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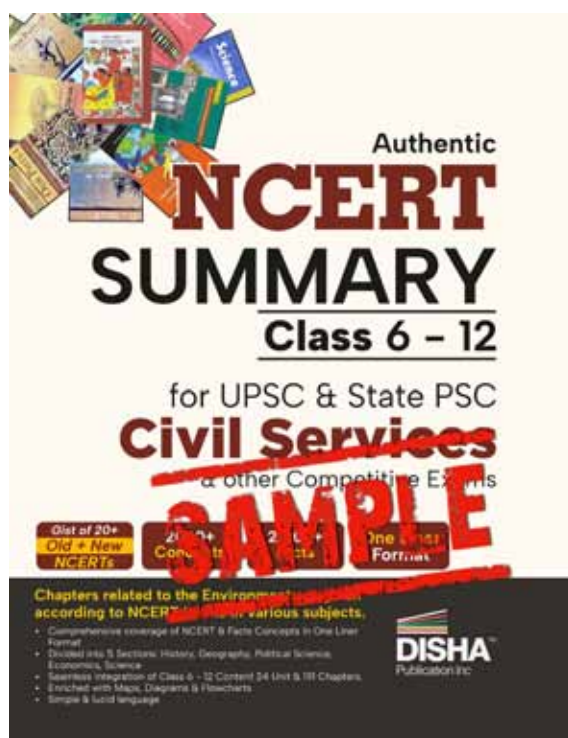
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This sample book is prepared from the book "Authentic NCERT Summary (Class 6 to 12) for UPSC & State PSC Civil Services & other Competitive Exams | Old & New NCER One Liner General Studies | IAS Prelims & Mains".



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Ancient History of India

1. Sources for History Writing

Types of sources and Historical Construction

Material Remains

- The Ancient Indians left innumerable material remains.
- The stone temples in south India and the brick monasteries in eastern India still stand to remind us of the great building activities of the past.
- But the major part of these remains lies buried in the mounds scattered all over the country (The mound is an elevated portion of land covering remains of old habitations).
- It may be of different types single culture, major-culture and multi-culture. Single- culture mounds represent only one culture throughout.
- Some mounds represent only Painted Grey Ware (PGW) culture, others Satavahana culture, and still others Kushan culture.
- In major culture mounds, one culture is dominant and the others are not so important.
- Multi-culture mounds represent several important cultures in succession which occasionally overlap with one another, Like the Ramayana and the Mahabharata, an excavated mound can be used for the understanding of successive layers in material and other aspects of culture.
- A mound can be excavated vertically or horizontally.
- Vertical excavation means lengthwise digging to uncover the period wise sequence of cultures; it is generally confined to a part of the site.
- Horizontal excavation means digging the mound as a whole or a major part of it. The method may enable the excavator to obtain a complete idea of the site culture in a particular period.

Manuscripts

- One is to search for and read books that were written long ago. These are called manuscripts, because they were written by hand (this comes from the Latin word 'manu', meaning hand).
- Manuscripts were usually written on palm leaf, or on the specially prepared bark of a tree known as the birch, which grows in the Himalayas.
- The palm leaves were cut into pages and tied together to make books.
- Over the years, many manuscripts were eaten away by insects, some were destroyed, but many have survived, often preserved in temples and monasteries.

- Manuscripts dealt with all kinds of subjects: religious beliefs and practices, the lives of kings, medicine and science.
- There were epics, poems, plays. Many of these were written in Sanskrit, others were in Prakrit (languages used by ordinary people) and Tamil.

Inscriptions

- Inscriptions are writings on relatively hard surfaces such as stone or metal.
- In the past, when kings wanted their orders inscribed so that people could see, read and obey them, they used inscriptions for this purpose.
- There are other kinds of inscriptions as well, where men and women (including kings and queens) recorded what they did. For example, records of victories in battle.
- All inscriptions contain both scripts and languages. Languages which were used, as well as scripts, have changed over time.
- Scholars understand what is inscribed on inscription through a process known as decipherment.
- Inscriptions were carved on seals, stone pillars, rocks, copper plates, temple walls and bricks or images.
- In the country as a whole the earliest inscriptions were recorded on stone. But in the early centuries of the Christian era, copper plates began to be used for this purpose.
- Even then the practice of engraving inscriptions on stone continued in south India on a large scale.
- Most inscriptions bearing on the history of Maurya, post-Maurya and Gupta times have been published in a series of collections called Corpus Inscriptionum Indicarum.

Coins

- Although a good number of coins and inscriptions has been found on the surface, many of them have been unearthed by digging.
- The study of coins is called numismatics. Ancient Indian currency was not issued in the form of paper, as is being used these days, but as metal coins.
- Ancient coins were made of metal-copper, silver, gold, or lead. Coinmoulds made of burnt clay have been discovered in large numbers.
- Most of them belong to the Kushan period, i.e. the first three Christian centuries. The use of such moulds in the post-Gupta periods almost disappeared.

Literary Sources

- Although the ancient Indian knew writing as early as 2500 B.C., our most ancient manuscripts are not older than the fourth century A.D., and have been found in Central Asia.
- The Sangam literature comprises about 30,000 lines of poetry, which are arranged in eight anthologies called Ettuttokai.
- The poems are collected in groups of hundreds such as Purananuru (The Four Hundred of the Exterior) and others.
- There are two main groups Patinienkil Kannakku (The Eighteen Lower Collections) and Pattuppattu (The Ten Songs).
- The former is generally assumed to be older than the latter, and hence considered to be of much historical importance.

- The Sangam texts have several layers, but at present they cannot be established on the basis of style and content. As shown later, these layers can be detected on the basis of stages in social, evolution.

Foreign Accounts

- The Greek writers mention Sandrokottas, a contemporary of Alexander the Great who invaded India in 326 B.C. Prince Sandrokottas is identified with Chandragupta Maurya, whose date of accession is fixed at 322 B.C.
- This identification has served as the sheet-anchor in ancient Indian chronology.
- The Indika of Megasthenes, who came to the court of Chandragupta Maurya, has been preserved only in fragments quoted by subsequent classical writers.

2. Pre-historic Age

The Palaeolithic Period: Hunters and Food Gatherers

- The Earth is over 4000 million years old.
- The evolution of its crust shows four stages. The fourth stage is called the Quaternary, which is divided into Pleistocene (most recent) and Holocene (present); the former lasted between 2,000,000 and 10,000 years before the present and the latter began about 10,000 years ago.
- Man is said to have appeared on the earth in the early pleistocene, when true ox, true elephant and true horse also originated. But now this event seems to have occurred in Africa about three million years back.
- They call the earliest period the Palaeolithic. This comes from two Greek words, 'palaeo', meaning old, and 'lithos', meaning stone.
- Palaeolithic tools, which could be as old as 100,000 B.C., have been found in the Chotanagpur plateau. Such tools belonging to 20,000 B.C.- 10,000 B.C. have been found in Kurnool district in Andhra Pradesh about 55 km from Kurnool.

Phases in the Palaeolithic Age

- The Palaeolithic Age in India is divided into three phases according to the nature of the stone tools used by the people and also according to the nature of change in the climate.
- The first phase is called Early or Lower Palaeolithic, the second Middle Palaeolithic and the third Upper Palaeolithic. Unless adequate information is available about Bori artefacts the first phase may be placed broadly, between 500,000 B.C. and 50,000 B.C.; the second between 50,000 B.C. and 40,000 B.C. and the third between 40,000 B.C. and 10,000 B.C. But between 40,000 B.C. and 1500 B.C. tools belonging to both Middle and Upper Palaeolithic Ages are found in the Deccan Plateau.
- The first Palaeolithic tools were identified at the site of Pallavaram near Chennai by Robert Bruce Foote in 1863. He found many prehistoric sites when he extensively surveyed different parts of South India. Since then, numerous Palaeolithic sites have been identified and excavated all over India.

- The Lower Palaeolithic or the Early Old Stone Age covers the greater part of the Ice Age. Its characteristic feature is the use of hand axes, cleavers and choppers.
- The axes found in India are more or less similar to those of western Asia, Europe and Africa. Stone tools were used mainly for chopping, digging and skinning.
- The Early Old Stone Age sites are found in the valley of river Soan or Sohan in Punjab, now in Pakistan. Several sites have been found in Kashmir and the Thar Desert.
- The Lower Palaeolithic tools have also been found in the Belan valley in Mirzapur District in Uttar Pradesh. Those found in the desert area of Didwana in Rajasthan in the valleys of the Belan and the Narmada, and in the caves and rock shelters of Bhimbetka near Bhopal in Madhya Pradesh roughly belong to 100,000 B.C.
- The Middle Palaeolithic industries are mainly based upon flakes. These flakes are found in different parts of India & show regional variations.
- The principal tools are varieties of blades points, borers and scrapers made of flakes. We also find a large number of borers and blade-like tools.
- The Upper Palaeolithic phase was less humid.
- It coincided with the last phase of the Ice Age when climate became comparatively warm.
- Caves and rockshelters for use by human beings in the Upper Palaeolithic phase have been discovered at Bhimbetka, 45 km south of Bhopal.
- An Upper Palaeolithic assemblage, characterised by comparatively large flakes, blades, burins and scrapers has also been found in the upper levels of the Gujarat dunes.

The Mesolithic Age: Hunters and Herders

- The Upper Palaeolithic Age came to an end with the end of the Ice Age around 9000 B.C., and the climate became warm and dry.

- Climatic changes brought about changes in fauna and flora and made it possible for human beings to move to new areas. Since then there have not been any major changes in climatic conditions.
- An intermediate stage in stone age culture, which is called the Mesolithic Age, it intervened as a transitional phase between the Palaeolithic Age and the Neolithic or New Stone Age.
- The mesolithic people lived on hunting, fishing and food gathering: at a later stage they also domesticated animals.
- The characteristic tools of the Mesolithic Age are microliths. The mesolithic sites are found in good numbers in Rajasthan, southern Uttar Pradesh, central and eastern India and also south of the river Krishna.
- The cultivation of plants around 7000-6000 B.C. is suggested in Rajasthan from a study of the deposits of the former salt Lake, Sambhar.
- The third area from which neolithic tools have been recovered is in the hills of Assam. Neolithic tools are also found in the Garo hills in Meghalaya on the north-eastern frontier of India.
- Some of the important neolithic sites or those with neolithic layers that have been excavated include Maski, Brahmagiri, Hallur Kodekal, Sanganakallu, T. Narsipur, Piklihal and Takkalakota in Karnataka, and Palyampalli in Tamil Nadu.
- Neolithic celts, axes, adzes, chisels, etc., have also been found in the Orissa and Chotanagpur, hill areas. But traces of neolithic settlements are generally few in parts of Madhya Pradesh and the tracts of the upper Deccan, because of the lack of the types of stone which lend themselves easily to grinding and polishing.

Prehistoric Art

- The people of palaeolithic and mesolithic ages practised painting.
- Prehistoric art appears at several places, but Bhimbetka in Madhya Pradesh is a striking site.
- Situated in the Vindhyan range, 45 km south of Bhopal, it has more than 500 painted rock shelters, distributed in an area of 10 sq km.

The Neolithic Age Food Producers

- In the world context the New Stone Age began in 9000 B.C. The only neolithic settlement in the Indian subcontinent attributed to 7000 B.C. lies in Mehrgarh, which is situated in Baluchistan, a province of Pakistan. In the initial stage, before 5000 B.C. the people of this place did not use any pottery.
- Some neolithic sites found on the northern spurs of the Vindhyas are considered as old as 5000 B.C. but generally neolithic settlements found in south India are not older than 2500 B.C., in some parts of southern and eastern India they are as late as 1000 B.C.
- The people of Burzahom used coarse grey pottery. It is interesting that the Burzahom domestic dogs were buried with their masters in their graves.
- The earliest date for Burzahom is about 2700 B.C., but the bones recovered from Chirand cannot be dated earlier than 2000 B.C. and they possibly belong to the late neolithic phase.
- The second group of neolithic people lived in south India, south of the Godavari river. They usually settled on the tops of granite hills or on plateaus near the river banks. They used stone axes and also some kind of stone blades.
- The End of the neolithic period saw the use of metals.
- The metal to be used first was copper, and several cultures were based on the use of stone and copper implements. Such a culture is called chalcolithic which means the stone copper phase. Technologically chalcolithic stage applied to the pre-Harappans.
- But in various parts of the country the chalcolithic cultures appear after the end of the bronze Harappa culture.
- In India, settlements belonging to the chalcolithic phase are found in south-eastern Rajasthan, western part of Madhya Pradesh, western Maharashtra and in southern and eastern India.
- In south-eastern Rajasthan, two sites, one at Ahar and the other at Gilund, have been excavated. They lie in the dry zones of the Banas valley. In western Madhya Pradesh, Malwa, Kayatha and Eran have been exposed.
- The Malwa Ware typical of the Malwa chalcolithic culture of central and western India is considered the richest among the chalcolithic ceramics.
- Some of its pottery and other cultural elements are also found in Maharashtra. But the most extensive excavations have taken place in Maharashtra.
- Several chalcolithic sites, such as Jorwe, Nevasa Daimabad in Ahmadnagar District; Chandoli, Songaon and Inamgaon in Pune district, Prakash and Nasik have been excavated. They all belong to the Jorwe culture named after Jorwe, the type-site situated on the left bank of the Pravara river, a tributary of the Godavari, in Ahmadnagar district. The Jorwe culture owed much to the Malwa culture but it also contained elements of the south neolithic culture.
- The Jorwe culture, c. 1400 to 700 B.C. covered modern Maharashtra except parts of Vidarbha and the coastal region of Konkan. Although the Jorwe culture was rural, some of its settlements such as Daimabad and Inamgaon had almost reached the urban stage. All these Maharashtra sites were located in semi-arid areas mostly on brown-black soil which had ber and babul vegetation but fell in the riverine tracts.

The Copper Hoards and the Ochre-coloured Pottery Phase

- More than forty copper hoards consisting of rings, celts, hatchets, swords.
- Harpoons, spearheads and human-like figures have been found in a wide area ranging from West Bengal and Orissa in the east to Gujarat and Haryana in the west, and from Andhra Pradesh in the south to Uttar Pradesh in the north.
- The largest hoard comes from Gungeria in Madhya Pradesh: it contains 424 copper tools and weapons and 102 thin sheets of silver objects. But nearly half of the copper hoards are concentrated in the Ganga-Yamuna doab; in other areas we encounter stray finds of copper harpoon's, antennae swords, and anthropomorphic figures.

