata. **Magharam** became its first president, and **Laxmidas Swami** became the first founding secretary.

**Jaisalmer Prajamandal:**

It was founded in **1945** by **Meethalal Vyas**.

**Dholpur Prajamandal:**

Founded in **1936 AD** by **Krishnadatt Paliwal** and **Jwala Prasad Jigyasu**.

**Banswara Prajamandal:**

Founded in **1943 AD** by **Bhupendranath Trivedi** and **Haridev Joshi**.

**Karauli Prajamandal:**

It was established in **April 1938** under the leadership of **Munshi Trilokchand Mathur**, president of the State Servants Association.

**Mewar Prajamandal:**

Established on **April 24, 1938**, due to the efforts of **Manikyalal Verma**.

President: **Balwant Singh Mehta**

Vice President: **Bhurelal Baya**

General Secretary: **Manikyalal Verma**

Its first session was held in **November 1941** in Udaipur, chaired by **Manikyalal Verma**, with prominent attendees like **Acharya J.B. Kripalani** and **Vijayalakshmi Pandit**.

40. (4)

**Revolt during the 1857 uprising in Kota:**

On **15 October 1857**, under the leadership of **Meharab Khan (Risaldar)** and **Jayadayaal (Lawyer)**, the state army and local people revolted, resulting in the assassination of **Major Burton** and **Surgeon Seldar**, and **Burton's** head was paraded around the city. They seized control of the state's governance. The suppression of this rebellion was carried out by **Major Roberts** in **March 1858**.

**Note:** Major Burton was the political agent of Kota.

**Note:** During the uprising, the Maharaja of Kota was **Ramsingh II**.

41. (1)

**Per capita income in the state:**

Per capita income is calculated by dividing the Net State Domestic Product (NSDP) by the mid-year total population of the state. It serves as an indicator of the standard of living and well-being of the people.

According to the Economic Review 2023-24, per capita income at constant (2011-12) prices in Rajasthan for 2023-24 is **₹90,831**.

**Note:** A 6.94% increase in per capita income at constant prices has been recorded according to the Economic Review 2023-24.

At current prices, per capita income in Rajasthan for 2023-24 is **₹1,67,964**.

**Note:** An 11.49% increase in per capita income at current prices has been recorded according to the Economic Review 2023-24.

#### **Power capacity:**

According to the Economic Review 2022-23, the total installed power capacity in the state was **23,508.96 MW**, which increased to **24,783.64 MW** by March 2024.

#### **Food grain production:**

According to preliminary estimates, the total food grain production in the state for the year 2023-24 is expected to be **245.01 lakh metric tons**, which is 3.08% lower compared to the **252.80 lakh metric tons** of the previous year.

#### **Gross State Domestic Product (GSDP) of Rajasthan:**

At constant prices:

**2022-2023:** ₹7.82 lakh crores

**2023-2024:** ₹8.45 lakh crores

At current prices:

**2022-2023:** ₹13.57 lakh crores

**2023-2024:** ₹15.28 lakh crores



42. (2)

#### **MLA Local Area Development Scheme (MLA-LAD):**

**Objective of the scheme:** To develop infrastructure according to local needs, create public utility assets, and address regional disparities in development.

**Implementation area:** This scheme is being implemented in both urban and rural areas of the state.

**Allocated amount:** Under this scheme, each MLA is allocated ₹5 crore per financial year for each assembly constituency.

It is mandatory for each MLA to spend **20% of the allocated MLA-LAD amount** on Scheduled Castes (SC) and Scheduled Tribes (ST) development works.

MLAs can recommend up to **20% of the annual allocation** for the construction and maintenance of public utilities.

43. (4)

#### **Operational land holders:**

According to the **Agricultural Census 2015-16**, the total number of operational land holdings in the state is **76.55 lakh**, whereas it was **68.88 lakh** in **2010-11**, indicating an **11.14% increase** in the number of land holdings. The percentage of marginal holdings based on size is the highest at **40.12%**

in the state.

According to the Agricultural Census 2015-16, the **average size of land holdings in the state is 2.73 hectares**, compared to **3.07 hectares in 2010-11**, reflecting an **11.07% decrease**.

According to the Agricultural Census 2015-16, the total number of **female-operated land holdings** in the state is **7.75 lakh**, whereas it was **5.46 lakh** in **2010-11**, indicating a **41.94% increase** in the number of female land holdings.

44. (2)

The 'Chief Minister's Small Commercial Vehicle Self-Employment Scheme' was notified on **October 11, 2022**, to provide self-employment opportunities to applicants aged **18 to 45 years**.

Under this scheme, the applicant is eligible for a subsidy of **10% of the on-road price of the vehicle or ₹60,000 (whichever is lower)** on the purchase of a commercial vehicle costing up to **₹15 lakh**. The subsidy will be provided by both the state government and the concerned vehicle manufacturing company.

**Note:** A budget provision of **₹20 crore** has been made for this scheme.

45. (1)

The city with the highest population in Rajasthan is **Jaipur**, while **Banswara** has the lowest population.

**Top 5 districts with the highest percentage of urban population:**

Kota (60.31%)

Jaipur (52.40%)

Ajmer (40.08%)

Jodhpur (34.30%)

Bikaner (33.86%)

**Top 5 districts with the lowest percentage of urban population:**

Dungarpur (6.39%)

Barmer (6.98%)

Banswara (7.10%)

Pratapgarh (8.27%)

Jalore (8.30%)

46. (4)

The **Rajasthan Water Sector Livelihood Improvement Project** is being financed by the **Japan International Cooperation Agency (JICA)**.

The estimated cost of the project is **₹2,294.30 crore**, and its duration is **11 years**.

Out of the total cost, JICA will provide a loan of **₹1,882.70 crore**, while **₹411.60 crore** will be borne by the state government. JICA will fund this project in **two phases**. The loan agreement for the **first phase is ₹827.20 crore**, and for the **second phase, it is ₹1,055.50 crore**.

**Objective:** The objective of the project is to improve the livelihood of farmers by enhancing water use efficiency and agricultural productivity through the improvement of existing irrigation facilities and agricultural literacy services.

The project involves the rehabilitation and renovation of **137 irrigation projects** in **27 districts**, benefitting farmers over an irrigated area of **4.70 lakh hectares**.

**Other important projects being implemented in Rajasthan:**

Project Name	Financing Institution	Project Duration
Rajasthan Urban Development Program Phase III	Asian Development Bank (ADB)	November 2015 to March 2023
Rajasthan Medium Urban Sector Development Project Phase IV (Tranche-I)	Asian Development Bank (ADB)	January 2020 to November 2028
Rajasthan Medium Urban Sector Development Project Phase IV (Tranche-II)	Asian Development Bank (ADB)	April 2023 to May 2028
Rajasthan State Highway Investment Program - I (Tranche-II)	Asian Development Bank (ADB)	December 2019 to September 2024
Rajasthan State Highway Investment Program - I (Tranche-III)	Asian Development Bank (ADB)	December 2022 to September 2026
Rajasthan State Highway Development Program-II	World Bank	October 2019 to September 2024
Dam Rehabilitation and Improvement Project-II	World Bank	October 2021 to March 2027
Strengthening Public Financial Management in Rajasthan	World Bank	July 2018 to March 2025
Rajasthan Water Sector Livelihood Improvement Project (Tranche-I)	Japan International Cooperation Agency (JICA)	April 2017 to October 2024
Rajasthan Rural Water Supply and Fluorosis Mitigation Project - Phase II	Japan International Cooperation Agency (JICA)	July 2021 to December 2027
Water Sector Restructuring Project for Desert Area Tranche-I & II	New Development Bank (NDB)	May 2018 to February 2025
Transmission System and Green Energy Corridor Project-II in Rajasthan	KfW (German Agency)	November 2022 to October 2026
Rajasthan Forestry and Biodiversity Development Project	Agence Française de Développement (AFD)	April 2023 to March 2028

**47. (1)**

As per the national accounts classification, the service sector includes trade, hotels and restaurants, transport, storage and communication, financial services, insurance, real estate, professional services, and community, social, and personal services.

**Note:** The service sector is that segment of the economy that produces and delivers services. Currently, in most developed countries, the service sector is the largest contributor to the economy. It includes

both highly skilled activities such as computer software and telecommunications, as well as simple services such as plumbing.

**Contribution of the service sector in Rajasthan:**

The contribution of the service sector to the Gross State Value Added (GSVA) at constant prices is **43.95%**.

At current prices, the contribution of the service sector to the GSVA is **45.07%**.

**Sub-sector-wise contribution of the service sector in Rajasthan (2023-24):**

48. (3)

**Stand-Up India Scheme**

This scheme was launched by the **central government on April 5, 2016**.

The Stand-Up India Scheme provides **bank loans ranging from ₹10 lakh to ₹1 crore** for setting up greenfield enterprises. Each bank branch must provide loans to at least **one borrower from Scheduled Castes (SC) or Scheduled Tribes (ST)** and at least **one woman borrower**.

The enterprises can belong to the manufacturing, services, agriculture-allied activities, or trade sectors. In the case of non-individual enterprises, at least **51% shareholding and controlling stake** should be held by an SC/ST or a woman entrepreneur.

**Key features of the scheme:**



**Note:** During the financial year 2023-24, a total of **2,407 beneficiaries** were sanctioned loans amounting to **₹560.73 crore** under this scheme in Rajasthan.

49. (1)

**Chief Minister Free Uniform Fabric Distribution Scheme**

On November 29, 2022, Rajasthan’s then Chief Minister Ashok Gehlot launched the ‘Chief Minister Bal Gopal Scheme’ and ‘Chief Minister Free Uniform Distribution Scheme’ from Jaipur.

According to the budget announcement for 2023-24, it was declared that two sets of free uniform fabric would be provided to all students studying up to class 8 in government schools.

Under this scheme, the state government provides **₹200 per student** for uniform stitching.

50. (2)

**Revenue Deficit:**

In the revised estimates for the year 2022-23, the revenue deficit was **₹31,491 crore**, as against the earlier estimate of **₹32,310 crore**.



**Note:** Revenue deficit occurs when revenue expenditure exceeds revenue receipts.

Formula for calculating revenue deficit = Total revenue expenditure – Total revenue receipts

**Fiscal Deficit:**

As per the revised estimates for 2022-23, the actual fiscal deficit was **₹51,029 crore**, compared to the estimated **₹61,264 crore**, which is **3.76% of GSDP**.

**Note:** This is below the permissible limit of **4.37%** set under the FRBM Act, 2005, which includes an additional 0.50% for the power sector and 0.37% for 50-year interest-free loans.