3. Indus Valley Civilization

- The Indus valley civilisation is also called the Harappan culture.
- Archaeologists use the term "culture" for a group of objects, distinctive in style, that are usually found together within a specific geographical area and period of time.
- In the case of the Harappan culture, these distinctive objects include seals, beads, weights, stone blades and even baked bricks.
- These objects were found from areas as far apart as Afghanistan, Jammu, Baluchistan (Pakistan) and Gujarat.
- Named after Harappa, the first site where this unique culture was discovered, the civilisation is dated between c. 2600 and 1900 BCE.
- In 1924, John Marshall, Director-General of the ASI, announced the discovery of a new civilisation in the Indus valley to the world.
- Geographically, this civilization covered Punjab, Sindh, Baluchistan, Rajasthan, Gujarat and Western Uttar Pradesh. It extended from Sutkagendor (in Baluchistan) in the West to Alamgirpur (Western UP) in the East; and from Mandu (Jammu) in the North to Daimabad (Ahmednagar, Maharashtra) in the South. Some Indus Valley sites have also been found as far away as Afghanistan and Turkmenistan.

Harappa

- Excavated by Daya Ram Sahni in 1921.
- Situated on the bank of river Ravi in Montgomery district of Punjab (Pakistan).
- Harappa was one of the oldest cities in the subcontinent, which archaeologists found 80 years ago.
- **Findings**
 - Piece of Pottery with Indus Script
 - Cubical Limestone Weight
 - Faience Slag
 - Sandstone statues of Human anatomy
 - Copper Bullock cart
 - Granaries
 - **Coffin burials (Only founded in Harappa)**
 - Terracotta Figurines

Mohenjodaro

- Location- on Larkana District of Sind on the bank of Indus
- Discovered by R. D Banerjee in 1922.
- The settlement is divided into two sections, one smaller but higher and the other much larger but lower.
- Archaeologists designate these as the Citadel and the Lower Town respectively.

Findings

Great bath: The Great Bath was lined with bricks, coated with plaster, and made water-tight with a layer of natural tar.

- There were steps leading down to Great Bath from two sides, while there were rooms on all sides.
- Water was probably brought in from a well, and drained out after use. Perhaps important people took a dip in this tank on special occasions.
- **Granary**
 - Unicorn Seals (Most numbers of it in here)
 - Bronze dancing girl statue
 - Seal of a man with deers, elephants, tiger and rhinos around- Considered to be Pashupati Seal)
 - Steatite statue of beard man
 - Bronze buffalo

Sutkagendor

- Location- on Baluchistan on Dast river
- Discovered by Stein in 1929.
- **Findings-**
 - Trade point between Harappa and Babylon
 - Flint Blades
 - Stone Vessels
 - Stone Arrowheads
 - Shell Beads
 - Pottery
 - Bactria-Margiana Archaeological Complex (BMAC) associated Copper-Bronze Disc

Chanhudaro

- Location-Mullan Sandha, Sind on the Indus river
- Discovered by N G Majumdar in 1931
- **Findings-**
 - Bangle Factory
 - Almost exclusively devoted to craft production, including bead-making, shell-cutting, metal-working, seal-making and weight-making.
 - The variety of materials used to make beads is remarkable: stones like carnelian (of a beautiful red colour), jasper, crystal, quartz and steatite; metals like copper, bronze and gold; and shell, faience and terracotta or burnt clay.
 - Ink Pot

Amri

- Location- Close to Balochistan, on the bank of Indus river.
- Discovered by N G Majumdar in 1935.

- **Findings-**
 - Antelope evidence
 - Rhinoceros' evidence

Kalibangan

- Location-Hanumangarh District, Rajasthan on the bank of Ghaggar river.
- Discovered by Amlanand Ghose in 1953.
- **Findings-**
 - Lower fortified town
 - Wooden drainage
 - Copper Ox
 - Evidence of earthquake
 - Wooden plough
 - Camel's bone
 - Fire alters
 - Camel's bones
 - Furrowed land

Lothal

- Location- Gujarat on Bhogva river near the Gulf of Cambay.
- Discovered by R. Rao 1953.
- **Findings-**
 - Port Town
 - Houses were built of mud bricks, drains were made of burnt bricks.
 - Graveyard
 - Ivory weight balance
 - Copper dog
 - First manmade port
 - Dockyard
 - Rice husk
 - Fire alters
 - Chess-playing

Surkotada

- Situated in Gujarat
- Discovered by J P Joshi 1964
- **Findings-**
 - Bones of horses
 - Beads
 - Stone Covered Beads

Banawali

- Situated at Fatehabad district of Haryana.
- Discovered by R S Bisht in 1974.
- **Findings**
 - Beads
 - Barley
 - Oval shaped settlement
 - The only city with radial streets
 - Toy plough
 - The largest number of barley grains

Dholavira

- Location- Gujarat in Rann of Katchchh.
- Discovered by R S Bisht 1985.

- **Findings**
 - Exclusive water management
 - Only site to be divided into three parts
 - Giant water reservoir
 - Unique water harnessing system
 - Dams
 - Embankments
 - Stadium
 - Rock – Cut architecture

Subsistence Strategies

- The Harappans ate a wide range of plant and animal products, including fish.
- Grains found at Harappan sites include wheat, barley, lentil, chickpea and sesame. Millets are found from sites in Gujarat.
- Finds of rice are relatively rare.
- Animal bones found at Harappan sites include those of cattle, sheep, goat, buffalo and pig.

Agricultural Technologies

- Moreover, terracotta models of the plough have been found at sites in Cholistan and at Banawali (Haryana).
- Archaeologists have also found evidence of a ploughed field at Kalibangan (Rajasthan), associated with Early Harappan levels.
- The field had two sets of furrows at right angles to each other, suggesting that two different crops were grown together.

Laying Out Drains

- One of the most distinctive features of Harappan cities was the carefully planned drainage system.
- If we look at the plan of the Lower Town we will notice that roads and streets were laid out along an approximate “grid” pattern, intersecting at right angles.

Citadels

- While most Harappan settlements have a small high western part and a larger lower eastern section, there are variations.
- At sites such as Dholavira & Lothal (Gujarat), the entire settlement was fortified, and sections within the town were also separated by walls.
- The Citadel within Lothal was not walled off, but was built at a height.

Life in the City

- Harappan city was a very busy place.
- Rulers were the people who planned the construction of special buildings in the city. Rulers sent people to distant lands to get metal, precious stones, and other things that they wanted.

Domestic Architecture

- The Lower Town at Mohenjodaro provides examples of residential buildings.

- Many were centred on a courtyard, with rooms on all sides.
- The courtyard was probably the centre of activities such as cooking and weaving, particularly during hot and dry weather.
- There are no windows in the walls along the ground level.
- Every house had its own bathroom paved with bricks, with drains connected through the wall to the street drains.

Tracking Social differences

Burials

- At burials in Harappan sites the dead were generally laid in pits.
- Sometimes, there were differences in the way the burial pit was made – in some instances, the hollowed-out spaces were lined with bricks.
- Some graves contain pottery and ornaments, perhaps indicating a belief that these could be used in the afterlife.
- Jewellery has been found in burials of both men and women.

Materials from the subcontinent and beyond

- The Harappans procured materials for craft production in various ways. For instance,
 - They established settlements such as Nageshwar and Balakot in areas where shell was available.
 - Other such sites were Shortughai, in far-off
 - Afghanistan, near the best source of lapis lazuli, a blue stone that was apparently very highly valued, and Lothal which was near sources of carnelian (from Bharuch in Gujarat), steatite (from south Rajasthan and north Gujarat) and metal (from Rajasthan).
 - Another strategy for procuring raw materials may have been to send expeditions to areas such as the Khetri region of Rajasthan (for copper) and south India (for gold).
 - These expeditions established communication with local communities.
 - Occasional finds of Harappan artefacts such as steatite micro beads in these areas are indications of such contact.
 - There is evidence in the Khetri area for what archaeologists call the Ganeshwar-Jodhpura culture, with its distinctive non-Harappan pottery and an unusual wealth of copper objects.
 - It is possible that the inhabitants of this region supplied copper to the Harappans.

Contact with Distant Lands

- Recent archaeological finds suggest that copper was also probably brought from Oman, on the southeastern tip of the Arabian peninsula.
- Chemical analyses have shown that both the Omani copper and Harappan artefacts have traces of nickel, suggesting a common origin.
- Mesopotamian texts datable to the third millennium BCE refer to copper coming from a region called Magan, perhaps a name for Oman, and interestingly enough copper found at Mesopotamian sites also contains traces of nickel.
- In this context, it is worth noting that Mesopotamian texts mention contact with regions named Dilmun (probably

the island of Bahrain), Magan and Meluhha, possibly the Harappan region. They mention the products from Meluhha: carnelian, lapis lazuli, copper, gold, and varieties of wood.

- Mesopotamian texts refer to Meluhha as a land of seafarers. Besides, we find depictions of ships and boats on seals.

Ancient Authority

There are indications of complex decisions being taken and implemented in Harappan society.

- A large building found at Mohenjodaro was labeled as a palace by archaeologists but no spectacular finds were associated with it.
- A stone statue was labelled and continues to be known as the “priest-king”.
- This is because archaeologists were familiar with Mesopotamian history and its “priest-kings” and have found parallels in the Indus region.
- Some archaeologists are of the opinion that Harappan society had no rulers, and that everybody enjoyed equal status.

Cunningham’s confusion

- When Cunningham, the first Director-General of the ASI, began archaeological excavations in the midnineteenth century, archaeologists preferred to use the written word (texts and inscriptions) as a guide to investigations.
- In fact, Cunningham’s main interest was in the archaeology of the Early Historic (c. sixth century BCE-fourth century CE) and later periods.
- He used the accounts left by Chinese Buddhist pilgrims who had visited the subcontinent between the fourth and seventh centuries CE to locate early settlements. Cunningham also collected, documented and translated inscriptions found during his surveys.

A new old Civilisation

- Subsequently, seals were discovered at Harappa by archaeologists such as **Daya Ram Sahni** in the early decades of the twentieth century, in layers that were definitely much older than Early Historic levels. It was then that their significance began to be realised.
- Another archaeologist, **Rakhil Das Banerji** found similar seals at Mohenjodaro, leading to the conjecture that these sites were part of a single archaeological culture.
- Based on these finds, in 1924, **John Marshall**, Director-General of the ASI, announced the discovery of a new civilisation in the Indus valley to the world.
- As **S.N. Roy** noted in *The Story of Indian Archaeology*, “Marshall left India three thousand years older than he had found her.” This was because similar, till- then-unidentified seals were found at excavations at Mesopotamian sites. It was then that the world knew not only of a new civilisation, but also of one contemporaneous with Mesopotamia.
- In fact, **John Marshall’s** stint as Director-General of the ASI marked a major change in Indian archaeology. **He was the first professional archaeologist to work in India**, and

brought his experience of working in Greece and Crete to the field.

- More importantly, though like Cunningham he too was interested in spectacular finds, he was equally keen to look for patterns of everyday life.

Problems of Interpretation

- Early archaeologists thought that certain objects which seemed unusual or unfamiliar may have had a religious significance.
- These included terracotta figurines of women, heavily jewelled, some with elaborate head-dresses. These were regarded as mother goddesses.
- Some animals – such as the one-horned animal, often called the “unicorn” – depicted on seals seem to be mythical, composite creatures.
- In some seals, a figure shown seated cross-legged in a “yogic” posture, sometimes surrounded by animals, has been regarded as a depiction of “proto- Shiva”, that is, an early form of one of the major deities of Hinduism.
- Besides, conical stone objects have been classified as lingas.
- A linga is a polished stone that is worshipped as a symbol of Shiva.

Major Developments in Harappan Archaeology	
1875	Report of Alexander Cunningham on Harappan seal
1921	M.S. Vats begins excavations at Harappan
1925	Excavations begin at Mohenjodaro

1946	R.E.M. Wheeler excavates at Harappa
1955	S.R. Rao begins excavations at Lothal
1960	B.B. Lal and B.K. Thapar begin excavations at Kalibangan
1974	M.R. Mughal begins explorations in Bahawalpur
1980	A team of German and Italian archaeologists begins surface explorations at Mohenjodaro
1986	American team begins excavations at Harappa
1990	R.S. Bisht begins excavations at Dholavira

Reason behind Decline

- Some scholars suggest that the rivers dried up. Others suggest that there was deforestation.
- Decline could have happened because fuel was required for baking bricks, and for smelting copper ores. Besides, grazing by large herds of cattle, sheep and goat may have destroyed the green cover.
- In some areas there were floods.
- But none of these reasons can explain the end of all the cities. Flooding, or a river drying up would have had an effect in only some areas.
- In the few Harappan sites that continued to be occupied after 1900 BCE there appears to have been a transformation of material culture, marked by the disappearance of the distinctive artefacts of the civilisation – weights, seals, special beads.

4. Vedic Civilization

Vedic Civilization

- The age of the Vedic Civilization was between 1500 BC and 600 BC. This is the next major civilization after the Indus Valley Civilization till 1400 BC.

The Aryans

- The Aryans fall in the group of semi-nomadic pastoral people.
- About the original homeland of the Aryans different experts have different opinions. Some of them say that they came from the area around the Caspian Sea in Central Asia.
- This Central Asia theory is given by Max Muller. Others think that they originated from the Russian Steppes. But Bal Gangadhar Tilak was of the opinion that the Aryans came from the Arctic region following their astronomical calculations.

Early Vedic Literature (Stuti)

- According to Hindu belief, Stuti literature of Vedic literature was not composed by any living being. It was revealed by God to certain sages and they passed their knowledge orally from one generation to another.

Vedas

- The four Vedas are the most important creation of Vedic

literature. Without them, ancient Indian literature would have been incomplete.

- The hymns are regarded as invocations to the gods to bestow favors on the worshippers. There are mainly four (4) Vedas- Rigveda, Yajurveda, Samveda and Atharvaveda. One of the ancient and earliest works of Vedas is the Rigveda.
- It is a collection of 1017 hymns supplemented by 11 others which is called ‘Valakhilyas’. It is arranged into 10 mandalas of books. Yajurveda relates to the details of performing Yajanas which are performed by the priests.
- It is present in both poetry and prose and has 40 chapters and 200 mantras. It gives a picture of religious and social life of the Rigveda Aryans. Samveda have been mostly taken from Rigveda and these are sung at the time of performing Yajanas.
- It contains 1540 ‘Richayen’. Atharvaveda is present partly in prose and partly in poem. Most of the mantras deal with warding of diseases and with chains magic and spells by which one could overcome enemies and demons. It contains 5839 mantras, 20 mandalas and 731 richayen.