Formula for calculating fiscal deficit = Total expenditure (capital + revenue) – Total income (revenue receipts + loan recoveries + other receipts)

**GSDP of Rajasthan:**

At constant prices:

2022-23 = ₹7.82 lakh crore

2023-24 = ₹8.45 lakh crore

At current prices:

2022-23 = ₹13.58 lakh crore

2023-24 = ₹15.28 lakh crore

51. (1)

**‘Rajasthan Food and Nutrition Security Analysis Report-2023’**

To assess the status of food security and nutrition in Rajasthan, the **‘Rajasthan Food and Nutrition Security Analysis Report-2023’** was prepared by the **Planning Department in collaboration with the World Food Programme (WFP)** and released in September 2023.

This report provides a detailed analysis of the state based on the following four pillars of food security, as defined by the World Food Programme:

**Food Availability**

**Food Accessibility**

**Food Utilisation**

**Food Stability**

This report will play a significant role in formulating data-driven policies and programs to achieve the goal of a **‘Well-Nourished Rajasthan’**. It also ranks districts based on their status in food and nutrition through the **Food and Nutrition Security Index (FNS Index)**.

**Hanumangarh district** ranked first with a composite score of **58.55**, while **Jaisalmer district** ranked last with a composite score of **22.50**.

**Note:** The World Food Programme (WFP) was awarded the **Nobel Peace Prize in 2020**.

52. (3)

**Panch Gaurav Program:**

This program was initiated by the state government at the district level on the occasion of the first anniversary of the government.

Under this program, the government will focus on one crop, one botanical species, one product, one tourist destination, and one sport in each district. These five elements identified for each district will be recognized as the **‘Panch Gaurav’** of the district.

**Nodal Departments:**

At the state level:

**Agriculture Department** will be the nodal department for ‘One District-One Crop’.

**Forest Department** for ‘One District-One Species’.

**Industries Department** for ‘One District-One Product’.

**Tourism Department** for ‘One District-One Tourist Destination’.

**Sports Department** for ‘One District-One Sport’.

53. (3)

Sanjay Malhotra, a 1990 batch IAS officer of Rajasthan cadre, has been appointed as the 26th Governor of the Reserve Bank of India (RBI), succeeding the outgoing Governor Shaktikanta Das. Sanjay Malhotra hails from **Bikaner district** of Rajasthan.

The **Reserve Bank of India** was established on **April 1, 1935**, under the provisions of the Reserve Bank of India Act, 1934.

The first Governor of RBI was **Sir Osborne Smith**.

Initially, the central office of the Reserve Bank was in Kolkata, which was permanently shifted to Mumbai in 1937.

Though initially privately owned, the RBI has been fully owned by the Government of India since its nationalization in 1949.

54. (2)

**Sahitya Akademi Award 2024 Winners List:**

The list of winners of the Sahitya Akademi Award 2024 has been published, including 21 authors recommended by a jury of three members in various categories. The winners of the Sahitya Akademi Award 2024 are:

Category	Language	Winner	Title of Work
Poetry	Hindi	Gagan Gill	Main Jab Tak Aayi Bahar
Novel	English	Easterine Kire	Spirit Nights
Poetry	Rajasthani	Mukut Maniraj	Gaav Ar Amma
Poetry	Sanskrit	Deepak Kumar Sharma	Bhaskarcharitam

**Note:** Mukut Maniraj is associated with **Kota district** of Rajasthan.

**Note:** The Sahitya Akademi Award for 2023 was awarded to **Dr. Gaje Singh Rajpurohit** for his work ‘**Palkati Preet**’.

55. (3)

The announcement to start the ‘Mukhyamantri Mangla Pashu Bima Yojana’ was made in the **State Budget 2024-25**.

Recently, a **state-level farmer conference** was organized on **December 13, 2025**, at Kayad, Ajmer, under the chairmanship of Chief Minister Bhajanlal Sharma. During this conference, the ‘Mukhyamantri Mangla Pashu Bima Yojana’ was inaugurated.

Under this scheme, **insurance for 21,00,000 animals** will be provided, including **5 lakh milking**

cows, 5 lakh buffaloes, 5 lakh sheep, 5 lakh goats, and 1 lakh camels.

**स्वस्थ पशुधन, समृद्ध राजस्थान**

# मुख्यमंत्री मंगला पशु बीमा योजना

**महत्वपूर्ण जानकारी :**

**पंजीकरण की अवधि:** 13 दिसंबर 2024 से 12 जनवरी 2025 तक पशुपालक अपना पंजीकरण करा सकते हैं। यह पंजीकरण पूर्णतया ऑनलाइन प्रक्रिया के माध्यम से किया जाएगा।

**पात्रता:** यह योजना राजस्थान के सभी जनाधार कार्डधारक पशुपालकों के लिए उपलब्ध है। पशुपालकों को कोई शुल्क नहीं देना होगा।

**बीमा कवरेज:** इस योजना के अंतर्गत कुल 21 लाख पशुओं का निःशुल्क बीमा किया जाएगा, जिसमें शामिल हैं।

**5 लाख दुधारु गायें**

**5 लाख भैंसें**

**5 लाख भेड़ें**

**5 लाख बकरियां**

**1 लाख ऊंट**

**पंजीकरण प्रक्रिया:** पशुपालक दो तरीकों में पंजीकरण कर सकते हैं

**स्वयं MMPBY मोबाइल ऐप या वेबसाइट (<https://mmpby.rajasthan.gov.in>) के माध्यम से नजदीकी ई-मित्र केंद्र पर जाकर**

Eligible beneficiaries under this scheme will be all animal-rearing Aadhaar cardholders in the state. No fee will be charged to animal-rearers for this scheme.

The nodal department for this scheme is the Animal Husbandry Department.

An expenditure of ₹400 crores will be incurred on this scheme.

**Price determination:**

S. No.	Type of Animal	Maximum Price for Insurance
1	Milking Cow	₹40,000 per animal
2	Milking Buffalo	₹40,000 per animal
3	Female Goat	₹4,000 per animal
4	Female Sheep	₹4,000 per animal
5	Camel (Male and Female)	₹40,000 per animal

**Note:** In case of any dispute regarding price determination, the decision of the veterinarian will be final and binding.

56. (1)

Prime Minister Narendra Modi has received the highest honors from **20 countries**.

Award	Year	Country
Order of Abdulaziz Al Saud	2016	Saudi Arabia
Order of Ghazi Amir Amanullah Khan	2016	Afghanistan
Grand Collar of the State of Palestine Award	2018	Palestine
Rule of Nishan Izzuddin	2019	Maldives
Order of Zayed Award	2019	United Arab Emirates
King Hamad Order of the Renaissance	2019	Bahrain
Legion of Merit	2020	United States
Companion of the Order of Fiji	2023	Fiji
Iqbal Award	2023	Palau
The Order of Logohu	2023	Papua New Guinea
Order of the Nile	2023	Egypt
Legion of Honor	2023	France
Grand Cross of the Order of Honor	2023	Greece
Order of the Druk Gyalpo	2024	Bhutan
Order of St. Andrew	2024	Russia
Order of Niger	2024	Nigeria
Dominica Award of Honor	2024	Dominica
Order of Excellence Guyana	2024	Guyana
Order of Freedom of Barbados	2024	Barbados
Order of Mubarak Al Kabir	2024	Kuwait

**Note:** The correct pair for ‘Order of Mubarak Al Kabir’ is **Kuwait**, not **Barbados**. Hence, option 1 is the mismatched pair.

57. (2)

On the occasion of completing one year of the state government’s tenure, an Antyodaya Seva Camp was organized on **December 15, 2024**, at **Pinjarapole Gaushala, Jaipur**, under the chairmanship of Chief Minister **Bhajanlal Sharma**. In this camp, schemes such as the ‘**Mukhyamantri Ayushman Bal Sanbal Yojana**’, ‘**Mukhyamantri Swanidhi Yojana**’, and ‘**Mukhyamantri Vishwakarma Pension Yojana**’ were launched.

**Mukhyamantri Ayushman Bal Sanbal Yojana:**

Under this scheme, treatment up to **₹50 lakh** will be provided for children up to **18 years of age** suffering from rare diseases, and **₹5,000 per month** will be provided as financial assistance for their care.

In the first phase, **JK Lon Hospital** and **AIIMS Jodhpur** have been authorized for treatment.

The monitoring of this scheme will be carried out by the **Department of Social Justice and Empowerment**.

**Objective:** The objective of this scheme is to provide financial assistance for proper treatment, care, and other necessary facilities for children suffering from rare diseases in the state.

58. (4)

The Union Cabinet approved a new central sector scheme, ‘**One Nation, One Subscription**’ (ONOS), on **November 25, 2024**, to provide nationwide access to scholarly research articles and journal publications. The scheme was implemented across **India on January 1, 2025**.

The ‘**One Nation, One Subscription**’ (ONOS) scheme will be operated through a simple, user-friendly, and fully digital process.

A total amount of **₹6,000 crore** has been allocated for three calendar years—**2025, 2026, and 2027**.

The **Information and Library Network (INFLIBNET)**, an autonomous inter-university center under the **University Grants Commission (UGC)**, will coordinate the ONOS scheme.

Traditional academic publishing relies on a ‘**pay-to-reader**’ model, where libraries and institutions pay fees to access published research.

This scheme will complement the **Anusandhan National Research Foundation (ANRF)** initiative, aimed at promoting research and development, supporting government universities, colleges, research institutions, and fostering a culture of innovation.

The **ANRF** will periodically review the usage of the scheme and the publications of Indian authors from these institutions.

The **Department of Higher Education** will host an integrated portal under the name ‘One Nation, One Subscription,’ through which institutions can access journals.

Approximately **1.8 crore students, teachers, and researchers** are expected to benefit from this scheme.

This initiative will expand access to scholarly journals for a vast academic community, including students, teachers, researchers, and scientists from **Tier 2 and Tier 3 cities**, across all disciplines.

59. (2)

In the given question, **statements 2 and 4** are correct. Therefore, the correct answer is **option 2**.

The provision for the appointment of ad hoc judges is made in **Article 127**. When the number of permanent judges is insufficient to form a quorum, the Chief Justice of India can appoint a judge from a High Court as an ad hoc judge in the Supreme Court for a temporary period. This can be done only after consultation with the Chief Justice of the concerned High Court and with the full approval of the President. The appointed person must have the qualifications required for a Supreme Court judge. An ad hoc judge must prioritize the responsibilities of a Supreme Court judge over other duties. During this period, the ad hoc judge enjoys the same decision-making powers and privileges as a judge of the Supreme Court.

**Note:** Article **128** mentions the presence of retired judges in the meetings of the Supreme Court.

60. (2)

Several committees were formed by the Constituent Assembly to carry out the task of drafting the detailed Constitution. These included eight major committees and several smaller or sub-committees.

<b>Committees</b>	<b>Chairpersons</b>
1. Union Powers Committee	Jawaharlal Nehru
2. Fundamental Rights Committee	Sardar Vallabhbhai Patel
3. Rules of Procedure Committee	Dr. Rajendra Prasad

- |   |                          |
|---|--------------------------|
| 4. Advisory Committee on Fundamental Rights, Minorities, and Excluded Areas | Sardar Vallabhbhai Patel |
| 5. Fundamental Rights Sub-Committee   | J. B. Kripalani          |
| 6. Federal Constitution Committee   | Jawaharlal Nehru         |
| 7. Drafting Committee   | Dr. B. R. Ambedkar       |
| 8. Steering Committee   | Dr. Rajendra Prasad      |
| 9. Committee for the States   | Jawaharlal Nehru         |

**61. (3)**

According to **Article 51(A)** of the Indian Constitution, it shall be the duty of every citizen of India to: Abide by the Constitution and respect its ideals, institutions, the National Flag, and the National Anthem.

Cherish and follow the noble ideals that inspired the national struggle for freedom.

Uphold and protect the sovereignty, unity, and integrity of India.

Defend the country and render national service when called upon to do so.

Promote harmony and the spirit of common brotherhood among all people of India transcending religious, linguistic, regional, or sectional diversities and renounce practices derogatory to the dignity of women.

Value and preserve the rich heritage of our composite culture.

Protect and improve the natural environment including forests, lakes, rivers, and wildlife, and to have compassion for living creatures.

Develop scientific temper, humanism, and the spirit of inquiry and reform.

Safeguard public property and abjure violence.

Strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavor and achievement.

Provide opportunities for education to children between the ages of 6 and 14 years (This duty was added by the **86th Constitutional Amendment Act, 2002**).

**62. (2)**

“We, the people of India, having solemnly resolved to constitute India into a Sovereign Socialist Secular Democratic Republic and to secure to all its citizens:

Justice: Social, Economic, and Political;

Liberty: of thought, expression, belief, faith, and worship;

Equality: of status and of opportunity;

And to promote among them all Fraternity assuring the dignity of the individual and the unity and integrity of the Nation;

In our Constituent Assembly this twenty-sixth day of November, 1949, do hereby adopt, enact and give to ourselves this Constitution.”

**63. (4)**

**Central Vigilance Commission:**

The Central Vigilance Commission is a multi-member body comprising one Central Vigilance Commissioner (chairperson) and two or fewer Vigilance Commissioners. Their appointment is made



by the President on the recommendation of a three-member selection committee. This committee is headed by the Prime Minister, with other members being the Leader of the Opposition in Lok Sabha and the Union Home Minister.

**Central Information Commission:**

The Chief Information Commissioner and other Information Commissioners (up to six members) are appointed by the President on the recommendation of a committee. The committee comprises the Prime Minister as the chairperson, the Leader of the Opposition in Lok Sabha, and a Cabinet Minister nominated by the Prime Minister as members.

**National Human Rights Commission:**

The chairperson and members of the National Human Rights Commission are appointed by the President on the recommendation of a six-member committee led by the Prime Minister. The committee also includes the Speaker of Lok Sabha, Deputy Chairman of Rajya Sabha, leaders of the main opposition parties in both Houses of Parliament, and the Union Home Minister.

**Lokpal:**

For the appointment of the chairperson and members of Lokpal, a selection committee is constituted comprising the Prime Minister, the Speaker of Lok Sabha, the Leader of the Opposition in Lok Sabha, the Chief Justice of India or a sitting Supreme Court judge nominated by the Chief Justice, and an eminent jurist nominated by the President based on the recommendation of the first four members.

**64. (4)**

For the election of the President of India, as per convention, the Secretary-General of Lok Sabha or Rajya Sabha is appointed as the Returning Officer alternately. Usually, two senior officials from the Lok Sabha/ Rajya Sabha Secretariat and Secretaries of all state legislative assemblies, including those of the National Capital Territory of Delhi and the Union Territory of Puducherry, are also appointed as Assistant Returning Officers. Their appointment is made by the Election Commission of India. (For the Presidential election 2022, the Secretary-General of Rajya Sabha was designated as the Returning Officer).

A candidate contesting for the office of the President can submit a maximum of four nomination papers. However, only one security deposit is required to be submitted. [According to Section 5B(6) and 5C of the Presidential and Vice-Presidential Elections Act, 1952]

**Note:** Initially, the Constitution did not provide for a security deposit to be submitted along with the nomination. However, the Presidential and Vice-Presidential Elections Act stipulated ₹2500 as the deposit amount. Currently, the deposit amount is ₹15,000, which is refundable if the candidate secures at least 1/6th of the total votes polled.

In the Presidential election, an elector can propose or second the nomination of only one candidate. If the elector signs more than one nomination paper as a proposer or seconder, only the nomination paper that is first submitted to the Returning Officer will be considered valid. [According to Section 5B(5) of the Presidential and Vice-Presidential Elections Act, 1952]

**65. (4)**

Under the Government of India Act, 1919, for the first time, a bicameral system and direct elections were introduced in the country. Thus, in place of the Indian Legislative Council, a bicameral legislature—consisting of the Rajya Sabha and the Lok Sabha—was formed. Most members of both houses were elected through direct elections.



**Key features of the Government of India Act, 1935:**

- Comprehensive legislation
- Proposed All-India Federation
- Establishment of dyarchy at the center
- Provincial autonomy
- Division of powers
- Provisions for protection and reservation
- Expansion of legislative bodies and suffrage
- Federal Court
- End of the Council of India

**Influence of the Government of India Act, 1935, on the current Constitution of India:**

- Federal structure
- Concept of a bicameral legislature
- Provisions for constitutional emergencies
- Office of the Governor
- Comprehensive constitutional document
- Supremacy of federal law over state law in case of conflict
- Emergency powers of the President
- Executive powers of the state to be exercised under the direction of the federal parliament and executive

66. (4)

**Article 35:** Legislation to give effect to the provisions of this part—  
Notwithstanding anything in this Constitution,—

(a) Parliament shall have, and the Legislature of a State shall not have, power to make laws—

(i) With respect to any of the matters which under clause (3) of Article 16, clause (3) of Article 32, Article 33, and Article 34 may be provided for by law made by Parliament; and

(ii) For prescribing punishment for those acts which are declared to be offenses under this part, and Parliament shall, as soon as may be after the commencement of this Constitution, make laws for prescribing punishment for the acts referred to in sub-clause (ii);

(b) Any law in force immediately before the commencement of this Constitution in the territory of India with respect to any of the matters referred to in sub-clause (i) of clause (a) or providing for the punishment referred to in sub-clause (ii) of that clause shall, subject to the terms thereof and to any adaptations and modifications that may be made therein under Article 372, continue in force until altered or repealed or amended by Parliament.

67. (3)

The **24th Constitutional Amendment Act, 1971** introduced the following provisions:

The President was made bound to give assent to a Constitutional Amendment Bill passed by the Parliament.

Parliament was empowered to amend any part of the Constitution, including Fundamental Rights.

The **42nd Constitutional Amendment Act, 1976**, which came into force on **3rd January 1977**, included the following provisions:

Two new parts were added:

**Part 4A:** Provision for Fundamental Duties for citizens.

**Part 14A:** Provision for Administrative Tribunals.

The words **Socialist**, **Secular**, and **Integrity** were added to the Preamble.

Three new Directive Principles of State Policy were added:

A. **Article 39A:** Equal justice and free legal aid.

B. **Article 48A:** Protection and improvement of the environment, forests, and wildlife.

C. **Article 43A:** Workers' participation in the management of industries.

Lok Sabha and State Legislative Assembly seats were frozen based on the 1971 census until 2001.

Five subjects were transferred from the State List to the Concurrent List, namely: Education, Forests, Protection of Wild Animals and Birds, Weights and Measures, and Administration of Justice.

Constitutional amendments were exempted from judicial review.

68. (4)

Under **Article 80(3)**, the President nominates 12 members to the Rajya Sabha, who possess special knowledge or practical experience in fields such as literature, science, art, and social service.

The first 12 persons nominated by the President to the Rajya Sabha were:

**Satyendra Nath Bose**

**Rukmini Devi** (first woman nominee)

**Zakir Husain** (later President of India)

**Radhakamal Mukherjee**

**Sahib Singh**

**N. R. Malkani**

**Jagadisan Mohandas Kapurda**

**Prithviraj Kapoor**

**Maithili Sharan Gupt**

**Alladi Krishna Swami Ayyar** (member of the Drafting Committee)

**Kaka Kalelkar**

Note: **V. V. Giri** was not among the first nominees.



69. (4)

**District Collector**

The post of District Collector was created in **1772** by **Warren Hastings**, who entrusted it with land revenue powers. The first collector of Bengal in 1772 was **Ralph Sheldon**.

The District Collector performs the following administrative duties:

Acts as the chief protocol officer of the district.

Acts as the District Election Officer.

Acts as the Chief Census Officer of the district.

Supervises the supply and distribution of essential commodities (food and ration materials).

Inspects the activities of subordinate officers and organizes their training.

The District Collector is appointed as the Chairman of the **District Disaster Management Authority** under the **District Disaster Management Act, 2005**, not 2009.

Note: The District Disaster Management Act was implemented across the state in **2006**.

**Article 233** provides for the appointment of District Judges:

The appointment, posting, and promotion of District Judges in any state shall be made by the Governor of the state in consultation with the High Court exercising jurisdiction in relation to such state.

A person not already in service of the Union or the State shall be eligible to be appointed as a District Judge only if he has been an advocate or a pleader for not less than seven years and is recommended by the High Court for appointment.

For the first time, Rajasthan Administrative Service (RAS) officers were appointed as District Collectors in **2009**. The District Collector is appointed as the Chairman of the District Disaster Management Authority under the **District Disaster Management Act, 2005**.

70. (3)

This Act was implemented across the state on **14th November 2011** during the tenure of then Chief Minister **Ashok Gehlot**. (The Governor's approval was received on **21st September 2011**). It is an Act that guarantees the provision of services to the public within a stipulated time frame. It mandates active public participation and obligates officials and employees to provide time-bound services.