Brahmanas

- They are the commentaries on the various hymns in the Vedas to which they are appended. They are called liturgies. For example, Rigveda has two Brahmanas- Aitareya and knishitaki.

Aranyakas

- Aranyakas are generally called the 'forest books' as they were studied in forests away from the villages and towns. They mainly deal with the spiritual life. They were meant for the elderly people as they had passed out of Grihastha Ashram.
- They are the concluding portions of the Brahmanas. The Aranyakas deals with the philosophy and mysticism and not with the rituals.

Upanishads

- According to German scholar Schopenhauer, "In the whole world, there is no study so beautiful and as elevating as that of Upanishads. It has been the solace of my life- it will be the solace of my death."
- Upanishads are the concluding parts of Brahmanas. They occupy a very high place in the ancient Aryan literature as they mainly deals with spiritual subjects and the ultimate secrets of creation of the universe.

Vedic Civilization: Early Vedic Period and Later Vedic Period

Early Vedic Civilization or Rig Vedic Period (1500 BC – 1000 BC)

- At first, the Aryans lived in the land known as "SaptaSindhu" meaning Land of the Seven Rivers. The names of the seven rivers were: Sindhu (Indus), Vipash (Beas), Vitasta (Jhelum), Parushni (Ravi), Asikni (Chenab), Shutudri (Satluj) and Saraswati.

Political Structure

- The head of the government was known as Rajan.
- The largest political and administrative unit was Jana in Rig Vedic times.
- The name of the basic unit of political organization was 'Kula'.
- Multiple families together formed a 'grama'.
- Leader of 'grama' was called 'Gramani'.
- Groups of villages were known as 'visu', headed by 'vishayapati'.
- Tribal assemblies were known as Sabhas and Samitis. The names of tribal kingdoms are- Bharatas, Matsyas, Yadus and Purus.

Social Structure

- Women occupied respectable positions and were allowed to participate in Sabhas & Samitis. There were women poets such as Apala, Lopamudra, Viswavara, and Ghosa.
- Cows became very important among cattle.

Economic Structure

- Aryans were generally pastoral and cattle-rearing people.
- Their occupation was agriculture.
- Carpenters made chariots and ploughs.
- A huge number of articles were made with copper, bronze, and iron by workers.
- Spinning was done for making cotton and woolen fabrics.

Religion

- They worshipped natural forces like earth, fire, wind, rain, thunder, etc. by personifying them into many gods.
- Indra (thunder) was the most important god. Other gods were Prithvi (earth), Agni (fire), Varuna (rain) and Vayu (wind).

- Female gods were Ushas and Aditi.
- There were no rituals for temples and idol worship.

Later Vedic Civilization or Painted Grey Ware Phase (1000 BC – 600 BC)

Political structure

- The largest unit of political organisation was known as the 'Janapada' or 'Rashtra', and it was ruled by a king. The king was usually a Kshatriya, maintained an army and was considered a divine character.
- The two assemblies from the early period, that is, the Sabha and Samiti continued but changed in character in this period, and the king held most of the power. The Vidhata, which was the earliest tribal assembly, completely disappeared.

Transformation in the Political Structure

- The concept of territory came into existence in this period
- A territory or a state was referred to as a 'Janapada' or 'Rashtra'
- The 'Rajan' from the early Vedic age later became Kshatriyas and held power over 'Janapada' or 'Rashtra'
- Earlier wars were fought for cattle; however, in this period, wars were fought for the occupation of land
- During this period, the king started maintaining 'Ratnis' (council of advisors)
- The taxation system began in this period
- Two officials, the 'Bhagadugha' (tax collector) and the 'Sangrihitri' (treasurer), were appointed to take care of the taxes
- Two taxes from this period were the 'Bali' and the 'Bhaga'
- The Sabha and the Samiti continued but were not powerful enough to influence the king

The King

- In the later Vedic period, the king became the absolute power. Since he fought wars, the king was usually a Kshatriya. He ruled over the 'Janapada' or 'Rashtra'. Several taxes like the 'Bhaga', 'Bali' and 'Sulka' were deployed by the king.

Officials

- Kulapati** – Head of the family
- Gramani** – Head of the Village
- Senani** – Commander of the army
- Madhyamasi** – Mediator of disputes
- Purohita** – Chief Priest
- Spasas** – Spies/messengers
- Vrajapati** – Officer of pastures
- Bhagadugha** – Collector of revenue
- Jivagribha** – Police officer
- Mahishi** – Chief queen
- Akshavapa** – Accountant
- Suta** – Charioteer
- Athapati** – Chief judge
- Sangrihitri** – Treasurer
- Kshatri** – Chamberlain
- Takshan** – Carpenter
- Palagala** – Messenger
- Govinkartana** – Keeper of forests and games

Judiciary

- The judicial administration changed in the later Vedic period. The judicial administration in this period saw the active participation of the king. The power of the king was sometimes assigned to the 'Adhyaksha'. Sometimes, the cases were also adjudged by the tribes.
- The 'Gramyavadin' (village judge), along with other court members, decided on the petty cases at the village level. The punishments in this period were very severe. For example, if a person was held guilty of theft, he was given a death sentence, or his hands were incapacitated.

Social Structure

- The later Vedic period gave rise to miscellaneous arts and crafts. The various explorations give us some opinions about the settlements. The Later Vedic age made society more complex.
- The caste system, child marriage, dowry and many other disgusting practices blemished the society. Position and independence or freedom of women were lost. Little change took place in food, dress and ornaments of the earlier age.

The Caste System

- Society of the Later Vedic period underwent a great change. The caste system crawled into it. The society was divided into four Varnas called the Brahmanas, Rajanyas or Kshatriyas, Vaishyas and the Sudras.
- Various sub-castes came later in addition to the traditional four castes. The Brahmanas and the Kshatriyas were seen as the two leading castes. The Vaishyas were superior to the Shudras. The Shudras were seen as the lowest of the four castes and were made to do all the inferior works.

Social Position of the Women

- The ladies of the Later Vedic Era forfeited their high positions which they normally had enjoyed in the Rig Veda Age. They were robbed of their privileges in the Upanayana ritual. All their customs, barring marriage, were conducted without the recitation of the Vedic Mantras. Polygamy began to exist in this society.
- Females were not allowed to observe the political masses. The conception of a daughter child became unpleasant as they were assumed as a source of misery. The concepts of juvenile marriage and dowry also crawled in.

Economic Conditions

- Similar to the political and colonial differences, the economic state of the Later Vedic period also experienced a substantial amount of changes. Due to the arrival of the concept of the caste system, diverse employment opportunities appeared.
- The brahmins were seen as the most knowledgeable and entrusted with imparting the knowledge to all the people. They were considered "Gurus" who had Ashrams (schools) of their own in which they tutored the people of other Varnas.

- The Kshatriyas were the warrior clan and worked as administrators. They had grasped all forms of mastery in weapons and ruling a territory & were politically knowledgeable too.
- The Vaishyas were mainly involved in commerce and worked as traders, agriculturalists and money lenders. The Shudras, the last Varna, were assigned to serve the other Varnas and worked under them in carrying out their daily activities as the other Varnas were their masters.

Religious Conditions

- During the later Vedic period, religious beliefs underwent a significant change. This period saw the arrival of New Gods and Goddesses.
- The Rig Veda Gods like Varuna, Indra, Agni, Surya, Usha lost their charm. Gods like Shiva, Rupa, Vishnu, Brahma, etc., made their way into the religious heavens of the later Vedic Period. The concept of rituals and sacrifices also prevailed during this period but later declined a little as some big rituals could only be carried out by highly trained and knowledgeable Brahmins.

New Divinities

- The traditional divinities like Varuna, Agni, Indra, Usha, Maruta and Saraswati made to lose their charm in public worship.
- New gods made their debut among the worship. Prominent were Brahma, the creator, Visnu, the sustainer made Maheshvara, the destroyer.
- The worship of Basudeva also was started during this period. He was regarded as Krishna Basudev, the incarnation of Visnu. His worship became very popular.
- Lesser divinities like Gandharba, Apsara, Naga, Vidyadhara etc. also came to be worshipped. The worship of Durga and Ganesh also started during the period.

Vedic Literature

Later Vedic Literature (Smriti)

- Later Vedic literature which is also called the Smriti literature deals with the laws and usage of customs of various classes. They also throw light on the status of women. Smriti literature consists of Sutras, Vedangas and Upavedas, Puranas, Epics and Dharam Shastras.

Sutras

- As the time passed, many new social customs were developed and these were collected in new books. This new type of literature came to be known as the Sutras. It is believed that the period of the Sutras can be traced from the 6th or 7th Century B.C. to about 2nd Century B.C.

Vedangas and Upavedas

- Vedangas were known as the part of Vedic texts and were mainly concerned with the preservation of the Vedic texts.

They are mainly divided into 6 (six) categories- Kalpa (religious practices), Siksha (pronunciation), Vyakaran (grammar), Nirukta (etymology), Channdas (meter) and Jyotish (astronomy). Out of 6 (six) Vedangas, Siksha and Kalpa are considered to be very important.

- Each Veda has its Upaveda. They are mainly divided into 4 (four) categories- Ayurveda (medicine), Dhanurveda (art & war), Gandharv veda (art of music) and Shilpveda (architecture).

Darshanas

- There are 6(six) kinds of Darshanas. The Nyaya Darshana was written by Gautama Rishi. It is the science of sciences known to be acquired by four methods which are Pratyaksh or intuition, Anumana or inference, Upma or comparison and Sabda or verbal testimony.
- This Darshana believes in god who is full of bliss and knowledge and accepts the theory of rebirth. The Vaisesika Darshana was written by Kannada rishi. It is concerned

with 6 padarthas consisting Dravya (substance), Guna (quality), Karma (activity), Samanya (generality), Visesha (particularity) and Samavaya (inference) and nine Dravyas consisting earth, water, air, light, time, space, soul, Manas and Akasha. The Sankhya Darshana was written by Kapila which believes in the existence of god.

Puranas

- Puranas are ancient Hindu texts eulogizing various deities, primarily the divine Trimurti god (Brahma, Vishnu and Maheswar) in Hinduism through divine stories. Vyasa, the narrator of Mahabharata is considered to be the compiler of Puranas.
- Puranas are mainly 18(eighteen) in nos. which are- Agri Puran, Bhagwat Puran, Bhavishya Puran, Brahma Puran, Brahmand Puran, Garuda Puran, Kurma Puran, Ling Puran, Markandya Puran, Matsya Puran, Narad Puran, Padma Puran, Shiv Puran, Skand Puran, Brahmvaivatray Puran, Vaman Puran, Varah Puran and Vishnu Puran.

5. Jainism and Buddhism

Causes of Origin

- In post-Vedic times society was clearly divided into four varnas: brahmanas, kshatriyas, vaishyas and shudras.
- Each varna was assigned well-defined functions, although it was emphasised that varna was based on birth and the two higher varnas were given some privileges.
- The brahmanas, who were given the functions of priests and teachers, claimed the highest status in society.
- They demanded several privileges, including those of receiving gifts and exemption from taxation and punishment. In post-Vedic texts we have many instances of such privileges enjoyed by them.

Vardhamana Mahavira and Jainism

- The Jainas believed that their most important religious teacher Mahavira had twenty-three predecessors who were called tirthankaras.
- If Mahavira is taken as the last or the twenty-fourth tirthankara, the origin of Jainism would be taken back to the ninth century B.C.
- But since most of the earliest teachers, up to the fifteenth one were supposed to have been born in Eastern Uttar Pradesh and Bihar, their historicity is extremely doubtful. No part of the middle Ganga plains was settled on any scale until the sixth century B.C.
- The earliest important teachings of Jainism are attributed to Parshvanatha, the twenty-third tirthankara, who belonged to Banaras. He gave up royal life and became an ascetic.
 - According to one tradition, Vardhamana Mahavira was born in 540 B.C. in a village near Vaishali, which is identical with Basarh in the district of Vaishali, in north Bihar.
 - His father Siddhartha was the head of a famous kshatriya clan, and his mother was named Trishala, sister of the Lichchhavi chief Chetaka, whose daughter was wedded to Bimbisara.

- Thus Mahavira's family was connected with the royal family of Magadha.
- In the beginning, Mahavira led the life of a householder, but in the search for truth he abandoned the world at the age of 30 and became an ascetic.
- He kept on wandering for 12 years from place to place.
- During the course of his long journey, it is said, he never changed his clothes for 12 years, and abandoned them altogether at the age of 42 when he attained omniscience (kaivalya).
- He propagated his religion for 30 years and his mission took him to Koshala, Magadha, Mithila, Champa, etc. He passed away at the age of 72 in 468 BC at a place called Pavapuri near modern Rajgir.
- According to another tradition he passed away in 527 B.C. But on the basis of archaeological evidence he cannot be placed in the sixth century B.C.

Doctrines of Jainism

Jainism taught five doctrines:

- do not commit violence.
- do not speak a lie,
- do not steal,
- do not acquire property, and
- observe continence (brahmacharya).

Spread of Jainism

- In order to spread the teachings of Jainism, Mahavira organized an order of his followers which admitted both men and women.
- It is said that his followers counted 14,000 which is not a large number: Since Jainism did not very clearly mark itself out from the brahmanical religion, it failed to attract the masses.
- According to a late tradition the spread of Jainism in Karnataka is attributed to Chandragupta Maurya (322-298 B.C.).

- The emperor became, a Jaina, gave up his throne and spent the last years of his life in Karnataka as a Jaina ascetic.
- The early Jainas discarded Sanskrit language mainly patronized by the brahmanas.
- They adopted Prakrit language of the common people to preach their doctrines.
- Their religious literature was, written in Ardhamagadhi, and the texts were finally compiled in the sixth century A.D. in Gujarat at a place called Valabhi, a great centre of education.
- The adoption of Prakrit by the Jainas helped the growth of this language and its literature.
- Many regional languages developed out of Prakrit languages, particularly Shauraseni, out of which grew the Marathi language.

Contribution of Jainism

- Jainism made the first serious attempt to mitigate the evils of the varna order and the ritualistic Vedic religion.