**Rajasthan Public Services Guarantee Act, 2011**

Initially, under this Act, **108 services from 15 departments** were made available to the public. Later, **153 services from 18 departments** were included. Eventually, **221 services from 25 departments** were covered under the Act. Currently, **287 services from 27 departments** are being provided under this Act.

**Key objectives of the Rajasthan Public Services Guarantee Act, 2011:**

To reduce corruption among government officials and enhance transparency and accountability.

To ensure quick resolution of public grievances.

To provide an effective grievance redressal mechanism to the public.

To promote active participation of the public and public servants in service delivery.

To ensure commitment, timeliness, and efficiency in administration and public service.

To provide a legal right for people to access public services.

71. (4)

Part 14 of the Indian Constitution, from Articles **315 to 323**, contains detailed provisions regarding the independence, powers, functions, appointments, and removal of the members of the Union Public Service Commission (UPSC).

The UPSC comprises a **Chairperson** and **other members** appointed by the **President of India**. The Constitution does not specify the exact number of members, leaving it to the President to determine the number. Additionally, there is no specific qualification mentioned for the members, except that at least **half of the members** must have a **minimum of 10 years of experience** working under the Central or State Government.

The Chairperson and members of the UPSC hold office for **six years** from the date of appointment or until they reach the age of **65 years**, whichever is earlier. They can resign at any time by addressing their resignation to the President. They can also be removed before the completion of their term by the President following the procedure prescribed in the Constitution.

**Note:** The tenure for the Chairperson and members of the **State Public Service Commission** is **six years** or until they reach the age of **62 years**, whichever is earlier.

**Additional Note:** The first Chairperson of UPSC was **Sir Ross Barker** (1926–1932), and the current Chairperson is **Preeti Sudan**.

72. (1)

### National Sports Awards 2024

The Ministry of Youth Affairs and Sports announced the **National Sports Awards 2024** on **2nd January 2025**. The applications were reviewed by a selection committee chaired by **Justice (Retd.) V. Ramasubramanian** of the Supreme Court of India.

In **2021**, the **Rajiv Gandhi Khel Ratna Award** was renamed as the **Major Dhyan Chand Khel Ratna Award** by the Government of India.

**Major Dhyan Chand Khel Ratna Award 2024:** Shri **D Gukesh** (Chess), Shri **Harmanpreet Singh** (Hockey), Shri **Praveen Kumar** (Para-Athletics), and Ms. **Manu Bhaker** (Shooting).

**Arjuna Award (Lifetime Category) 2024:** New category - Gymnastics - Shri **Sucha Singh**, Para-Swimming - Shri **Murlikant Rajaram Petkar**.

### Dronacharya Award 2024:

**Regular Category:** Para-Shooting - Shri **Subhash Rana**, Shooting - Ms. **Deepali Deshpande**, Hockey - Shri **Sandeep Sangwan**

**Lifetime Category:** Badminton - Shri **S Muralidharan**, Football - Shri **Armando Agnelo Colaco**

**National Sports Promotion Award:** Physical Education Foundation of India

73. (4)

### Paris Olympics, 2024

The United States topped the medal tally with **126 medals**, while India ranked **71st** with a total of **6 medals**, including **1 silver** and **5 bronze**. The medals won by India are as follows:

Athlete/Team	Medal	Event
Neeraj Chopra	Silver	Javelin Throw (89.45 m)
Manu Bhaker	Bronze	10m Air Pistol
Manu Bhaker & Sarabjot Singh	Bronze	Mixed 10m Air Pistol
Swapnil Kusale	Bronze	50m Rifle 3 Positions (Men)
Aman Sehrawat	Bronze	Men's Freestyle Wrestling (57 kg)
Indian Hockey Team	Bronze	Men's Hockey

At the **opening ceremony**, **P.V. Sindhu** and **Sharath Kamal** were the flag bearers for India, while at the **closing ceremony**, **Manu Bhaker** and **P.R. Sreejesh** were the flag bearers.

The mascot for the **Paris Olympics, 2024**, was **Phryges**, while the mascot for the **Tokyo Olympics, 2020**, was **Miraitowa**.

74. (4)

In the meeting of the **Rajasthan State Cabinet** held on **28th December, 2024**, it was decided to revise the formation of the newly created **17 districts** and **3 divisions** announced by the previous government. Now, Rajasthan will have a total of **7 divisions** and **41 districts**.

The **3 divisions** that were annulled are **Banswara, Pali**, and **Sikar**.

The **9 newly created districts** that were annulled are:

**Anupgarh, Dudu, Gangapur City, Jaipur Rural, Jodhpur Rural, Kekri, Neem Ka Thana, Sanchore**, and **Shahpura**.

The **8 newly created districts retained** by the government are:

**Phalodi, Balotra, Kotputli-Behror, Khairthal-Tijara, Beawar, Deeg, Didwana-Kuchaman, and Salumbar.**

Additionally, the **3 newly declared districts** — **Malpura, Sujangarh, and Kuchaman City**, which were announced just before the election code of conduct came into effect, have also been annulled.

75. (1)

The joint military exercise 'Desert Cyclone' between India and United Arab Emirates was conducted from 2 to 15 January 2024 at Mahajan, Rajasthan.

The bilateral military exercise 'Nomadic Elephant' between India and Mongolia was conducted at Umroi, Meghalaya in July 2024.

The 13th edition of the joint military exercise 'Maitri' between India and Thailand was conducted in Thailand.

The joint military exercise KAZIND-2024 between India and Kazakhstan was conducted at Auli, Uttarakhand from 30 September to 13 October 2024.

'Mitra Shakti' is an annual military exercise held between India and Sri Lanka. It is conducted once in India and once in Sri Lanka annually. In the year 2024, the 10th edition of 'Mitra Shakti' was conducted at Maduru Oya, Sri Lanka from 12 to 25 August.

76. (1)

The **joint military exercise “Desert Cyclone”** between **India and the United Arab Emirates** was conducted from **2nd to 15th January 2024** at Mahajan, Rajasthan.

The **bilateral military exercise “Nomadic Elephant”** between **India and Mongolia** was held in **July 2024** at Umroi, Meghalaya.

The **joint military exercise “Maitree”** between **India and Thailand** saw its **13th edition** being conducted in **Thailand**.

The **joint military exercise “Kazind-2024”** between **India and Kazakhstan** was held in **Auli, Uttarakhand**, from **30th September to 13th October 2024**.

The **annual military exercise “Mitra Shakti”** between **India and Sri Lanka** is conducted alternately in both countries. The **10th edition** of this exercise was held in **Maduru Oya, Sri Lanka**, from **12th to 25th August 2024**.

77. (2)

**RHUMI-1** is **India’s first reusable hybrid rocket**, launched from **Thiruvadanthai, Chennai**. It was developed by the **Tamil Nadu-based startup Space Zone India** in collaboration with the **Martin Group**.

Key features of RHUMI-1:

**Hybrid Rocket Engine:** Uses a combination of solid and liquid propellants to improve efficiency and reduce operational costs.

**Adjustable Launch Angle:** Can be adjusted from **0 to 120 degrees** for precise control over its trajectory.

**Electric-Powered Parachute System:** An eco-friendly and cost-effective descent mechanism ensuring safe recovery of rocket components.

**Eco-Friendly TNT:** 100% free of fireworks and environmentally sustainable with zero emissions.

**Mobile Launch System:** Allows scientists to adapt to different launch scenarios from any location.

78. (1)

**Ramsar Convention on Wetlands, 1971:**

In 1971, an intergovernmental and multipurpose convention was held at **Ramsar (located on the shores of the Caspian Sea in Iran)** for the conservation of wetlands. The framework for national actions and international cooperation for the conservation and wise use of wetlands and their resources was established.

The Ramsar Convention is the only global environmental treaty focused on a specific ecosystem. Presently, there are **169 parties** to the convention. This agreement came into force in **1975**, and **India joined in 1982**.

**World Wetlands Day** is celebrated every year on **February 2**, as the Ramsar Convention was adopted on this date in **1971**. However, the first **World Wetlands Day** was celebrated in **1997**.

**Ramsar Sites in Rajasthan (2):**

**Sambhar Lake** – Declared on 23.3.1990.

**Keoladeo National Park** – Declared on 1.10.1981.

In **August 2024**, **Nanjurayan Bird Sanctuary** and **Kazhuveli Bird Sanctuary** in **Tamil Nadu**, along with **Tawa Reservoir** in **Madhya Pradesh**, were declared as new Ramsar sites. Currently, **India has 85 Ramsar sites**.

**Note:** Tamil Nadu has the highest number of Ramsar sites in India, with **18 sites**.

79. (1)

Recently, the state government has renamed the '**Rajiv Gandhi Academic Excellence Scholarship Scheme**' as the '**Swami Vivekananda Academic Excellence Scholarship Scheme**'. Along with the name change, modifications were also made regarding the number of seats.

Under the revised scheme, the **number of seats will remain 500**, but **300 seats** will be allocated for studying in foreign institutions, while the remaining **200 seats** will be for studying in domestic educational institutions.

In the previous scheme, out of the 500 selected students, **150 students** were sent to study in foreign institutions.

Under this scheme, the **entire educational expense** of the selected student is borne by the **Government of Rajasthan**.

80. (3)

EOS-08 is an Earth Observation Satellite developed by the **Indian Space Research Organisation (ISRO)**.

It was launched on **August 16, 2024**, from the **Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh**, using the **SSLV-D3 rocket**.

This satellite was built on ISRO's **Microsat/IMS-1 bus platform**.

It has been designed to operate in a circular **Low Earth Orbit (LEO)** at an altitude of **475 km**.

The objective of this satellite is to provide accurate information related to **environmental monitoring and disaster management**.

This satellite carries three payloads:

**Electro Optical Infrared Payload (EOIR)**



**Global Navigation Satellite System Reflectometry Payload (GNSS-R)****SiC-UV Dosimeter****Timeline of SSLV launches:**

**February 10, 2023:** SSLV-D2 launched **EOS-07** satellite.

**August 16, 2024:** SSLV-D3 launched **EOS-08** satellite.

**Note:** Recent launches by ISRO:

**December 30, 2024** – Spadex Mission – PSLV-C60

**December 5, 2024** – Proba-3 Mission – PSLV-C59

81. (4)

The **6th Quad Leaders' Summit, 2024**, was held in **Wilmington, United States**.

During this summit, the **Maritime Initiative for Training in the Indo-Pacific Region (MAITRI)** was launched. Its objective is to enhance **regional maritime security capabilities**.