Gautama Buddha and Buddhism

- Gautama Buddha or Siddhartha was a contemporary of Mahavira.
- According to tradition he was born in 563BC in a Shakya kshatriya family in Lumbini in Nepal near Kapilavastu, which is identified with Piprahwa, in Basti district and close to the foothills of Nepal.
- Gautama's father seems to have been the elected ruler of Kapilavastu, and headed the republican clan of the Shakyas.
- His mother was a princess from the Koshalan dynasty. Thus, like Mahavira. Gautama also belonged to a noble family. Born in a republic, he also inherited some egalitarian sentiments.
- Since his early childhood Gautama showed a meditative bent of mind.
- He was married early, but married life did not interest him.
- He was moved by the misery which people suffered in the world, and looked for its solution.
- At the age of 29, like Mahavira again, he left home.
- He kept on wandering for about seven years and then attained knowledge at the age of 35 at Bodh Gaya under a pipal tree.
- From this time onwards he began to be called the Buddha or the enlightened.
- Gautama Buddha delivered his first sermons at Sarnath in Banaras.

Doctrines of Buddhism

- The Buddha proved to be a practical reformer who took note of the realities of the day.
- Gautama taught that a person should avoid the excess of both luxury and austerity.
- He prescribed the middle path.
- The Buddha, also laid down a code of conduct for his followers on the same lines as was done by the Jaina teachers.

- The main items in this social conduct are
 - (i) do not take the property of others,
 - (ii) do not commit violence,
 - (iii) do not use intoxicants,
 - (iv) do not speak a lie., and
 - (v) do not indulge in corrupt practices.

Special Features of Buddhism

- Buddhism does not recognize the existence of god and soul (atman).
- This can be taken as a kind of revolution in the history of Indian religions.
- Since early Buddhism was not enmeshed in the clap-trap of philosophical discussion, it appealed to the common people.
- It particularly won the support of the lower orders as it attacked the varna system.
- People were taken into the Buddhist order without any consideration of caste.
- Women also were admitted to the sangha and thus brought on par with men. In comparison with Brahmanism, Buddhism was liberal and democratic.
- Buddhism made a special appeal to the people of the non-Vedic areas where it found a virgin soil for conversion.
- The use of Pali, the language of the people, also contributed to the spread of Buddhism.
- It facilitated the spread of Buddhist doctrines among the common people.
- Gautama Buddha also organized the sangha or the religious order, whose doors were kept open to everybody, irrespective of caste and sex.

Fourth Buddhist Council was held at Kashmir during the reign of Kanishka. Sarvastivadins were an important sect of Buddhism. Its doctrines were compiled in Mahavibhasa.

Buddhist Literature

The Buddhist texts were compiled in **Pali**. The Pali canons are called as the **Tripitakas** (Three Baskets). They are **Vinaya Pitaka, Sutta Pitaka** and **Abhidhamma Pitaka**. Vinaya Pitaka deals with monastic rules and moral disciplines. Sutta Pitaka dwells upon discourses and teachings of Buddha. Abhidhamma Pitaka expounds Buddhist philosophy. The Sutta Pitaka, which contains the teachings of Buddha, is divided into **five groups** or **Nikayas**. They contain popular works such as **Theragatha** and **Therigatha** (Hymns of the Elder Monks and Nuns) and **Jataka** tales (Buddha's deeds in previous births as Bodhisattva). Other important Buddhist works include **Milinda Panha**, a discussion between Greco-Bactrian king Menander and Buddhist monk **Nagasena**, and Ceylonese chronicles **Dipavamsa** (Island Chronicles), **Mahavamsa** (Great Chronicle) and **Culavamsa** (Lesser Chronicle).

Physical Geography

1. The Earth in the Solar System

Theories of Earth's origin

- One of the earlier arguments of the earth's origin was by a German professor **Immanuel Kant**. **Mathematician Laplace** revised it in 1796. It was known as **Nebular Hypothesis**.
- It considered that planets were formed out of a **cloud of material** associated with a **youthful sun**, which was slowly rotating.
- Lyttleton** propounded the **accretion theory** of the earth's formation. According to this theory, approximately 4.6 billion years ago, the solar system was a **cloud of dust and gas** known as a **solar nebula**.

Big Bang Theory (Expanding the universe Hypothesis)

- In 1927, **Abbe Georges Lemaitre**, a Belgian astronomer was the first to propose, a theory on the origin of the universe.
- It was **Edwin Hubble** who provided the evidence that the universe is expanding. It was called the 'Big Bang Theory'.
- According to it, the universe was formed during a period of inflation that began about 13.75 billion years ago.
- Like a rapidly expanding balloon, it welled from a size smaller than an electron to nearly its current size within a fraction of a second.
- Matter from the universe was thrown out with great force in all directions and started expanding outwards. From this matter, many groups of stars were formed which we call 'galaxies'.
- A galaxy is a system of billions of stars, stellar remnants, interstellar gas, dust, and dark matter.
- The word galaxy is derived from the Greek word Galaxies, literally meaning "milky", a reference to the Milky Way. The **Milky Way** is the galaxy that contains our Solar System.

Major forms of Galaxies

- Spiral Galaxies:** It consists of a flat and rotating disk of stars, gases and dust. It has a central concentration of stars known as the 'bulge'. The Milky Way and the Andromeda are spiral galaxies.
- Elliptical Galaxies:** It contains older stars with fewer gases. Messier 89 is an elliptical galaxy.
- Irregular Galaxies:** They are youthful galaxies with more dust and gases. This can make them very bright. Large Magellanic Cloud is an example of irregular galaxy.

Phases of the Moon

Full Moon/ Poornima

- It occurs only once in about a month's time when its whole disc can be seen as being illuminated.

New Moon/ Amavasya

- It's a phase of the moon when it cannot be seen at all. The Night sky is best seen on this day.

Stars

- Some celestial bodies are hot and made up of gases.
- They have their own heat and light, which they emit in large amounts. These celestial bodies are called stars.
- The sun is a star.

Pole Star

- Also called the North Star, it helped in determining directions during the night in ancient times as it indicates the north direction.
- It always remains in the same position in the sky.
- We can locate the position of the Pole Star with the help of the Saptarishi.
- If an imaginary line is drawn joining the pointer stars and extended further, it will point to the Pole Star.

Planets

- These are the celestial bodies which do not have their own heat and light and are lit by the light of the stars.
- The word 'planet' comes from the Greek word Planetai which means 'wanderers'.

Solar System

- The sun, eight planets, satellites and some other celestial bodies, known as asteroids and meteoroids, form the solar system.
- It is often called as the solar family, with sun as its head.
- The sun, being extremely huge is in the centre of the solar system, and is made up of extremely hot gases.
- Being the ultimate source of heat and light for the solar system, it provides the pulling force that binds the solar system.
- But that tremendous heat is not felt so much by us because despite being our nearest star (approx. 150 million km away from earth), it is far away from us.

The Sun

- The Sun, a yellow dwarf star at the center of the solar system, emits glowing gases due to intense heat.
- Its gravity maintains orbits of celestial bodies, and its magnetic field, powered by electric currents, extends through the solar system via solar wind.

Structure of the Sun

- The Sun consists mainly of hydrogen (70.6%) and helium (27.4%), with the remaining 2% comprising other gases.
- Gravitational forces maintain its immense mass, generating high pressure and temperature at the core, where nuclear fusion occurs, powering the Sun.
- Its interior comprises three layers: core, radiative zone, and convective zone.
- The Sun's interior consists of three main layers, the **radiative zone** where energy is transported by photons as thermal radiation; the **convective zone**, where energy is carried by convection; and the **photosphere**, the visible 'surface' of the Sun marking the boundary between its interior and atmosphere.
- The solar atmosphere comprises the chromospheres, situated below the corona, named for its reddish hue during eclipses.
- A transition layer separates the chromospheres from the corona, where temperatures sharply increase.
- The corona, hotter than the Sun's surface, transitions into the solar wind, a plasma flow extending into interstellar space, constituting the uppermost part of the Sun's atmosphere.
- The Sun consists of six main regions: the core, radioactive zone, convective zone, photosphere, chromospheres, and corona.
- Surface temperature ranges from 5,500°C to 6,000°C, while the core reaches 15 million °C, enabling thermonuclear fusion where hydrogen atoms combine to form helium, releasing immense energy.

Planets in Our Solar System

- There are eight planets in our solar system.
- In order of their distance from the sun, they are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.

Mercury

- One orbit around the sun - 88 days. One spin on the axis - 59 days
- Mercury is the nearest planet to the sun and it is the smallest planet in the solar system. It does not have any satellite.
- The sunlight takes 3.2 minutes to travel from the Sun to Mercury. Mercury is the second hottest planet though it is nearest to the sun.

Venus

- One orbit around the sun - 255 days. One spin on the axis - 243 days
- Venus, known as Earth's Sister, shares similar size and mass.
- It's the solar system's hottest planet with a surface temperature of 462°C.

- Dubbed "Morning star and Evening star," it is one of the two planets rotating east to west.

Earth

- One orbit around the sun - 365 days. One spin on the axis - 1 day, Number of moons - 1
- It is the only known planet to support life.
- It is also known as the 'Blue Planet' because of the presence of water.
- Earth has only one natural satellite called the Moon.
- The sunlight takes about 8.2 minutes to reach the earth.

Mars

- One orbit around the sun - 687 days. One spin on the axis - 1 day, Number of moons - 2
- Mars, often called the "Red planet," exhibits a reddish hue due to iron oxide.
- Similar in landmass to Earth, it experiences temperatures ranging from -153°C to 20°C.
- Despite harsh conditions, Mars resembles Earth in many ways, with seasons, polar ice caps, volcanoes, canyons, and two moons: Phobos and Deimos.

Jupiter

- One orbit around the sun - 11 years, 11 months (approx. 12 years). One spin on the axis - 9 hours, 56 minutes, Number of moons - about 53
- Jupiter, the largest gas giant in the solar system, boasts of a short day and a faint ring system composed mainly of dust particles.
- With 67 confirmed satellites, Ganymede stands out as the largest natural satellite in the solar system, surpassing even Mercury in size.

Saturn

- One orbit around the sun - 29 years, 5 months. One spin on the axis - 10 hours 40 minutes, Number of moons - about 53.
- Saturn, known as the Ringed Planet, boasts of extensive ring systems primarily composed of ice and carbonaceous dust.
- With an average density lower than water, it's unique in our solar system.
- Saturn has 30 rings and 53 confirmed natural satellites.
- Its largest moon, Titan, second only to Jupiter's Ganymede, features clouds and a dense, Earth-like atmosphere, making it a remarkable celestial body in our system.

Uranus

- One orbit around the sun - 84 years. One spin around the axis - 17 hours 14 minutes, Number of Moons - about 27
- Uranus, the seventh planet from the sun, is invisible to the naked eye.
- Its atmosphere, dominated by hydrogen, helium, and methane, gives it a frigid climate due to its vast distance from the sun.
- Named after the Greek god of the sky, Uranus rotates east to west, resembling Venus.
- It showcases a bluish-green hue, hosts rings, and boasts of twenty-seven moons.

Neptune

- One orbit around the sun - 164 years. One spin on the axis - 16 hours 7 minutes, Number of Moons - 13. It has 13 natural satellites and 5 rings.
- It is the **coldest planet** in the Solar System because it is the farthest planet from the Sun.
- Neptune was the first planet located through mathematical calculations. Neptune is our solar system's windiest planet.

Dwarf Planets

- Dwarf planets are small celestial bodies in the solar system that orbit the sun, possess enough mass for self-gravity, and are nearly spherical.
- They include Ceres, Pluto, Haumea, Makemake and Eris. Pluto was demoted from planet status in 2006 due to its failure to clear its orbit of other debris.

The Earth

- Being the fifth largest planet in size, the earth is the third nearest planet to the sun.
- Being slightly flattened at the poles, its shape is described as a Geoid, meaning an earth-like shape.
- Conditions favourable to support life are probably found only on the earth as it is neither too hot nor too cold.
- Being a unique planet of the solar system, it has water and air and other life-supporting gases like oxygen, essential for our survival.
- It is also called as the blue planet as from the outer space, it appears blue with two-thirds of its surface being covered by water.

The Moon

- The Moon, being the only satellite of the earth has a diameter of only about one-quarter of the earth.

- Being 3,84,400 km away from us, it appears big because it is nearer to our planet than other celestial bodies.
- It moves around the earth in about 27 days and takes exactly the same time to complete one spin, that makes only one of its sides visible to us on the earth.
- The moon does not have conditions favourable for life.
- It has mountains, plains and depressions on its surface that cast shadows on its surface.

Asteroids

- Asteroids are the tiny bodies that move around the sun and are found between the orbits of Mars and Jupiter.
- Leading view suggests that they are parts of a planet which exploded many years ago.

Comets

- Comets, derived from the Greek word for 'Long Haired Star', are celestial objects composed of ice particles and meteoric fragments.
- They orbit the Sun, with irregular paths varying from close (Perihelion) to far (Aphelion).
- Halley's Comet, renowned for its 76-year cycle, last appeared in 1986 and will next be visible on 28th July 2061.
- Comets intrigue humanity with their unpredictable trajectories, inspiring both curiosity and occasional apprehension.

Meteoroids

- Meteoroids are small pieces of rocks which move around the sun.
- Sometimes these meteoroids come near the earth and tend to drop upon it.
- During this process due to friction with the air, they get heated up and burn which causes a flash of light.
- Sometimes, a meteor without being completely burnt falls on the earth and creates a hollow.

2. Latitudes and Longitudes

Axis of the Earth

- Earth's rotational needle-like axis is an imaginary straight line that runs through the North and South Poles.
- The globe can be moved around this needle-like axis from west to east just as the earth moves.

Equator

- Another imaginary line running on the globe divides the Earth into two equal parts which is called as the equator.
- The northern half of the earth is known as the Northern Hemisphere and the southern half is known as the Southern Hemisphere.
- The equator is an imaginary circular line and is a very important reference point to locate places on the earth.
- All parallel circles from the equator up to the poles are called parallels of latitudes, which are measured in degrees.
- The equator represents the zero degree latitude.

- Since the distance from the equator to either of the poles is one-fourth of a circle round the earth, it will measure 1/4th of 360 degrees, i.e., 90°. Thus, 90 degrees north latitude marks the North Pole & 90 degrees south latitude marks the South Pole.

Parallels of Latitudes

- The latitude of a place on the earth's surface is its distance north or south of the equator, measured along the meridian of that place as an angle from the centre of the earth.
- Lines joining places with the same latitudes are called parallels.
- The value of equator is 0° and the latitude of the poles are 90°N and 90°S.
- If parallels of latitude are drawn at an interval of one degree, there will be 89 parallels each in the northern and the southern hemispheres.
- The total number of parallels thus drawn, including the equator, will be 179.

- Depending upon the location of a feature or a place north or south of the equator, the letter N or S is written along with the value of the latitude.
 - If the earth were a perfect sphere, the length of 10 of latitude (a one degree arc of a meridian) would be a constant value, i.e., 111 km everywhere on the earth.
 - This length is almost the same as that of a degree of longitude at the equator.
 - But to be precise, a degree of latitude changes slightly in length from the equator to the poles.
 - While at the equator, it is 110.6 km and at the poles, it is 111.7 km. Latitude of a place may be determined with the help of the altitude of the sun or the Pole Star.
- (i) *Tropic of Cancer* ($23\frac{1}{2}^{\circ}$ N) in the Northern Hemisphere.
 - (ii) *Tropic of Capricorn* ($23\frac{1}{2}^{\circ}$ S) in the Southern Hemisphere.
 - (iii) *Arctic Circle* at $66\frac{1}{2}^{\circ}$ north of the equator.
 - (iv) *Antarctic Circle* at $66\frac{1}{2}^{\circ}$ south of the equator.

Prime Meridian

- Its value is 0° longitude and from it we count 180° eastward as well as 180° westward.
 - The Prime Meridian and 180° meridian divide the earth into two equal halves, the Eastern Hemisphere and the Western Hemisphere.
 - Therefore, the longitude of a place is followed by the letter E for the east and W for the west.
 - It is, however, interesting to note that 180° East and 180° West meridians are on the same line.

Important Parallels of Latitudes

- Besides the equator (0°), the North Pole (90° N) and the South Pole (90° S), there are four important parallels of latitudes—

Comparison Table of Latitude and Longitude

	Latitude	Longitude
Direction	East-west, parallel to the equator	North-south, converging at the poles and widest at the equator
Parallel lines	Yes	No
Range	0 to 90° North and South	0 to 180° East and West
Denoted by	Greek letter phi (Φ)	Greek letter lambda (λ)
Hemisphere	All locations along a common latitude fall in the same hemisphere of the earth (northern or southern)	Locations along a common longitude may be in different hemispheres.
Denotes distance from	equator (north or south)	Prime Meridian (east or west)
Time zone	Locations that share the same latitude do not necessarily fall into the same time zone	All locations on the same longitude fall in the same time zone
Number of lines	180	360
Notable lines	Equator, Tropic of Cancer, Tropic of Capricorn	Greenwich Meridian
Applications	Classifying temperature zones	Classifying time zones

Longitude and Time

- Time can be measured by the movement of the earth, the moon and the planets.
- The sun regularly rises and sets every day, and naturally, it is the best time-keeper throughout the world.
- Local time can be reckoned by the shadow cast by the sun, which is the shortest at noon and longest at sunrise and sunset.
- When the Prime Meridian of Greenwich has the sun at the highest point in the sky, all the places along this meridian will have mid-day or noon.
- As the earth rotates from west to east, those places east of Greenwich will be ahead of Greenwich time and those to the west will be behind it.
- The rate of difference can be calculated as follows.
 - The earth rotates 360° in about 24 hours, which means 15° an hour or 1° in four minutes. Thus, when it is 12 noon at Greenwich, the time at 15° east of Greenwich will be $15 \times 4 = 60$ minutes, i.e., one hour ahead of Greenwich time, which means 1 P.M.
 - But at 15° west of Greenwich, the time will be behind Greenwich time by one hour, i.e., it will be 11.00 a.m.
 - Similarly, at 180° , it will be midnight when it is 12 noon at Greenwich.
- At any place, a watch can be adjusted to read 12 o'clock when the sun is at the highest point in the sky, i.e., when it is mid-day.
- The time shown by such a watch will give the local time for that place.

Standard Time

- The local time of places which are on different meridians are bound to differ.
- For example, it will be difficult to prepare a time-table for trains which cross several longitudes.
- In India, for instance, there will be a difference of about 1 hour and 45 minutes in the local times of Dwarka in Gujarat and Dibrugarh in Assam.
- It is, therefore, necessary to adopt the local time of some central meridian of a country as the standard time for the country.
- In India, the longitude of $82\frac{1}{2}^{\circ}$ E ($82^{\circ} 30'E$) is treated as the standard meridian.
- The local time at this meridian is taken as the standard time for the whole country, known as the Indian Standard Time (IST).
- India located east of Greenwich at $82^{\circ}30'E$ is 5 hours and 30 minutes ahead of GMT. So it will be 7:30 p.m. in India when it is 2:00 p.m. noon in London.

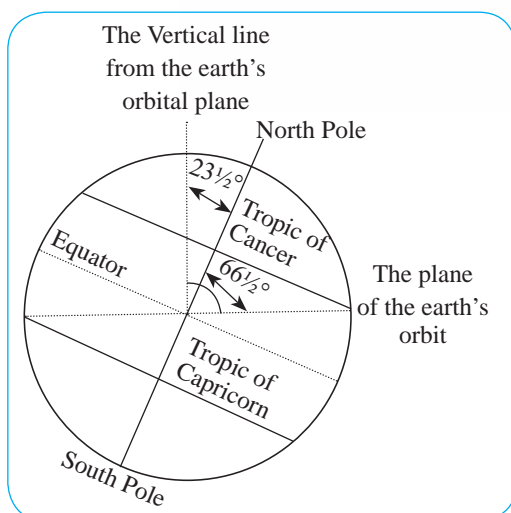
International Date Line

- While the world is divided into 24 time zones, there has to be a place where there is a difference in days, somewhere the day truly “starts” on the planet.
- The 180° line of longitude is approximately where the International Date Line passes.
- The time at this longitude is exactly 12 hours from the 0° longitude, irrespective of one travelling westwards or eastwards from the Prime Meridian.
- We know that time increases east of the Prime Meridian and decreases to its west. Hence, for a person moving east of the Prime Meridian, the time would be 12 hours less than the time at 0° longitude.
- For another person moving westwards, the time would be 12 hours more than the Prime Meridian.
- For example, a person moving eastwards on Tuesday will count the day as Wednesday once the International Date Line is crossed. Similarly, another person starting his journey on the same day, but moving westwards will count the day as Monday after crossing the line.

3. Motions of the Earth

Rotation

- It is the movement of the earth on its axis.
- The spinning of the earth around its axis is called the rotation of the earth.
- The axis is the imaginary line passing through the centre of the earth.
- The earth completes one rotation in 23 hours, 56 minutes and 4.09 seconds.
- It rotates in an eastward direction opposite to the apparent movement of the sun.
- The earth's axis is inclined at an angle of 66° to the orbital plane as it moves around the sun.



- It can be said that the earth's axis is tilted at an angle of 23° from a perpendicular to the elliptic plane.

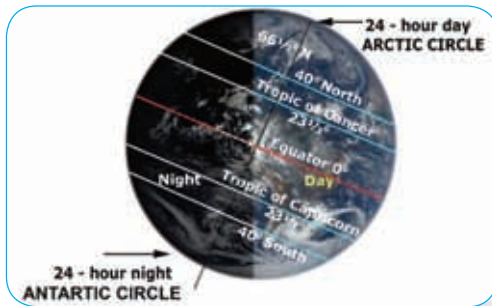
- The velocity of earth's rotation varies depending on the distance of a given place from the equator.
- The rotational velocity at the poles is nearly zero.
- The greatest velocity of the rotation is found at the equator.
- The velocity of rotation at the equator is 1,670 km per hour and in the poles it is about zero.

Effects of Earth's Rotation

- The apparent rising and setting of the sun is actually caused by the earth's rotation which results in the alternate occurrence of day and night everywhere on the earth's surface.
- Rotation of the earth is also responsible for the difference in time between different places on the earth. A 24 hour period divided by 360 degrees gives a difference of 4 minutes for every degree of longitude that passes the sun. The hour (60 minutes) is thus $1/24$ of a day.
- When you observe through a moving train, trees, houses and fields on the other side of the track appear to move in the direction opposite to that of the speeding train. The apparent movement of the sun and the other heavenly bodies in relation to the rotating earth is similar. As the earth rotates from west to east, the sun, moon, planets and stars appear to rise in the east and set in the west.
- Rotation causes the working of the Coriolis force which results in the deflection of the winds and the ocean currents from their normal path.
- Tide is caused by the rotation of the earth apart from the gravitational pull of the sun and the moon.
- Rotation causes a flattening of Earth at the two poles and bulging at the Equator. Hence, there is a difference in diameter at the poles and equator.

Revolution

- The movement of the earth around the sun in an anti-clockwise & a fixed path or orbit is called Revolution.
- The earth revolves in an orbit at an average distance of 150 million km.
- The distance of the earth from sun varies time to time due to the elliptical shape of the orbit.
- About January 3rd the earth is closest to the sun and it is said to be at Perihelion ('peri' means close to and Helios means sun).
- At Perihelion, the distance is 147 million km.



- Around July 4th the earth is farthest from the sun and it is said to be at Aphelion (Ap means away and Helios means sun).
- At Aphelion, the distance of the earth is 152 million km away from the sun.
- The period taken by the earth to complete one revolution around the sun is 365 days and 6 hours (5 hours, 48 minutes and 45 seconds) or 365 days.
- The speed of the revolution is 1,07,000 km per hour.
- The speed is 30 km per second. The bullet from a gun travels with a speed of 9 km per second.

Effects of Revolution of the Earth

- Cycle of seasons.
- Variation in length of days and nights.
- Variation in distribution of solar energy over the earth and the temperature zones.

Seasons

Summer Solstice

- On 21st June, the Northern Hemisphere is tilted towards the sun and the rays of the sun fall directly on the Tropic of Cancer.

- As a result, these areas receive more heat with the areas near the poles receiving less heat as the rays of the sun are slanting.
- The North Pole is inclined towards the sun and the places beyond the Arctic Circle experience continuous daylight for about six months.
- Since a large portion of the Northern Hemisphere gets light from the sun, it is summer in the regions north of the equator.
- The longest day and the shortest night at these places occur on 21st June.
- At this time in the Southern Hemisphere all these conditions are reversed. It is winter season there, with nights being longer than the days.
- This position of the earth is called the *Summer Solstice*.

Winter Solstice

- On 22nd December, the Tropic of Capricorn receives direct rays of the sun as the South Pole tilts towards it.
- As the sun's rays fall vertically at the Tropic of Capricorn (23½° S), a larger portion of the Southern Hemisphere gets light.
- Therefore, it is summer in the Southern Hemisphere with longer days and shorter nights.
- The reverse happens in the Northern Hemisphere.
- This position of the earth is called the *Winter Solstice*.
- Interestingly, Christmas is celebrated in Australia in the summer season.

Equinox

- On 21st March and September 23rd, direct rays of the sun fall on the equator.
- At this position, neither of the poles is tilted towards the sun; so, the whole earth experiences equal days and equal nights.
- This is called an *equinox*.
- On 23rd September, it is autumn season in the Northern Hemisphere and spring season in the Southern Hemisphere.
- The opposite is the case on 21st March, when it is spring in the Northern Hemisphere and autumn in the Southern Hemisphere.

4. Major Domains of the Earth

Lithosphere

- The solid portion of the earth on which we live is called the Lithosphere.
- It comprises the rocks of the earth's crust and the thin layers of soil that contain nutrient elements which sustain organisms.
- There are two main divisions of the earth's surface-the large landmasses are known as the continents and the huge water bodies are called the ocean basins.

- All the oceans of the world are connected with one another.
- The level of seawater remains the same everywhere.
- Elevation of land is measured from the level of the sea, which is taken as zero.
- The highest mountain peak Mt. Everest is 8,848 metres above the sea level.
- The greatest depth of 11,022 metres is recorded at Mariana Trench in the Pacific Ocean.

Continents

- There are seven major continents, which are separated by large water bodies.
- These continents are – Asia, Europe, Africa, North America, South America, Australia and Antarctica.
- The greater part of the landmass lies in the Northern Hemisphere.

Key Features of Continents

- **Asia**
 - It is the largest continent and covers about one third of the total land area of the earth.
 - It lies in the Eastern Hemisphere.
 - The Tropic of Cancer passes through this continent.
 - It is separated from Europe by the Ural mountains on the west.
 - The combined landmass of Europe and Asia is called the *Eurasia* (Europe + Asia).
- **Europe**
 - It is much smaller than Asia and lies to the west of Asia.
 - The Arctic Circle passes through it.
 - It is bound by water bodies on three sides.
- **Africa**
 - It is the second largest continent after Asia.
 - The Equator or 0° latitude runs almost through the middle of the continent.
 - A large part of Africa lies in the Northern Hemisphere.
 - It is the only continent through which the Tropic of Cancer, the Equator and the Tropic of Capricorn pass.
 - The Sahara Desert, the world's largest hot desert, is located in Africa.
 - The continent is bound on all sides by oceans and seas.
 - The world's longest river, the *Nile*, flows through Africa.
- **North America**
 - It is the third largest continent of the world and is linked to South America by a very narrow strip of land called the Isthmus of Panama.
 - The continent lies completely in the Northern and Western Hemisphere.
 - Three oceans surround this continent.
- **South America**
 - It lies mostly in the Southern Hemisphere.
 - The Andes, world's longest mountain range, runs through its length from north to south.
 - South America has the world's largest river, the Amazon.
- **Australia**
 - It is the smallest continent that lies entirely in the Southern Hemisphere.
 - It is surrounded on all sides by the oceans and seas.
 - It is called an *island continent*.
- **Antarctica**
 - It completely in the Southern Hemisphere, and is a huge continent.
 - The South Pole lies almost at the centre of this continent.

- As it is located in the South Polar Region, it is permanently covered with thick ice sheets.
- There are no permanent human settlements.
- Many countries have research stations in Antarctica. India also has research stations there, namely Maitri and Dakshin Gangotri.

Hydrosphere

- The earth is called the blue planet as more than 71 percent of the earth is covered with water and 29 percent with land.
- Hydrosphere consists of water in all its forms.
- As running water in oceans and rivers and in lakes, ice in glaciers, underground water and the water vapour in atmosphere, all comprise the hydrosphere.
- More than 97% of the Earth's water is found in the oceans and is too salty for human use.
- A large proportion of the rest of the water is in the form of ice-sheets and glaciers or under the ground and a very small percentage is available as fresh water for human use.