India will host the first **MAITRI workshop in 2025**.

In 2022, Quad also launched the **Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA)** to improve maritime security and monitor illegal activities.

Other key initiatives to strengthen maritime connectivity and security in the Indo-Pacific region include:

**Indian Ocean Rim Association (IORA)**

**Indian Ocean Naval Symposium (IONS)**

**Indo-Pacific Ocean Initiative (IPOI)**

**Quad** is a strategic group comprising **India, the United States, Australia, and Japan**, aiming to safeguard the interests of democratic countries in the Indo-Pacific region and address global challenges.

82. (1)

**Performance of Rajasthan in Paris Paralympics**

Three players from Rajasthan won medals:

In the **Paris Paralympics 2024**, bronze medal winner **Mona Agarwal** from Rajasthan is associated with **shooting**. She won the bronze medal in the **10m Air Rifle Standing SH1 event**. She hails from **Sikar district**.

**Note:** Recently, **Mona Agarwal** has been selected for the **Arjuna Award 2024**.

**Avani Lekhara** from Rajasthan won a **gold medal** in the **10m Air Rifle Standing SH1 event**. She hails from **Jaipur**.

**Sundar Singh Gurjar** from Rajasthan won a **bronze medal** in the **Men's Javelin Throw F46 event**. He is from **Karauli district**.

**Harvinder Singh** - Archery

He hails from **Haryana** and won a **gold medal** in the Paris Paralympics.

**Sumit Antil** - Javelin Throw (Athletics)

He hails from **Haryana** and won a **gold medal** in the Paris Paralympics.

**Manish Narwal** - Shooting

He won a **silver medal** in the Paris Paralympics and hails from **Haryana**.



83. (4)

The **Australian Open 2024** was held from **14th to 28th January 2024** at **Melbourne Park, Victoria (Australia)**. It was the **112th edition of the Australian Open**.

The **Men's Singles title** was won by **Jannik Sinner** from Italy, who defeated **Daniil Medvedev** of Russia.

The **Women's Doubles title** was won by the pair of **Hsieh Su-Wei (Taiwan)** and **Elise Mertens**.

**Women's Singles Grand Slam Winners in 2024:**

**Australian Open** – Aryna Sabalenka

**French Open** – Iga Swiatek

**Wimbledon** – Barbora Krejčíková

**US Open** – Coco Gauff

**Men's Singles Grand Slam Winners in 2024:**

**Australian Open** – Jannik Sinner

**French Open** – Carlos Alcaraz

**Wimbledon** – Carlos Alcaraz

**US Open** – Jannik Sinner

84. (4)

Located in **Bhadla, Jodhpur**, the capacity of this solar park is **2245 megawatts**, and it has been developed in **four phases**:

**Bhadla Solar Park Phase 1 (65 MW)** – Developed by **Rajasthan Solar Park Development Company Limited**, a subsidiary of **RRECL**.

**Bhadla Solar Park Phase 2 (680 MW)**.

**Bhadla Solar Park Phase 3 (1000 MW)** – Developed by **Saurya Urja Company of Rajasthan Limited**.

**Bhadla Solar Park Phase 4 (500 MW)** – Developed by **Adani Renewable Energy Park Rajasthan Limited**.

85. (2)

The **Harappan civilization** is renowned for its advanced **urban planning**. Cities like **Harappa** and **Mohenjo-daro** had citadels, likely under the control of the ruling class. The most notable feature of these cities was the **grid pattern** of streets, not a **radial pattern**.

Granaries were important structures in Harappan towns, and the extensive use of **baked bricks** was a distinguishing feature. Stone usage was minimal in Harappan construction.

The **drainage system** in Harappan cities was excellent, with each house connected to a well-planned network of drains. Most of the drains were covered with baked bricks.

86. (4)

Harishena, the court poet of **Chandragupta I**, wrote the account of Samudragupta's military campaigns. This inscription is engraved on the same pillar in **Allahabad** that contains the inscriptions of Ashoka. The Allahabad pillar inscription provides a long list of states, kings, and tribes that were defeated by Samudragupta and brought under varying levels of subordination. According to this inscription, Samudragupta defeated **nine kings in the north** and **twelve kings in the south**.

Fa-Hien was a Chinese Buddhist monk and traveler who visited India during the reign of **Chandragupta II**, between **399–412 CE**. He traveled to India in search of authentic copies of Buddhist scriptures.

Fa-Hien recorded his experiences and observations during his travels in a book titled '**Fo-Kuo-Ki**' or '**Record of the Buddhist Kingdoms**'.

87. (4)

**Dipavamsa** is an ancient text that describes the early history of Sri Lanka. The term '**Dipavamsa**' is derived from '**Dvipavamsa**', meaning '**History of the Island**'. It is believed that this text was compiled from commentaries and other sources during the **3rd–4th century CE**. Both **Mahavamsa** and **Dipavamsa** provide critical historical accounts of ancient events in Sri Lanka and India.

The **Mahavamsa** (literally meaning '**Great Chronicle**') is a poetic composition in **Pali language**, detailing the history of Sri Lanka's kings. It describes the period from the arrival of **King Vijaya of Kalinga** in **543 BCE** to the reign of **King Mahasena (334–361 CE)**. This text is considered a significant historical epic of Sri Lanka.

88. (2)

European painting was introduced during the reign of **Akbar** by Portuguese painters in the Mughal court. Abul Fazl highly praised the European style of painting. During **Jahangir's** reign, painting reached its peak, and several prominent painters such as **Abul Hasan, Ustad Mansur, and Bishandas** were present in his court.

89. (2)

The Salt Satyagraha was launched by **Mahatma Gandhi** in **1930** to repeal the salt laws imposed by the British. This Satyagraha was a historic step in the Indian independence movement. The sole objective of Gandhi's Salt Satyagraha was to **repeal the salt law** and provide **economic relief** to the common people.

90. (3)

Mahatma Gandhi did not personally sign the Poona Pact; instead, it was signed on his behalf by **Pandit Madan Mohan Malaviya**, while **Dr. B.R. Ambedkar** signed from the other side.

The pact provided for adequate representation of the **Depressed Classes** in various public services and many local institutions based on their educational qualifications.

Under the Communal Award, the number of seats reserved for the Depressed Classes in provincial legislatures was increased from **71 to 148**.

The Poona Pact introduced a **joint electoral system** and abolished the provision for separate electorates for the Depressed Classes.

91. (1)

The primary features of Vijayanagara architecture included tall **gopurams** (entrance gateways) in temple complexes and **Kalyana Mandapams** (wedding halls) with intricately carved pillars. Sculptures depicting various figures, especially horses, were common on these pillars.

**Statement 2 is incorrect:**

Large gateways were indeed a significant feature of Vijayanagara temples, but they were not linked to the king's prestige, nor were they constructed after each victory. Temples retained the same number of gateways as when they were originally built.

92. (2)

Swami **Dayanand Saraswati** founded the **Arya Samaj** in **1875** in Bombay.

Arya Samaj was a Hindu reform movement that aimed at reviving the true essence of Vedic teachings and eradicating superstitious beliefs.

The motto of Arya Samaj was “**Krinvanto Vishwam Aryam**”, meaning “Make the world noble.”

Arya Samaj instructed its members to reject idol worship, pilgrimages, offerings in temples, animal sacrifices, and priestly rituals.

The **Shuddhi Movement**, aimed at reconverting those who had converted to other religions, was also started by Dayanand Saraswati.

The Arya Samaj initiated widow remarriage programs in the 1880s.

**Statement 1 is incorrect**, as he opposed idol worship and rituals.

93. (2)

The **Caspian Sea** is the world’s largest **enclosed inland water body** (endorheic basin), covering an area of approximately **371,000 square kilometers**. Despite being referred to as a “sea,” it is actually a massive saline lake with no natural outlet to the ocean.

It is bordered by **Russia** (northwest), **Azerbaijan** (west), **Iran** (south), **Turkmenistan** (southeast), and **Kazakhstan** (northeast). However, **Turkey** does not share a border with the Caspian Sea. Therefore, **statement 2 is incorrect**.

In **2003**, Caspian coastal states signed the **Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Tehran Convention)**.

The Caspian Sea lies at the boundary of **Europe and Asia**, with the **Caucasus Mountains** to its west and the **Central Asian plains** to its east.

94. (3)

**Nomadic herding:** Practiced in Sahara Africa (Mauritania, Mali, Niger, Chad, Sudan, Libya, Algeria), southwestern central Asia, Scandinavian countries (Norway, Sweden, Finland), and northern Canada.

**Cattle ranching:** Practiced in the USA, Australia, South Africa, Brazil, Argentina, Peru, and New Zealand. It is closely related to nomadic herding.

**Shifting cultivation:** Practiced in tropical rainforests, America, Africa, Southeast Asia, and the hilly tropical lowlands of central Indonesia.

**Short-term cultivation:** Mostly limited to tropical lands of Central and South America, Africa, and Southeast Asia.

**Intensive subsistence farming (with rice dominance):** Found in tropical Asia, especially China, Japan, India, Bangladesh, Myanmar, Thailand, Sri Lanka, Malaysia, and the Philippines.

**Intensive subsistence farming (without rice dominance):** Found in interior India and northeastern China.

**Commercial plantation farming:** Practiced in North America, western India, and Southeast Asia. British estates in America primarily cultivated with Negro or other colored laborers.

**Mediterranean agriculture:** Practiced in Europe, Asia Minor, and the coastal belt of North Africa along the Mediterranean Sea. Outside the Mediterranean region, it is found in California (USA), central Chile, southwestern Cape Province (South Africa), and southwestern Australia.

**Commercial grain farming:** Practiced in the great wheat belt extending through the plains of interior North America, Russia, and Argentina's Pampas.

**Commercial livestock and crop farming:** Found across Europe from western lands to central Europe and Russia, and also in Argentina's Pampas, southeastern Australia, Australia, South Africa, and New Zealand.

**Subsistence crop and livestock farming:** Practiced in northern Europe, the Middle East, and mountainous regions of Mexico.

**Commercial dairy farming:** Found in Europe, North America, Canada, Australia, New Zealand, Denmark, the Netherlands, Belgium, Finland, France, and Switzerland, contributing about 40% of agricultural income.

**Specialized horticultural farming:** Well-developed in densely populated industrial districts of northwestern Europe, Britain, Denmark, Germany, the Netherlands, France, and Italy.

95. (3)

India's estimated coal reserves are about **301.6 billion tons**, out of which **260 billion tons** are primarily used for electricity, cement, and fertilizer production.

**Jharkhand** has the largest coal reserves in India, with approximately **80.716 million tons**. The **Jharia coalfield** in Dhanbad is one of the main coalfields.

**Odisha** ranks second in coal reserves, with an estimated **75.073 million tons**. The main coalfields are in **Angul** and **Jharsuguda** districts.

96. (3)

Manipur – Mica is not correctly matched.

Bababudan Hills, located in Karnataka, are famous for iron ore.

Balaghat, located in Madhya Pradesh, is known for manganese production.

Kalahandi, in Odisha, is known for bauxite production.

Mica production mainly occurs in Andhra Pradesh, Rajasthan, Bihar, and Jharkhand.

Manipur, one of the northeastern states (Seven Sisters), is known for chromite and limestone mining.

97. (3)

**Rubber:** Kerala is the leading state in India for rubber production. The climate and soil in Kerala are suitable for rubber cultivation.

**Rice:** West Bengal is the leading state in rice production in India. Its climate and water resources are favorable for rice cultivation.

**Ragi:** Goa is not a major producer of ragi (finger millet). Karnataka, Tamil Nadu, and Andhra Pradesh are the leading states in ragi production. Ragi cultivation is minimal in Goa.

**Coffee:** Karnataka is the largest producer of coffee in India, especially in the districts of Chikmagalur and Kodagu.

98. (1)

Water transport is one of the oldest means of transportation. Before the advent of railways, water transport was a significant mode of international trade. It is of two types:

**Internal or Inland Water Transport****Maritime Transport**

For the development of international waterways, the Inland Waterways Authority of India (IWAI) was established in October 1986.

**National Waterway No. 1** – From Prayagraj to Haldia (1620 km), established in 1986, was the first national waterway.

**National Waterway No. 2** – From Sadiya to Dhubri (891 km).

**National Waterway No. 3** – From Kollam to Kottapuram (205 km).

**National Waterway No. 4** – From Vijayawada, Bhadrachalam, Rajahmundry, Kakinada, Puducherry (1095 km).

**National Waterway No. 5** – From Talcher, Dhamra, Geonkhali, Charbatia, Dhamra, Mangalgadi, Paradip (623 km).

99. (4)

The Kunda project is located on the Kunda River. It is a major river valley project in India. Kunda is a significant river in Tamil Nadu, and the beneficiary state is Tamil Nadu.

The Salal project is established on the Chenab River in Jammu & Kashmir, India. It is a hydroelectric project, and its foundation stone was laid in 1920.

The Matatila dam on the Betwa River was constructed in 1958 with assistance from the Madhya Pradesh government. It is a joint project of Madhya Pradesh and Uttar Pradesh.

The Thein Dam project, also known as the Ranjit Sagar Dam, is a major river valley project built on the Ravi River in Pathankot district, Punjab.

100. (3)

**Appalachian Range:**

Located in eastern North America.

**Feature:**

This mountain range is known for its natural resources, particularly coal and hydropower projects. The hydropower projects in this region fulfill a large portion of its energy needs. It is an ancient mountain range formed about 300 million years ago.

Its highest peak is **Mount Mitchell**.

**Cascade Range:**

This mountain range is located in the western part of North America.

**Feature:**

It is known for its active volcanoes, the most famous being **Mount Rainier**, an active volcano and the highest in the United States.

Other notable volcanoes in this range include **Mount St. Helens** and **Mount Hood**.

This region is famous for its natural beauty and biodiversity.

**Alaska Range:**

Located in the Alaska region.

**Feature:**

The **Valley of 10,000 Smokes** is part of Katmai National Park in this range.

This valley was formed after the 1912 eruption of Novarupta Volcano, where gas and smoke constantly emitted, hence the name.

The area is known for volcanic activities and glaciers.

**Mount McKinley** (Denali), the highest peak in North America, is located here.

**Sierra Nevada Range:**

Located between California and Nevada in the western United States.

**Feature:**

This range is famous for its giant sequoia trees.

The **Sequoia National Park** and **Yosemite National Park** are major attractions in this area.

The **General Sherman Tree** (Sequoia tree) is the largest tree in the world.

**101. (3)**

Japan has advanced hydroelectric technology, which has enabled it to develop high-quality industrial capacity despite the lack of vast coal and mineral deposits. Additionally, Japan's insular location allows easy import of raw materials and heavy goods, which are then manufactured into high-quality products for export. The temperate climate resulting from its insular position also provides a conducive environment that enhances the efficiency and productivity of its workforce.

**102. (3)**

The Alps emerged during the Alpine orogeny (a mountain-building event) that began around 65 million years ago when the Mesozoic era was ending. The Alps are indeed young fold mountains with rugged surfaces and high conical peaks.

The Alps extend from the subtropical Mediterranean coast near Nice, France, northward to Lake Geneva and east-northeastward to Vienna, Austria, where they touch the Danube River and merge with the adjoining plains.

**103. (2)**

Despite global health crises and climate variability, this sector has shown remarkable resilience. It grew at a higher average annual rate during FY 2015 to FY 2023 compared to FY 2005 to FY 2014. For FY 2023, the sector recorded 4.0% growth compared to the previous year.

**Status of the Agriculture Sector:**

The agriculture sector is expected to contribute 18% to India's GVA in FY 2024.

Total food grain production in FY 2023 was 329.7 metric tons, an increase of 14.1 metric tons compared to FY 2022.

India is the largest producer of milk, pulses, and spices in the world and the second-largest producer of fruits, vegetables, tea, fish, sugarcane, wheat, rice, cotton, and sugar.

India's agricultural exports reached ₹4.2 lakh crore in FY 23, surpassing the previous year's record.

**104. (4)**

The Gender Inequality Index (GII) is an important index published by the United Nations Development Programme (UNDP) in the Human Development Report. It measures the inequalities between men and women in society.



**Key Components:**

The GII is measured based on three main dimensions:

**Health:**

- A. Maternal Mortality Ratio
- B. Adolescent Birth Rate

**Empowerment:**

- A. Representation of women in Parliament
- B. Ratio of females to males with at least secondary and higher education

**Labour Force Participation:**

- A. Ratio of working men and women

**Objective and Importance:**

The index measures the status of women and highlights gender-based inequalities in society.

**Value:**

The index value ranges from 0 to 1, where:

- 0 represents complete equality
- 1 represents complete inequality

**Impact:****High GII Score:**

Indicates greater inequality between men and women in a country.

**Low GII Score:**

Indicates better gender equality in a country.

105. (4)

**Roles of the State Government:**

- Establishment, operation, and monitoring of fair price shops.
- Selection of shopkeepers and issuance of licenses.
- Ensuring availability of essential commodities at the shops.
- Preparing a list of beneficiaries under Below Poverty Line (BPL) and other priority categories (Antyodaya).
- Issuing ration cards and ensuring their regular updates.
- Storage of food grains and other commodities (such as rice, wheat, sugar, and kerosene) received from the Centre in state warehouses.
- Ensuring timely supply of these items to fair price shops.
- Ensuring the quality of the food grains and other commodities distributed.
- Investigating complaints related to irregularities or black marketing.
- Ensuring the distribution of commodities at subsidized rates determined by the Centre.
- Maintaining transparency in the subsidy process.
- Creating awareness among citizens about their rights and benefits under the PDS.
- Providing information about the grievance redressal system.
- Establishing a grievance redressal system and resolving issues faced by beneficiaries.
- Monitoring fair price shops and the supply chain.



## 106. (1)

Depreciation and devaluation represent an economic situation where the value of the domestic currency decreases relative to another currency, resulting in reduced purchasing power of that currency. Depreciation occurs under a **floating exchange rate** system where the value of a country's currency is determined by market factors. On the other hand, devaluation is associated with a **fixed/pegged exchange rate** system and happens when the central bank deliberately reduces the value of the domestic currency relative to a foreign currency.

Depreciation occurs due to market factors such as demand and supply, while devaluation is a deliberate action by the central bank. Depreciation can occur on a daily basis, whereas devaluation is generally done periodically by the central bank.

## 107. (2)

During an economic recession, the government resorts to **fiscal policies** to increase demand, such as tax cuts and increased government spending. Increased expenditure on public projects directly generates employment and boosts the flow of money in the economy.

**Increasing expenditure on public projects**

This is the most probable and effective measure. During a recession, the government increases spending on public projects such as infrastructure, roads, and railways, which creates jobs and income, thus stimulating the economy.

## 108. (2)

The weight of various items in the CPI basket is determined based on the expenditure made by consumers on those items. When the **CPI Combined** was introduced in 2011-12, the weights were assigned based on consumer expenditure on various goods. Inflation (CPI Combined) depends on the **price and weight** of various items in the CPI basket.

Prices are measured every month, but weights are not measured monthly—they remain fixed. The weights are revised every 5-6 years. However, due to events like demonetization, GST implementation, and COVID-19, the weights have not been updated since 2011-12.

Thus, while the **CPI Combined captures the monthly price data of various items**, the weights remain fixed from 2011-12. The revision of weights is planned for 2024-25, and once revised, they will remain stable for the next 5-6 years. Monthly revision of weights is impractical, as frequent changes in consumption patterns are minimal, and timely publication of inflation data is prioritized over frequent weight adjustments.

## 109. (3)

An **overheating economy** refers to an economy that is expanding at an unsustainable rate. The two main indicators of an overheating economy are:

Rising inflation rates.

An unemployment rate that is lower than the normal rate for the economy (which means there is excess demand).

Thus, in an overheating economy, inflation is more likely to be caused by **demand-pull factors** rather than **cost-push factors**.

In the case of demand-driven inflation, by increasing interest rates, the RBI makes borrowing more expensive for firms and households. This reduces investment, consumption, and demand for labor, which in turn cools down the overheating economy. However, if inflation is caused by **supply shocks**, increasing interest rates can worsen the situation by further disrupting supply, as interest itself becomes a cost component.

## 110. (2)

The **Cash Reserve Ratio (CRR)** is a specific portion of a commercial bank's total deposits (Net Demand and Time Liabilities - NDTL) that must be maintained with the **Reserve Bank of India (RBI)** in cash. The CRR is determined periodically by the RBI as part of its monetary policy.

**Key features of CRR:****Reserve requirement:**

This amount must be kept in cash, and banks cannot use it for lending or investment purposes.

**Controlled by the RBI:**

The RBI regulates the CRR, making it a crucial tool for monetary control.

**No interest payment:**

Banks do not earn any interest on the amount kept as CRR.

**Objectives of CRR:****Controlling inflation:**

When CRR is increased, banks have less money to lend, reducing the money supply in the market and helping to control inflation.