Oceans

- Oceans, being always moving, form the major part of the hydrosphere and are interconnected.
- The three chief movements of ocean waters are the waves, the tides and the ocean currents.
- The five major oceans are the Pacific Ocean, the Atlantic Ocean, the Indian Ocean, the Southern Ocean and the Arctic Ocean, in order of their size.
- **Pacific Ocean**
 - The Pacific Ocean is the largest ocean and is spread over one-third of the earth.
 - Mariana Trench, the deepest part of the earth, lies in the Pacific Ocean.
 - The Pacific Ocean is almost circular in shape.
 - Asia, Australia, North and South Americas surround it.
- **Atlantic Ocean**
 - It is the second largest Ocean in the world.
 - It is 'S' shaped and is flanked by the North and South Americas on the western side, and Europe and Africa on the eastern side.
 - The coastline of Atlantic Ocean is highly *indented* and irregular providing an ideal location for natural harbours and ports while making it the busiest Ocean from the point of view of Commerce.
- **Indian Ocean**
 - It is the only ocean named after a country, that is, India.
 - Being almost triangular in shape, it is bound by Asia in the north, Africa in the West and Australia in the East.
 - The Southern Ocean encircles the continent of Antarctica and extends northward to 60 degrees south latitude.

Arctic Ocean

- Located within the Arctic Circle, it is surrounded the North Pole and is connected with the Pacific Ocean by a narrow stretch of shallow water known as *Bering strait*.
- It is bound by northern coasts of North America and Eurasia.

Atmosphere

- The earth is surrounded by a layer of gas called the atmosphere.
- It provides us with the air we breathe and protects us from the harmful effects of sun's rays.
- The atmosphere extends up to a height of about 1,600 kilometres.
- The atmosphere is divided into five layers based on composition, temperature and other properties. These layers starting from earth's surface are called the troposphere, the stratosphere, the mesosphere, the thermosphere and the exosphere.
- The atmosphere is composed mainly of nitrogen and oxygen, which make up about 99 percent of clean, dry air.
- Nitrogen 78 percent, oxygen 21 percent and other gases like carbon dioxide, argon and others comprise 1 per cent by volume.
- Oxygen is the breath of life while nitrogen helps in the growth of living organisms; meanwhile Carbon dioxide, though present in minute amount, is important as it absorbs heat radiated by the earth, thereby keeping the planet warm.
- It is also essential for the growth of plants.
- The density of the atmosphere varies with height, maximum being at the sea level, and decreases rapidly as we go up.
- Oxygen cylinders have to be carried to be able to breathe at high altitudes.
- The temperature also decreases as we go upwards.
- The atmosphere exerts pressure on the earth; however this varies from place to place, with some areas experiencing high pressure and some low.
- Air moves from high pressure to low pressure.
- Moving air is known as wind.

Biosphere –The Domain of Life

The biosphere is the narrow zone of contact between the land, water and air.

- All the living organisms including humans are linked to each other and to the biosphere for survival.
- The organisms in the biosphere may broadly be divided into the plant kingdom and the animal kingdom.
- The three domains of the earth interact with each other and affect each other in some way or the other. For example, cutting of forests for fulfilling our needs of wood, or clearing land for agriculture may lead to fast removal of soil from slopes.
- Similarly earth's surface may be changed due to natural calamities like earthquakes. For example in the 2004

Tsunami, parts of Andaman & Nicobar islands were submerged under water.

- Emission from industries, thermal power plants and vehicles, pollute the air, while discharge of waste material into lakes and rivers makes the water unsuitable for human use, also damaging other forms of life.
- Carbon dioxide (CO₂) is an important constituent of air, but its increase in the amount leads to increase in global temperatures, termed as global warming.
- There is thus, a need to limit the use of resources of the earth to maintain the balance of nature between the domains of the lithosphere, the atmosphere and the hydrosphere.

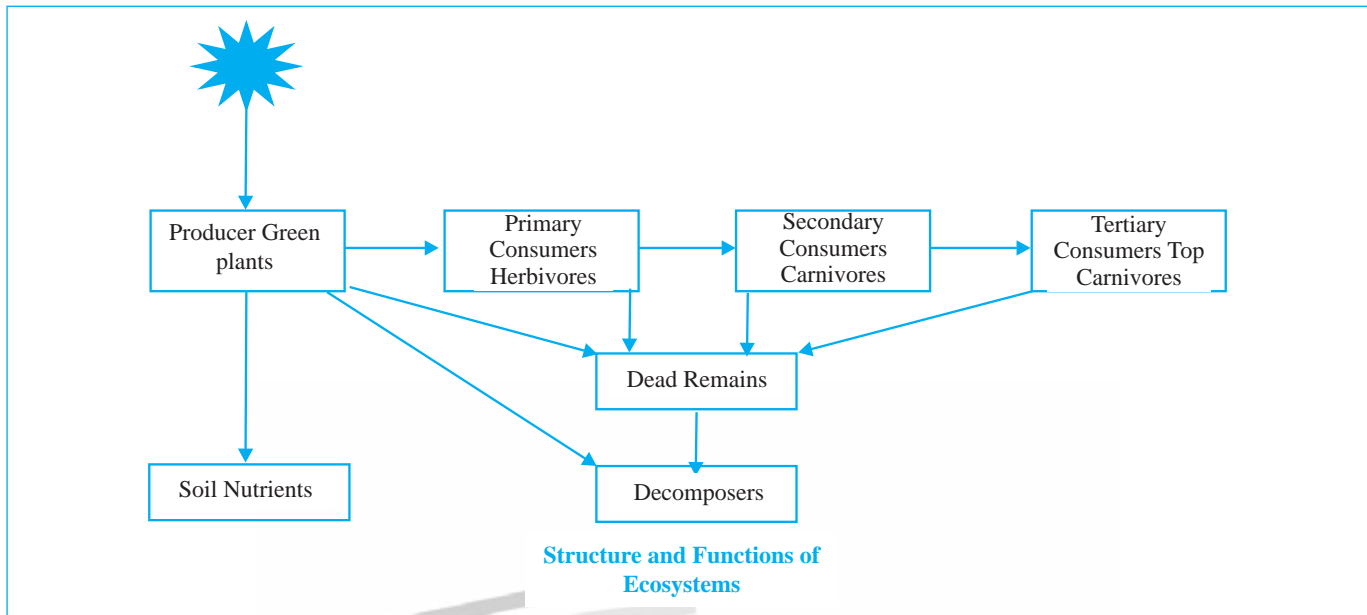
Ecology

- The term ecology is derived from the Greek word 'oikos' meaning 'house', combined with the word 'logy' meaning the 'science of' or 'the study of'.
- Literally, ecology is the study of the earth as a 'household', of plants, human beings, animals and micro-organisms.
- They all live together as interdependent components.
- A German zoologist Ernst Haeckel, who used the term as 'oekologie' in 1869, became the first person to use the term 'ecology'.
- The study of interactions between life forms (biotic) and the physical environment (abiotic) is the science of ecology.
- Hence, ecology can be defined as a scientific study of the interactions of organisms with their physical environment and with each other.
- The environment is made up of abiotic and biotic components.

Types of Ecosystems

- Ecosystems are of two major types: terrestrial and aquatic.
- Terrestrial ecosystem can be further classified into 'biomes'.
- A biome is a plant and animal community that covers a large geographical area.
- The boundaries of different biomes on land are determined mainly by climate. Therefore, a biome can be defined as the total assemblage of plant and animal species interacting within specific conditions.
- These include rainfall, temperature, humidity and soil conditions.
- Some of the major biomes of the world are: forest, grassland, desert and tundra biomes.
- Aquatic ecosystems can be classed as marine and freshwater ecosystems.
- Marine ecosystem includes the oceans, estuaries and coral reefs.
- Freshwater ecosystem includes lakes, ponds, streams, marshes and bogs.

Structure and Functions of Ecosystems



- The structure of an ecosystem involves a description of the available plant and animal species.
- From a structural point of view, all ecosystems consist of abiotic and biotic factors.

Types of Biomes

There are five major biomes — forest, desert, grassland, aquatic and altitudinal biomes.

Biomes	Subtypes	Regions	Climatic Characteristics	Soil	Flora and Fauna
Forest	A. Tropical 1. Equatorial 2. Deciduous B. Temperate C. Boreal	A1. 10° N-S A2. 10°-25° N-S B. Eastern North America, N.E. Asia, Western and Central Europe C. Broad belt of Eurasia and North America (parts of Siberia, Alaska, Canada and Scandinavia)	A1. Temp. 20-25°C, evenly distributed. A2. Temp. 25-30°C, Rainfall, ave. ann. 1,000mm, seasonal B. Temp. 20-30° C, Rainfall evenly distributed 750-1,500mm, Welldefined seasons and distinct winter. C. Short moist moderately warm summers and long cold dry winter; very low temperatures. Precipitation mostly snowfall 400 -1,000mm	A1. Acidic, poor in nutrients A2. Rich in nutrients B. Fertile, en-riched with decaying litter C. Acidic and poor in nutrients, thin soil cover	A1. Multi-layered canopy tall and large trees A2. Less dense, trees of medium height; many varieties coexist. Insects, bats, birds and mammals are common species in both B. Moderately dense broad leaved trees. With less diversity of plant species. Oak, Beach, Maple etc. are some common species. Squirrels, rabbits, skunks, birds, black bears, mountain lions etc. C. Evergreen conifers like pine, fur and spruce etc. Wood peckers, hawks, bears, wolves, deer, hares and bats are common animals
Desert	A. Hot and Dry desert B. Semi arid desert C. Coastal desert D. Cold desert	A. Sahara, Kalahari, Marust-hali, Rub-el-Khali B. Marginal areas of hot deserts C. Atacama D. Tundra climatic regions	A. Temp. 20 - 45°C. B. 21 - 38°C. C. 15 - 35°C. D. 2 - 25°C A-D Rainfall is less than 50 mm	Rich in nutrients with little or no organic matter	A-C. Scanty vegetation; few large mammals, insects, reptiles and birds D. Rabbits, rats, antelopes and ground squirrels
Grassland	A. Tropical Savannah B. Temperate Steppe	A. Large areas of Africa, Australia, South America and India B. Parts of Eurasia and North America	A. Warm hot climates, Rainfall 500-1,250 mm B. Hot summers and cold winter. Rainfall 500 - 900 mm	A. Porous with thin layer of humus. B. Thin flocculated soil, rich in bases	A. Grasses; trees and large shrubs absent; giraffes zebras, buffalos, leopards, hyenas, elephants, mice, moles, snakes and worms etc., are common animals B. Grasses; occasional trees such as cottonwoods, oaks and willows; gazelles, zebras, rhinoceros, wild horses, lions, varieties of birds, worms, snakes etc., are common animals

Aquatic	A. Freshwater B. Marine	A. Lakes, streams, rivers and wetlands B. Oceans, coral reefs, lagoons and estuaries	A-B Temperatures vary widely with cooler air temperatures and high humidity	A. Water, swamps and marshes B. Water, tidal swamps and marshes	Algal and other aquatic and marine plant communities with varieties of water dwelling animals
Altitudinal	—	Slopes of high mountain ranges like the Himalayas, the Andes and the Rockies	Temperature and precipitation vary depending upon latitudinal zone	Regolith over slopes	Deciduous to Tundra vegetation varying according to altitude.

5. Africa: Land, Climate, Resources and their Utilization

- Africa stands next only to Asia in size. it occupies about 20 percent of land area of the earth. But its population is only about three-fifths of that of India.



Natural Resources and their Utilization

- The bounties provided by nature to any area are known as Natural Resources. They include things such as soil, water, minerals, forests and animals. Africa is rich in several natural resources.

Soil

- Soil is one of the most important natural resources. It supports different kinds of plants and trees. Soil is formed very slowly. It takes hundreds of years to form a one centimetre thick layer of soil.
- In Africa, only 10 percent of the soil is suitable for crops. It includes the volcanic soils of east Africa, the alluvial soils of the Nile Valley.

Water

- A large part of Africa is dry. However, the remaining parts get good rainfall. There are many rivers which carry plentiful rain-water through out the year.
- The Kariba dam on the Zambezi is the largest producer of water-power in Africa. The Aswan dam on the Nile in Egypt is another very big dam.

Minerals

- More than 95 percent of the world's diamond production comes from Africa.
- Africa has large-reserves of cobalt, manganese, chromium, copper, tin, bauxite and uranium. But there is not much coal and iron ore in this continent. This has hampered the production of steel, which is so important for modern industrial growth.

Forests

- Forests and trees are very important sources of wealth. Besides timber, many other products are obtained from them. Large parts of central Africa are covered with thick forests.
- Rubber trees grow wild in these forests, though they are native to South America. However, they are now being planted properly. Africa exports rubber in large quantities. Cacao and kola are trees which provide us beverages. Cocoa is obtained from the cacao trees. Like coffee, it is a very popular drink and is also used for making chocolate.

- Africa has a large variety of fruit trees. In the tropical region, banana, pineapple, papaya, jackfruit and mango are common. Citrus fruits such as lemon, orange and lime are also grown here. The Mediterranean regions grow olives, apples, peaches and grapes. East Africa produces cashew nuts. Zanzibar and Pemba islands are the biggest producers and exporters of cloves in the world.

Climatic Conditions

- The highest temperature in the world has been recorded at Al-Aziziyah (Libya) as 58°C.
- The belt lying along the equator on both sides has a hot, wet climate throughout the year. It rains almost daily and there is only one season, namely, the hot-wet summer.
- This is known as the equatorial type of climate. Because of the abundance of heat and moisture, most of the region is covered with thick forests called Tropical Rain-forests. It has a varied wildlife.

Crops

- Different kinds of crops are grown here. Some crops are grown by the people for food. These are called Food Crops. There are other crops which are grown mainly for manufacturing industries. These are known as Cash Crops.
- Most of the food crops of Africa are root crops such as yam and cassava. With the exception of maize, cereals are not very important. Wheat, rice and millets likes or ghum are grown only in small quantities.
- Palm oil and ground nut are produced mainly in West Africa. Cocoa and coffee from Africa constitute about 60 and 24 percent of world trade respectively.

The People

- About 70 percent of the people are the Negroid. The rest of them have come from other parts such as Europe and Asia.

Transport

- Africa does not have enough means of transport. The extensive deserts and thick forests hinder the construction of roads and railways. Rivers are useful only for local transportation. The presence of waterfalls makes them largely unnavigable. Railways and roads are not well developed.

Political Science & Political System: Scope, Concept & Relationship

1. Political Science: Its Meaning and Scope

Meaning and Significance

- Political Science deals with processes of conflict and integration in society and with the interplay and organisation of power.
- It is all pervasive and omnipresent in the activities of individuals, groups and society at large and affects all the individuals in society.
- Political Science is a recognised social science discipline. The subject is associated with great masters and philosophers in the intellectual history Plato, Aristotle, Socrates, Kautilya, Machiavelli, Rousseau, Marx and Mahatma Gandhi.
- It has developed over the centuries adding new concepts, theories, and methods. The study of Political Science is training for students in the academic discipline.
- Political Science also tells us about the institutions and process of government. It deals with the constitution and with the powers and functions of different governmental agencies. In a more specific sense, it deals with institutions of a state government which have direct control over and impact on society.
- The governmental organisation is different from the other social organisations in the sense that no individual in modern society is outside its purview.
- A political system has to function under different kinds of pressures and compulsions, with the result that there are certain decisions that are not possible. An understanding of the process of politics helps in better understanding of the process of government. It results in a balanced understanding of the political system.