**Regulating money supply:**

When CRR is reduced, banks can lend more, increasing money supply in the economy.

**Stabilizing the banking system:**

It ensures liquidity control, contributing to the stability of the financial system.

**Promoting economic growth:**

Lowering the CRR can increase credit flow, thereby boosting economic growth.

**Effects of CRR:****When CRR is increased:**

Banks have less money to lend.

Interest rates may rise.

Inflationary pressures are reduced.

**When CRR is reduced:**

Banks have more money to lend.

Credit availability increases, boosting economic activity.

There is a risk of higher inflation.

## 111. (4)

Recently, the Indian Navy successfully tested the K-4 ballistic missile from the nuclear submarine INS Arihant in the Bay of Bengal.

The K-4 missile is a nuclear-capable medium-range **Submarine Launched Ballistic Missile (SLBM)**.

The missile is named in honor of former President **A.P.J. Abdul Kalam**.

It has a strike range of more than **3500 kilometers**.

It has been developed by the **Defence Research and Development Organisation (DRDO)**.

The missile travels at a speed of **Mach 5** or five times the speed of sound (100 km per minute).

Dimensions: **1.5 meters in diameter, 10 meters in length, and 20 tons in weight**.

Warhead capacity: It can carry up to **2.5 tons of payload**

112. (1)

Deep-sea divers are provided with a mixture of **oxygen and helium** in a ratio of approximately **1:4**, as helium is very sparingly soluble in blood. This mixture reduces the risk of nitrogen narcosis and oxygen toxicity. The same gas mixture is also provided to patients with respiratory problems.

113. (1)

**Melting of wax** is an example of a **physical change**.

**Physical change:** A change where the physical properties of a substance are altered. Such changes are usually reversible, and no new substance is formed.

Examples: Melting, vaporization, condensation, freezing, distillation, sublimation.

Melting of wax.

Melting of ice.

**Chemical change:** A change where one or more new substances are formed. These changes involve the release or absorption of energy, often in the form of heat or light.

Examples:

Photosynthesis and respiration.

Burning of a candle.

Ripening of raw fruits.

Rusting of iron.

114. (3)

The wire used in a fuse has a **low melting point** and **high resistivity** so that in case of a voltage surge, the fuse wire melts immediately, protecting the electrical devices from damage.

115. (2)

Statement 2 is **false** because a high Biochemical Oxygen Demand (BOD) indicates a high level of water pollution. The higher the BOD, the greater the amount of organic matter in the water, which means more oxygen is consumed by microorganisms. Excessive organic matter in water can deplete the available oxygen, leading to the death of aquatic organisms like fish.

116. (3)

**Photon:** Also known as a quantum of light, a photon is a small packet of energy in electromagnetic radiation. The concept of photons emerged from **Albert Einstein's** explanation of the photoelectric effect in 1905, where he suggested that light consists of discrete energy packets.

**Electron:** Discovered in **1897** by the British physicist **J.J. Thomson** during his experiments with cathode rays. Electrons are subatomic particles with a negative charge of  $1.6 \times 10^{-19} \text{ C}$  and a mass of  $9.11 \times 10^{-31} \text{ kg}$ , found in energy shells around the nucleus of an atom.

**Proton:** Discovered by **Ernest Rutherford** in **1909** through his famous gold foil experiment. Protons are positively charged particles found in the nucleus.

**Neutron:** Discovered by **James Chadwick** in **1932**, for which he was awarded the Nobel Prize in Physics in **1935**. Neutrons are subatomic particles with no net electric charge and a mass slightly greater than that of a proton. Neutrons and protons are collectively known as nucleons since they reside in the nucleus and exhibit similar behavior.

The mismatch is **Neutron – John Dalton**, as neutrons were discovered by **James Chadwick**, not John Dalton.

117. (3)

Hepatitis B, Hepatitis C, and HIV/AIDS can be transmitted through the blood, semen, and other body fluids of an infected person.

Chikungunya is a viral disease that causes fever after four days of viral infection, typically lasting 2 to 7 days, accompanied by joint pain. It is not transmitted through tattooing.

118. (2)

The credit for presenting the concept of nanotechnology to the world goes to **Richard Feynman**, a Nobel Prize-winning physicist, in 1959. Feynman believed that if individual atoms could be manipulated at will, it could revolutionize manufacturing.

The term '**nanotechnology**' was first used in 1974 by **Norio Taniguchi**, a scientist from the University of Tokyo, in a research paper. The word '**nanotech**' was later popularized by **Drexler** in his book.

Nanotechnology involves engineering, theoretical sciences, and various other disciplines at the scale of nanometers (one-billionth of a meter, i.e.,  $10^{-9}$  m).

Nano Towels/Paper are made using nano threads of **potassium manganese oxide**. They can absorb oil up to **20 times** their weight during an oil spill.

119. (2)

The bent appearance of a rod in water, the twinkling of stars, and the visibility of the sun approximately 2 minutes before sunrise and 2 minutes after sunset are examples of **refraction**.

The shiny appearance of air bubbles in water is an example of **total internal reflection**.

The black appearance of the sky from the moon is an example of **scattering of light**.

The formation of a rainbow in the sky is an example of **dispersion of light**.

120. (2)

Sickle cell anemia is a disease caused by a **mutation**.

In this disease, valine replaces glutamic acid at the **6th position** of the beta ( $\beta$ ) chain of hemoglobin due to mutation.

In sickle cell anemia, red blood cells (RBCs) become **abnormal and crescent-shaped**.

Patients with sickle cell anemia are partially protected against **malaria caused by Plasmodium falciparum**.

121. (2)

**Compound:** The substance formed when atoms of two or more elements combine in a fixed ratio by **chemical** means is called a compound.

Example:  $H_2O$ , salt, sugar, etc.

The constituent components of a compound cannot be separated by physical methods but only by **chemical or electrochemical reactions**.

Gallium (Ga) and Cesium (Cs) are found in a **liquid state at temperatures higher than room temperature**. Only **mercury (Hg)** and **bromine (Br)** exist in liquid form at room temperature.

Milk is a **heterogeneous mixture** because it is a type of colloidal solution. Blood is also a type of heterogeneous mixture.

Sea water is both a **homogeneous and heterogeneous mixture** because salt is soluble in water (homogeneous) and insoluble materials like sand, microbes, and  $CaCO_3$  shells make it heterogeneous.

122. (3)

**Primary pollutants** include SO<sub>2</sub>, CO, NO<sub>2</sub>, mercury, particulate matter (PM), volatile organic compounds (VOC), DDT, plastic, etc.

**Secondary pollutants** include:

- Ozone
- Peroxyacetyl Nitrate (PAN)
- Acid Rain
- Smog

123. (4)

An operating system (OS) is a collection of programs that is essential for a computer. It activates the computer and manages and controls all its devices.

Examples include Windows, Linux, macOS, and Ubuntu.

124. (2)

Rusting of iron is an example of a chemical change. Rusting increases the weight of iron. Iron can be protected from rusting by painting, applying oil, grease, zinc coating, chromium coating, anodizing, or alloy formation.

Applying a zinc layer on iron sheets is called **galvanization**, and iron coated with zinc is called **galvanized iron**. Such iron does not rust.

125. (3) Marks to All

**List-I (Institution) List-II (Headquarters)**

National Atmospheric Research Laboratory – Tirupati (Andhra Pradesh)

Indian Institute of Space Science and Technology – Thiruvananthapuram (Kerala)

Indian Space Research Organisation – Bengaluru (Karnataka)

Semiconductor Laboratory – Mohali (Punjab)

Satish Dhawan Space Centre – Sriharikota (Andhra Pradesh)

ISRO Propulsion Complex – Mahendragiri (Kanyakumari)

Space Applications Centre – Ahmedabad (Gujarat)

126. (1)

Fructose is a **monosaccharide** sugar and is the sweetest naturally occurring sugar.

**Monosaccharides:**

These are the simplest units of carbohydrates. They are single chemical units that combine to form complex carbohydrates.

There are three types of monosaccharide sugars:

- (i) **Glucose** – After the digestion of all carbohydrate substances, they are absorbed into the body in the form of glucose. It is the simplest sugar.
- (ii) **Fructose** – It is solid, crystalline, sweet in taste, and soluble in water. It is found in fruit juices and is the sweetest naturally occurring sugar.
- (iii) **Galactose** – It is produced during the digestion process in the body.

127. (3)

**Producer gas** – It is a mixture of carbon monoxide and nitrogen.

- It is produced by passing a controlled stream of air over red-hot coal.
- It is used as a cheap fuel and generates high temperatures when burned, making it useful in glass production and metal extraction.

128. (3)

– A passenger feeling a backward push when a stationary car suddenly starts moving is an example of **Newton's first law** of motion.

– The other three examples are related to Newton's third law of motion.

– **Newton's third law of motion** (Action-Reaction law) states that for every action, there is an equal and opposite reaction. The action and reaction always act on two different objects.

– This law is universal, applying whether objects are stationary or moving, in contact or separated by a distance.

129. (4)

The correct acid associated with oranges is **citric acid**, not lactic acid. Below is the detailed information:

Acid	Natural Source	Industrial Production Method	Uses
Citric acid	Citrus fruits	Fermentation of raw sugar	Cleaning metals, making food products, medicines, textile industry
Acetic acid	Fruit juices, essential oils	From acetylene	Making vinegar, acetone, sour food products
Sulfuric acid	Harakis, pyrites	Lead chamber and contact method	Refining petroleum, making dyes, medicines, storage batteries
Nitric acid	Alum, saltpeter	Saltpeter and Birkeland-Eyde process	Making medicines, purifying gold and silver, photography, explosives
Oxalic acid	Sorrel plant	From sodium formate	Photography, dyeing clothes, bleaching leather
Benzoic acid	Grass leaves, urine	From benzyl chloride	Preserving food and medicines
Formic acid	Ants	From formaldehyde	Preserving dead organisms as formalin
Tartaric acid	Tamarind, grapes	----	Used in making sour food products
Lactic acid	Curd	----	Used as a food product
Malic acid	Apples	----	Used as a food product

130. (1)

**Elephantiasis/Filariasis**

Elephantiasis or filariasis is an infectious disease.

It belongs to the category of helminthic (worm) diseases.

It is also known as **lymphatic filariasis**.

This disease is transmitted by mosquito bites.

The causative agent of this disease is a parasite called *Filaria bancrofti*.