Political System

- A political system is a network of institutions and activities and net inter relationship.
- Whereas the traditional political concept of state focuses on the legal formal and institutional aspect of politics, the concept of political system perceives politics in a broader setting, i.e., the environment and explains political phenomenon in terms of actual operationalisation of political institutions.

Nature of Political Science

- Political Science is concerned with a systematic study of politics in human societies.
- To understand the nature and scope of the subject matter of 'politics', it will be useful to see the linkages with human societies.
- What is important about human societies is the fact that they always progress towards a higher level of development and are influenced by the culture of the people.
- Human beings are never satisfied with having just enough of life; they have always sought to produce more and have some 'surplus' at hand for future use. They have found in the process of their historical evolution that the secret lies in cooperative organisation of activities.
- Such organisation of people is voluntary most of the time. As the individuals realise that economic and other activities can be performed better with the cooperation of others and in groups, they join together.

Scope

- Political Science, is defined as "the science of the state" and was advocated by R.G. Gettel. The detailed study of the different stages of the evolution of state, the functions that it should perform and the norms that it should follow constituted the subject matter for the study in Political Science.
- Since the state performs its functions through the agency of the government. Stephan Leacock said that "Political Science deals with government".
- State and the government constitute the subject matter of the study in Political Science. The emphasis is on the institutions and their powers and functions.
- Political institutions function differently in different contexts. Definition of Political Science that stops at analysing the 'institution' and structures do not tell us the whole story.
- It is also important to analyse the actual working of the institutions. The 'process' of working of institutions, instead of the 'structure' should be the proper focus of analysis.
- The word 'political' is specifically defined in terms of activities rather than institutions.
- According to this approach the disagreements, conflicts, and competition along with cooperation integration and settlement of conflicts are the key processes in the game of politics.

Political Science and Its Relationship with Other Social Sciences

- A wider understanding of the subject does not accept that politics can be restricted only to certain institutions.
- In fact, a sector of all social activities involves conflict and struggle for power. Thus, we hear terms like ‘politics of religion’, ‘politics of clubs’, ‘politics in sports’, and even ‘politics in families’.

Relationship with History

- The scope of History is wider than that of Political Science in the sense that it is concerned with different events like social, economic, religious, cultural, and political. History is mainly associated with the study of the past.
- Contemporary problems faced by a society are also studied by historians, though the emphasis is on finding explanations in the past.
- A Political Scientist depends upon historical analysis to have a fuller view of socio-economic conditions under which certain institutions emerge. Institutions take shape in response to certain contemporary problems.
- A study of our Freedom Movement for example is useful in analysing many of the processes and institutions of contemporary India.

Relationship with Economics

- Economics is concerned with the study of production and distribution of wealth in society.
- Material resources are important to the individuals as well as for the society. It is but stating the obvious that such economic relationships and institutions affect the political processes. Looking after the economic aspects is a basic function of the state and the government because economic development is important for the well being of the society. Any agency that is concerned with managing the society cannot but make it one of its central activities.
- Contemporary governments of different types give importance to their respective economic policies. Planning and monitoring of economic development is one of the important concerns of governments.
- A Political Scientist has to take into account the interplay of economic forces in society. Political activities certainly are influenced by the economic factors.
- The nature of politics and of the political system is similarly important for an economist. Many of the decisions regarding economy are, in fact ‘political’. In such matters, political considerations play an important role.

Relationship with Ethics

- Ethics is concerned mainly with questions regarding the principles of good life for individuals. Good life is justified on grounds of morality and prescribes what ‘ends’ ought to be sought and through what ‘means’.
- Political Science is concerned with the study of the realisation of common good of the society as a whole.
- It was in this context that Jeremy Bentham and other utilitarians talked about “the greatest good of the greatest number” as an important aspect of politics. What institutions should be devised and how should they be organised and operated so that a good society comes into being.
- The reciprocal relationship between ethics and politics is important in this context. Political organisation is ultimately judged in terms of the extent to which it ensures good life for individuals.
- Political system works in this direction by providing general conditions for good life. The preconditions of ‘good’ life and ‘good’ society are concerned with different institutions, organisations and relationships in society.

Relationship with Sociology

- Sociology studies society in terms of many levels of its working. It studies how institutions are related with one another and how such relationships are different in different types of societies.
- A sociologist studies the internal organisation of society and the way in which it is different from other societies.
- Institutions are studied in terms of functions that they perform and those that they should perform.
 - There are many specific aspects of human societies that are studied in sociology, e.g. culture, race, caste and religion.
 - These aspects of human society are analysed by sociologists both in terms of their importance for human behaviour and their place in society.
 - At the different levels of these studies, patterns of dominance of groups, institutions and of individuals, come as natural points of enquiry.
 - Dominance is concerned with power, which is studied at the different levels of the sociological enquiry that we have discussed above. i.e. the institutions social relationships, and individuals.
 - Institutions of state and government are found in almost all societies and any study of society has to take these institutions into account.
 - On the other hand, political institutions exist within society and they have to function in the social context.

The Social Science Perspective

- Different subjects, like history, economics, sociology, ethics and political science after all deal with human societies and are related with one another.

- At the ultimate level of social phenomena and social problems, these distinctions intermingle with one another.
- In actual analysis the distinctions between subjects often sound artificial.
- Expanding areas of studies in different subjects has led to inter sectionality. Thus, we find specialists in social and economic history, political economy and political sociology.
- These subjects that cut across different disciplines use their approaches to study a real human problem that cannot be studied in a comprehensive manner if it is studied only from one perspective.
- A comprehensive study of a problem will require perspectives from different subjects.
- Modern scientific methods have helped this process of establishing a dialogue among different disciplines.

2. Concept of State and its Elements

Introduction

- State represents a stage of social organisation with some amount of order and stability in society.
- When an activity is taken up jointly by a group of people, there is a need for some collective understanding. Though this understanding is shared by the groups, the extent of this understanding is not uniform.

State

- State for long has been the central point of enquiry in Political Science. In ancient India, the *Saptanga Theory of State* elaborated in Kautilya's *Arthshastra*, mentions seven elements

– *Swami Amatya, Janpad, Durga, Kosa, Danda and Mitra.*

– *Janapada: population and territory.*

– *Amatya: system of state officialdom, and*

– *Danda: coercive power.*

- In the west, writers like Harold J. Laski and J.W. Garner have referred to four elements of state: population, territory, government and sovereignty. Among the four elements, sovereignty is the central attribute of state.
- Sovereignty is defined as undisputed legal authority. Sovereignty needs to be defined in terms of the territory and the people over whom the sovereign power is exercised. Power is to be used with reference to some region and people.
- State exercises sovereign power over a certain territory.
- Government is that element of state through which the sovereign power is exercised.
- Population was a definite asset for a state in earlier days when physical power was the main source of the production process as well as for the defence of the country.
- But a population disproportionately larger than the resources of a state is certainly a liability.
- Population pressure is one of the most vexing problems faced by many states.
- Besides the size of the population, the functioning of the state is conditioned by the qualities of character and patriotism on the part of its citizens.
- Variations in size, either in terms of territory or of population, do not affect the legal status of a state. Big or small they are recognized as states by citizens within its own territory as well as by other states. So far as legal status is concerned Vatican City and China, both are sovereign states.

Government

- The state has to exercise sovereign power over the territory and the people within its jurisdiction. For doing this it needs an organisation with persons exercising power on its behalf.
- States may organise governments in different ways and there may be different forms of governments, e.g. democratic or non democratic unitary or federal, parliamentary or presidential etc.

Origins of State

There are different theories about the origin of state.

- The Social Contract Theory suggests that the people decided on their own to have the organisation of state. The mutual agreement is known as 'social contract'.
- This theory was authored by the Buddhist text *Digha Nikkaya*, Kautilya's *Arthashastra*, *Shanti Parva* of *Mahabharata* and more popularly by Thomas Hobbes, John Locke and J.J. Rousseau.
- These writers agreed that it was a conscious decision on the part of the people to have a state. Even if contract is not taken as a true event in history, it is more of a symbolic representation of the nature of state. It was thus a repository of power to exercise control on behalf of the society.
- The Evolutionary Theory of the Anthropologists says that state evolved from the family and kinship when they were expanded into tribes.

Concepts of State

While there is a basic agreement that state is essential for stable societies, some theorists are suspicious towards the power of the state.

The three concepts of state that are significant are the Indian the Liberal and the Marxian.

The Indian Concept

- The tradition of the concept of state in Indian political thought is as old as the Vedas, which was elaborated and refined in later texts like the *Ramayana*, *Shanti Parva* of *Mahabharat*, *Manusmriti*, *Arthashastra* and *Sukraniti*.
- Buddhism and Jainism also included discussions on the nature of political organisation. The Indian concept has been rooted deeply in the broad philosophical traditions where the concept of Dharma was the basic principle that

guided politics and political organisations propounded by different theories. Though translated popularly as religion, Dharma has much broader and deeper meanings – law, duty, social order, justice and righteousness.

- *Manusmriti* the earliest text to elaborate the principles of social life propounds decentralisation and welfare activities as the basis of the state organisation.

The Liberal Concept

- The Liberal concept of state regards the state as a necessary and useful institution, which needs to be put under control all the time.
- Its deep suspicions of political power being misused led them to insist on the mechanism of putting conditions and limits to the powers of the state in the form of constitutional checks.
- A state with minimum functions is the ideal of classical liberalism.

- Adam Smith suggested that the state as a minimalist night-watchman was best suited to economic development.

The Marxian Concept

The Marxian analysis of the character of the state is consistent with its basic proposition that institutions in society are but reflections of the prevailing method and mode of production.

- Such economic considerations divide the society into ‘classes’ of people engaged in different kinds of economic activities.
- The nature of this class division is such that it is in conflict with one another. The conflict is basically economic but it is also for dominance of one class over the other.
- Marxist understanding relates state with such ‘class antagonism’. Thus the mode of production and the nature of class contradictions that result from it, determine the character of state.

3. Society, State and Citizenship

Society

- The term society is used for a large number of individuals, institution norms and relationships in an all encompassing manner. It includes all the individuals and all the relationships.
- At another level, the term ‘society’ is used to refer to a group of individuals who organise themselves for a specific purpose. We have heard terms like Milk Cooperative Society, Society for the Prevention of Blindness, Music Society, and so on.
- The term society has a partial meaning here, because they refer only to part of the whole society, its activities, and relationships. Societies can be all inclusive as well as partial.

State

- Anthropological literature provides examples of societies that do not have organised states e.g., the Nuer in southern Sudan the Tallensi in northern territory of Gold Coast, the Anuak in Anglo-Egyptian Sudan, the Kikuyu, the Bedouin and Swat Pathans on the borders of Pakistan and Afghanistan.
- The evidence shows that these communities do have an organised authority system, but a formal organised state is absent.
- Conversely, state without a society is inconceivable. It is in this sense that thinkers claim that society is prior to state.
- There are two important attributes of state, i.e., **sovereignty and territory** that are not necessarily applicable to society.

State and Government

- State represents a comprehensive set of relationships and institutions, of which the government is an important aspect. State includes characteristics like territory and population over which it exercises sovereignty.
- The government represents such visible, tangible concrete aspects of the state. It is through its government that the

state becomes effective. Government is an apparatus for the functioning of state. It is organised into public offices with constitutional and legal powers and its working is bound by certain procedures.

State and Nation

- The idea of nation and the process of nationalism emphasises the sense of solidarity, and resemblances on various grounds: **language, religion, race, customs, myths, value systems and culture.**
- Emergence of a nation is helped also by sharing of an ideology. There may be a consciousness or an urge in a group to strengthen the common ties and the common identity.

Nation and Nation-Building

- The idea of ‘one nation-one state’ was emphasised for long. But many states are in fact multi-national and multi-cultural. Switzerland and India are well-known example of such multiple and multi-layered diversities along several dimensions – culture, religion, language and regional history.
- Nations provide a system of values and a cultural framework for the functioning of state.

State and Citizen

- The people constitute one of the elements of state. It is in its relationship with the people that state’s power and the laws become relevant.
- Everyone living within the territory of a state is not its citizen. Citizenship is acquired as per rules. Natural citizenship, for example, is granted to all those whose parents already have such citizenship. There are some states which recognise those born within its territory as its citizens even when the parents are not its citizens.

Justiciable and Non-justiciable Rights

- There are some rights where the court of law intervenes in case they are denied to the citizens. (e.g. Fundamental Rights in India).
- There may be other rights that represent the ideals that the state may keep in view while making laws and taking decisions, but which cannot be claimed by the citizens in court of law. (e.g. rights included in the Directive Principles

of State Policy in the Indian Constitution).

- The two kinds of rights are called **justiciable** and **non-justiciable** rights respectively.
- The Fundamental Rights of citizens are justiciable, while Directive Principles are in the form of guidelines that the state should attempt to implement.
- Which rights are guaranteed by a state and to what extent, depend upon many factors.

4. Government: Forms and Classification

What is Government?

- Every country needs a government to make decisions and get things done. These can be decisions about where to build roads and schools, or how to reduce the price of onions when they get too expensive or ways to increase the supply of electricity.

Forms of Governments and Their Classification

- Any scheme of classification of governments must decide upon the basis of classification. Aristotle preferred a combination of two criteria useful to classify the constitutions.
- The first basis was the location of sovereign power and the number of people who hold power. Thus, he distinguished between monarchy, aristocracy and polity, where one, few and many persons hold power in the three forms respectively.
- The second criterion pertaining to the qualitative norms for evaluating institutions refers to the question as to whose interest the government works for.

- The political party or a coalition of parties that generally has the majority in the legislature controls the executive.
- The Prime Minister and the Cabinet in Great Britain are good examples of this form of government. Among the new countries India, Ghana, Egypt and Tanzania have parliamentary form of government.
- In the presidential form, on the other hand the executive and the legislature are separate. The two institutions may or may not be controlled by the same party. U.S.A Chile and Brazil are examples of this form.
- There may still be other forms that combine the characteristics of both. India and France have devised a system where both the institutions of the President and the Prime Minister are in existence.
- The distinction between the federal and unitary forms of government refers to the organisation of centre of power in terms of the territorial coverage.
- When the entire territory is governed from one centre of power, it is called a unitary government. Great Britain, China and Chile are examples of such a government.
- In a federal form of government, power is divided into smaller segments, each having its own government, in addition to the central authority.
- Thus there are two levels of governments in a federation—one for the entire territory and the second for the smaller territorial segments.
- Comparison between governmental forms helps us to understand the basis of their power. This in turn helps in understanding their powers and functions as also their relation with other institutions of government.
- In India, we are familiar with the Union Government and the governments in the states. There are many more examples of this form of government Setup like U.S.A, Switzerland, Nigeria, Brazil and Malaysia.