**Symptoms:**

The disease causes swelling in different parts of the body, and the skin thickens. Most commonly, swelling occurs in the legs, but it can also affect the arms, breasts, and genital areas.

The parasite blocks the lymphatic vessels, causing fluid accumulation.

**131. (1)**

The 55th meeting of the GST Council was held in **Jaisalmer, Rajasthan**, under the chairmanship of Union Finance Minister Nirmala Sitharaman.

**Key Recommendations of the 55th GST Council Meeting:**

The GST Council recommended reducing the GST rate on **fortified rice kernels (FRK)** classified under 1904 to 5%.

The GST Council also recommended a complete exemption from GST on **gene therapy**.

The Council suggested exempting GST on the contribution made by general insurance companies from third-party motor vehicle premiums to the Motor Vehicle Accident Fund.

It was recommended that no GST be levied on voucher transactions as they are neither a supply of goods nor services. The provisions related to vouchers are also being simplified.

**132. (1)**

Let the price of the car 2 years ago =  $x$

First-year depreciation = 10%

Second-year depreciation = 20%

Current price of the car =

$$x = \frac{90}{100} \times \frac{80}{100} = 2,16,000$$

$$x = \frac{2,16,000 \times 100 \times 100}{90 \times 80}$$

$$x = \frac{2,16,000 \times 100}{72}$$

$$x = 3,00,000$$

Thus, the price of the car 2 years ago was **₹3,00,000**.

**133. (2)**

Total amount = ₹3740

Amount deducted from A, B, and C = ₹70

Remaining amount = ₹3740 - ₹70 = ₹3670

Now, the remaining amount is distributed in the ratio **2:3:5**.

Let their shares be **2x, 3x, and 5x** respectively.

$$2x + 3x + 5x = 3670 \implies 10x = 3670 \implies x = \frac{3670}{10} = 367$$



$$B's \text{ share} = 3x = 3 \times 367 = ₹1101$$

$$\text{Thus, B's total share} = ₹1101 + ₹21 = ₹1122.$$

134. (3)

**Solution:**

$$\text{Simple Interest (S.I.) for 5 years} = ₹2250$$

$$\text{Simple Interest for 1 year} = ₹2250 \div 5 = ₹450$$

$$\text{Simple Interest for 2 years} = ₹450 \times 2 = ₹900$$

$$\text{Compound Interest (C.I.) for 2 years} = ₹954$$

$$\text{Difference between C.I. and S.I.} = ₹954 - ₹900 = ₹54$$

Rate of Interest (R):

$$R = \sqrt{\frac{\text{C.I.} - \text{S.I.}}{\text{Principal} \times 2}} \times 100$$

From calculations:

$$R = 12\%$$

Principal (P):

$$P = \frac{\text{S.I. for 5 years}}{\text{Rate} \times 5/100}$$

$$P = \frac{2250}{12 \times 5/100} = ₹3750$$

Thus, the principal amount is ₹3750.

135. (3)

Let the total profit =  $x$

$$\text{Kamla's share} = \frac{4}{12}x$$

$$\text{Sita's share} = \frac{3}{12}x$$

$$\text{Meera's share} = ₹5000$$

$$\frac{4}{12}x + \frac{3}{12}x + 5000 = x$$

$$\frac{7}{12}x + 5000 = x$$

$$x - \frac{7}{12}x = 5000$$

$$\frac{5}{12}x = 5000 \Rightarrow x = \frac{5000 \times 12}{5} = ₹12000$$

$$\text{Kamla's share} = \frac{4}{12} \times 12000 = ₹4000.$$

Thus, Kamla's total share of the profit is ₹4000.

136. (3)

Treat the two girls as one single unit since they must always sit together.

Now, we have 5 boys + 1 group of girls = 6 units.

The total arrangements for these 6 units:

$$6! = 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 720$$

Within the group of girls, they can switch places in 2!:

$$2! = 2 \times 1 = 2$$

Total arrangements =  $720 \times 2 = 1440$ .

Thus, the total number of arrangements is **1440**.

In the following pie chart, the number of students passing in various subjects in an examination is given. The total number of students passing is 500. Study it carefully to answer question 137.



137. (4)

Total number of students = 500

Percentage difference between students passing in all subjects and in Public Administration =  $68\% - 32\%$

=  $36\%$

=  $36\%$

Difference in number of students =  $36\%$  of 500 = 180

138. (2)

Using the empirical formula:

$$3 \times \text{Median} = \text{Mode} + 2 \times \text{Mean}$$

$$3 \times \text{Median} = 1 \times 80 + 2 \times 20 = 80 + 40 = 120$$

$$\text{Median} = \frac{120}{3} = 40$$

Thus, the median is **40**.

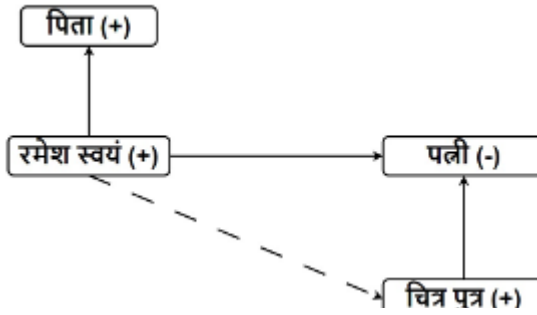
139. (2)

Ramesh said, "I have no brother or sister," meaning he is the only child.

"My father's son" refers to Ramesh himself.

"The wife of my father's son" means Ramesh's wife.

“The mother of this person” refers to Ramesh’s wife, implying that the person in the picture is Ramesh’s **son**.



Thus, Ramesh is pointing to the picture of his **son**.

140. (4)

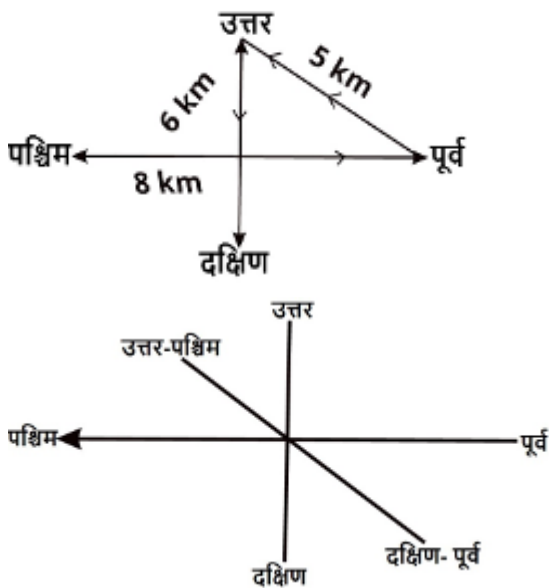
Since FOOD is written as GQRH in the coded language:

F	O	O	D	
+	+	+	+	
1	2	3	4	
<b>G</b>	<b>Q</b>	<b>R</b>	<b>H</b>	
	तो			
E	T	I	E	R
+	+	+	+	+
1	2	3	4	5
<b>F</b>	<b>V</b>	<b>L</b>	<b>I</b>	<b>W</b>



Thus, ETIER will be written as **FVLIW**.

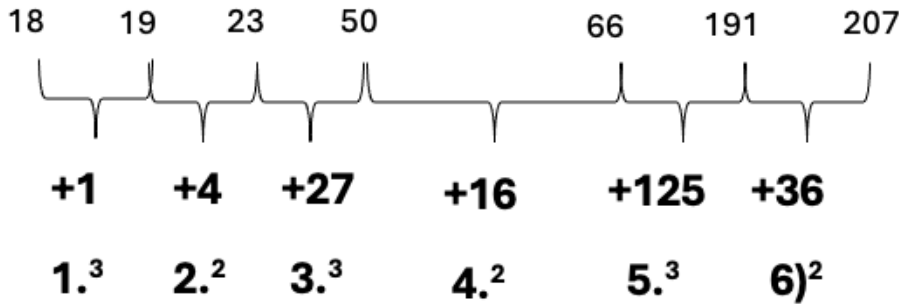
141. (2)



Since the net displacement is towards the **east** and **south**, the final direction is **southeast**.

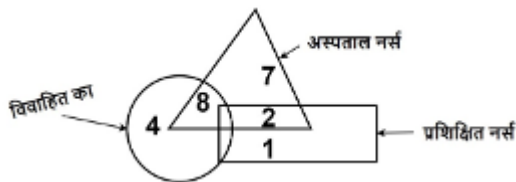
142. (2)

The series follows an alternating pattern:



Thus, the missing numbers are 66 and 227.

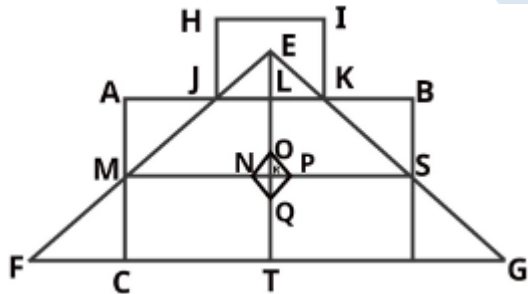
143. (3)



From the Venn diagram, it is clear that the number of untrained married nurses is represented by 8.

144. (1)

Solution:



In the given figure, the squares are:

**ABCD, ALMR, LBRS, MRCT, RSTD, NOPQ, HIJK = 7 squares**

In the given figure, the triangles are:

**EFG, EJK, EKL, AJM, KBS, EMR, ERS, EMS, MFC, DGS, EFT, ETG, NOR, ROP, NQR, QRP, QNO, QOP, NOP, NPQ = 21 triangles**

145. (1)

In the English alphabet, there are 11 letters that appear the same when viewed in a mirror. These letters are:

A, H, I, M, O, Q, T, U, V, W, X.

Therefore, out of the given letters, only **6 letters** are included in this list.

146. (3)

**147. (3)**

Both assumptions are correct.

Assumption 1 is correct because the suggestion to promote public transport implies that improving it will reduce traffic.

Assumption 2 is correct because the suggestion is based on the fact that people currently use private vehicles more.

**148. (3)**

Both actions should be implemented.

Action 1 is correct because imposing a ban on new industries can be an initial step to control pollution.

Action 2 is also correct because compelling existing industries to follow regulations will help in reducing pollution.

**149. (1)**

Follow the order and ensure the attendance of all employees.

Following company orders is a part of discipline and work culture.

Company meetings may involve important decisions, so ensuring attendance of all employees is necessary.

**150. (1)**

Incentive schemes (Action 1) can motivate employees.

Regular workshops (Action 3) can improve their efficiency.

Increasing working hours (Action 2) and implementing a strict penalty system (Action 4) may have negative impacts.