Classification of Government

S. No.	Basis of Classification	First Type	Second Type
1.	Nature of exercise of power (in terms of importance given to individual rights and liberty)	Democratic	Authoritarian
2.	Nature of executive agency	Parliamentary	Presidential
3.	Distribution of power (territorial)	Unitary	Federal
4.	Nature of Constitution	Flexible Unwritten	Rigid Written

Types of Government

- Democratic and non-democratic or authoritarian governments are classified on the basis of popular accountability as an important criterion.
- The distinction between the parliamentary and the presidential forms of government refers to the relation between the legislature and the executive.
- The executive in the parliamentary form is based on the party support in the legislature.

Monarchy

- In monarchy, the monarch (king or queen) has the power to make decisions and run the government.
- The monarch may have a small group of people to discuss matters with, but the final decision-making power remains with the monarch.
- Unlike democracy, kings and queens do not have to explain their actions or defend the decisions they take.

Characteristics of Democratic Government

- The democratic form of government ensures basic principles of liberty and equality. The government is based on the general consent of the people. This is known as public opinion. To achieve such consent and also to make it effective government is elected for a specified period of time. General elections are held after a fixed term, e.g., after

every five years in U.K. and India. Such elections are held on the principle of Universal Adult Franchise. In U.S.A, the Presidential elections are held at an interval of four years.

- Vote of every individual carries equal weight. Free and fair elections are the basic of the formation of democratic government. Representatives who are thus elected make laws for the country. Election of representatives for specified period makes them directly responsible for the people.

5. Comparative Analysis of Different forms of Government

Introduction

The three main functions of a government are the enactment of laws, execution of laws and interpretation of laws. These functions are assigned respectively to the legislature, the executive and the judiciary.

Parliamentary and Presidential Forms of Government

- The distinction between the Parliamentary and the Presidential forms of government is primarily based on the relationship between the executive and the legislature and the extent to which they are dependent or independent to each other.
- Under the presidential system, the legislature and the executive are separate while in the parliamentary form, the executive emerges from the legislature.
- The parliamentary system is characterised by fusion of powers and the presidential system by separation of powers.
- Another distinguishing feature of the two forms is the location of the executive power.
- In a parliamentary system, the head of the government is different from the head of the state. The head of the state personifies the nation and is the fountain of all executive authority.
- Head of government exercises executive power in the name of the head of state.
- The head of the state has different names in different states. In some states like Britain, Belgium and Denmark, the King or the queen is the head of the state, who occupies position on the basis of heredity.
- In some other States like India and France, the President is the head of the state and is elected to the position. In parliamentary systems of government such as Britain and India, the Prime Minister is the head of the government.
- Great Britain and U.S.A. are the classic examples of the pure types of the parliamentary and the presidential system, respectively.

Parliamentary System

- In a parliamentary system, legislature is supreme governing body. The executive (i.e., the Prime Minister, the Cabinet and the Council of Ministers) derives its power from the legislature.
- The executive is therefore responsible to the people's representatives in the legislature.
- The legislature is constituted mostly of representatives of the people. The members in the legislature belonging to various political parties may be so distributed that some party has a clear majority. In such a case, the leader of that party becomes the Prime Minister.

- But legislative seats may be distributed in a way that no party enjoys clear majority. In India, this is often referred to as 'Hung Parliament'.
- In such a situation, there is an effort to bring a number of parties together in a coalition to constitute a majority.
- The leader of one of these parties becomes the Prime Minister. The Prime Minister is the head of the executive branch of this government.
- A Council of Ministers is formed by the Prime Minister from among the members of legislature belonging to his/her party or to the coalition of parties.
- If needed, the Prime Minister may induct ministers even from outside the legislature. In India, such ministers have to become members of either house of legislature within six months. The Council of Ministers includes a smaller group named the Cabinet.
- In India, besides the Cabinet Ministers there are Ministers of State and Deputy Ministers and at times Parliamentary Secretaries also.
- The Cabinet consists of more important members and the Prime Minister consults them regularly. They hold independent charge of important portfolios of government. Ministers of State look after a government department along with a Cabinet Minister. In some cases, they are made in charge of some departments independently.
- Deputy Ministers are attached either to the Cabinet Minister or Minister of State to assist them in the discharge of their functions.
- For important subjects like finance, two or three Deputy Ministers may be attached to the Finance Minister. A Parliamentary Secretary has a limited function of assisting a Minister in handling of affairs of the concerned department in the legislature.
- Article 74(1) of the Indian Constitution provides for the appointment of the Prime Minister by the President of India and for the appointment of the Council of Ministers under Article 75(1).

Presidential System

- This form of government is based on the principle of separation of powers between the legislature and the executive. Taking the example of U.S.A., the Presidential election is separate from that of the legislature, namely the Congress. The two houses of the congress, i.e., the House of Representatives and the Senate, are elected on different electoral principles and for different periods of time.

- The President is elected by the people for a fixed term of four years and derives his legitimacy directly. He is not a member of the legislature.
- The President and the Congress function independently. The legislature does not have any control over the presidential functions and cannot remove him from his position, except through the extreme step of impeachment.
- The President addresses both houses of legislature and may send messages if he so desires.
- Under no circumstances can he/she dissolve the legislature.
- The President of U.S.A. selects a group of advisers which forms his Cabinet. But members of the Cabinet do not hold legislative seats. In fact, if a legislator is appointed to a Cabinet position, he/she has to resign the legislative seat.
- The members of the Cabinet have no direct accountability to the legislature. They are responsible to the President who is both the head of the government and the head of the state.

Combination of Parliamentary and Presidential Forms: India and France

- There are countries which have both the positions of the elected President and the Prime Minister.
- India and France are two such examples, whereas the Constitution of India makes the Prime Minister more powerful. In France on the other hand, the position of the President is more important.
- Based on the British model, the Indian system of government has the Head of State in the position of the President. He/she has the power to call the leader of the majority or a coalition of parties having majority in the legislature, to form the government.
- But the President is elected indirectly by the elected members of the Lok Sabha, the Rajya Sabha and the State Legislative Assemblies. The President of India remains a constitutional Head of the State, but the real powers are in the hands of the Prime Ministers.
- The French system follows a different pattern. It faced chronic instability, hence a significant change was introduced in 1962 providing for direct election of the President.
- He/she nominates the Prime Minister who in turn constitutes the Council of Ministers. The ministers cannot hold membership of legislature—a feature that we noted in the Presidential system in U.S.A. In case a member of parliament is appointed a minister, he has to resign from the legislature.
- The President presides over the meetings of the Council of Ministers; he is the real source of governmental authority.
- Such systems have to strike a balance between the Head of the State and the Head of the Government, i.e., the President and Prime Minister.
- The constitutional position and powers of the two institutions is determined by the political experience of countries.

Parliamentary and Presidential Forms: Strengths and Weaknesses

Comparative Analysis

- The parliamentary system ensures better coordination between the legislative and the executive branches of government.
- The leader of the party or parties which controls the majority of seats in the legislature is the Prime Minister and leads the executive.
- The legislative process is in fact influenced by the executive. While it ensures smooth working of the two institutions, it results into concentration of the legislative and executive powers.
- Under the system of separation of powers in the presidential system, the two institutions function separately and act as mechanisms of control over one another.
- Such a system may create situations of conflict between the legislature and the President.
- In parliamentary system, collective responsibility ensures a system where the power and responsibility are shared by a group of ministers with accountability to the legislature.
- In the presidential system, the executive power resides in one individual with no direct link with the legislature. There is greater possibility of a presidential system turning into authoritarian system.
- The Prime Minister, on the other hand, is under constant democratic pressure from different directions. As the leader of the majority party in the legislature, he/she has to keep an eye on the legislative institutions. In coalition governments, maintaining the majority in the legislature itself is not always easy.
- The Prime Minister is the leader of his/her political party and the support of the other parties is also important. The Prime Minister heads the Council of Ministers and maintaining coherence in the ministry is essential.
- Members of the Council, i.e., the Ministers, are usually important leaders of their own political party and they must feel satisfied and also be ready to accept the leadership of the Prime Minister. Constituting and retaining the Council of Ministers requires great deal of political skill.
- Against this aspect, the role of the Prime Minister is much more complex in a coalition government. With all these pressures from different directions, the Prime Minister has to operate within a democratic framework.
- Decisions are quicker in presidential system, as one person alone has to take the decision and he is responsible for it. In a parliamentary system, power lies in the office of the Prime Minister and the Council of Ministers which is finally responsible to the legislature.
- So the process of decision making is in the hands of many persons and institutions. Decision making is, in a way, dispersed and is also time consuming.
- The executive under both the systems is elected to the office for a specified period.

- Election in Great Britain and in India are normally held every five years, while the American President has a four-year term.
- There may well be situations when a change of leadership becomes necessary within that period. There may be a valid political reason for such a change.
- The parliamentary system permits such change of leadership within the usual course of deciding the majority in the legislature.
- If a government loses majority in the legislature, another party or a group of parties may prove that it has majority and elect another Prime Minister.
- It is also possible that the party that holds majority in the legislature decides to change the Prime Minister – this may be caused by different kinds of pressures.
- The presidential form does not allow such a smooth change of leadership. The Constitution does provide for impeachment, but that is an extreme step and requires elaborate and often difficult procedure. Leadership in a presidential system cannot be changed in the middle of a term in the normal course.

Unitary and Federal Forms of Government

- A unitary form of the government may also have regional units but their authority is subordinate to the central government. A system over where neither the central government nor the regional units are subordinate but coordinates is called a federation.
- There is a third system known as confederation in which the central government is subordinate to the regional governments.
- The distinction between the unitary and the federal forms primarily is based on the distribution of governmental power in terms of territorial jurisdiction.
- The unitary form of government has been adopted in many states and it also an older form of government. The federal form is comparatively new which became a popular form of

government in the last quarter of eighteenth century. U.S.A. was the first formal federation.

- Federations are fewer in number- out of more than 188 members of the UN, about two dozens adopted federal set up. The federal arrangement presents new experiments in organising government in a diverse country.

Unitary Form vs Federal Form

- There are two levels of governments in the federal system — one at the central level and another at the level of the regional units. The later are not subordinate to the former; both derive their powers from the same source that is the Constitution which is written and is the Supreme law of the land.
- Demarcation of power is between the centre and the units enumerated in the Constitution.
- Methodology of demarcation of power between the two levels differs from federation of federation.
- The U.S. Constitution, for example, clearly gives more importance to the units (i.e., the States). Eg., the Constitution of Canada provides for a stronger federal (i.e., the central) government.
- The Indian Constitution divides legislative powers between the centre and the States enumerated in the three lists: the Union List, the State List and the Concurrent List.
- The first two lists include subjects on which the central legislature and those at the state levels, respectively can make laws.
- Both the legislatures have concurrent legislative powers on subjects enumerated in the Concurrent List. In spite of such demarcation of legislative powers, some other provisions of Indian Constitution make the center more powerful.
- Different federations thus, provide for the distribution of powers between the centre and the units, but the balance between the two differs. Such balance depends upon the historical process that proceeded the emergence of these federations.

6. Government and Its Organs

Introduction

- The state must exercise its sovereignty over its territory and the people living in it. While performing its functions the state also keeps in view the well being, as well as law and order in society to achieve progress in different fields.
- For the smooth functioning of the society, there are certain laws according to which disputes of different kinds are settled. Such laws have to be made in a manner that gives them credibility.
- Laws regulate the functioning of the society and all the individuals must accept. Making laws, their effective implementation and setting disputes are the three basic functions that the state performs.
- The three functions are performed by the legislature, the executive and the judiciary respectively.

Modern State

- In every modern state there are three well defined organs of government—legislature, executive and judiciary.
- In every organised community there must be some laws. The organ of government which makes the law is known as the legislature.
- The functions of the legislature increase with the growing complexity of modern society and with its consequent demands upon the law-making authority for social good.
- There is another organ of the government which is entrusted with the function of executing the laws. This body is known as the executive.
- It is one of the key organs of the government. Laws need to be implemented properly, otherwise these do not matter in the life of the people.

- The function of the judiciary is to decide upon the application of the existing law in individual cases. Judiciary is, thus, the custodian of justice in society.

The Legislature

- The legislature's main function is making laws of the state. A law gets the authority of the state when it is adopted by the state.
- Other organisations in society also have their laws, rules and procedures, but they are followed only by its members; laws of the state are binding on the society.
- Legislature provides the legitimacy and support to the state.
- The legislature has an important role in the amendment of the constitution. A flexible constitution can be amended by the legislature following the ordinary process of legislation, as is the in U.K.
- The rigid constitutions that are found in federations like U.S.A. the amendment procedure that is followed are difficult.
- The constitution of India follows a middle course where some of its provisions can be amended by simple majority in the legislature (e.g., creation of new states in the Federation abolition of Legislatives Council in state), and for amending others, two-thirds majority is required (e.g. Fundamental Rights and Directive Principles of State Policy).
- The provisions regarding federal issues are in the third category, where a constitutional amendment is to be ratified at least one-half of the state legislatures.
- In all these cases, the final assent of the President of India is essential.
- Legislature evolved out of the consultative bodies that the sovereigns had constituted to advise them in the governance of the country.
- As the democratic movement grew stronger, many sections of the society demanded that their spokesman be included in the consultative bodies.
- The question under debate and discussion was about the criteria for the membership of the consultative bodies.
- Some members are also nominated on the basis of special qualifications. As a directly elected house, the lower house is more important in a democracy. It has more powers in matters, such as financial matters of the state. But the upper house also performs important functions.
- Discussions and deliberations in matters of importance in the second chambers provide occasions for a second look on these matters, where the directly elected lower houses may be swayed by the changing public opinion or matters of momentary concerns.
- In matters of requiring cooler and fuller consideration, the second chambers provide more time for their consideration and discussion.
- The second chambers are supposed to be a house of more experienced and mature persons.
- The second house also provides representation of the special interests of some sections of the society. In federal states there is an added significance of the two houses of legislature. While the lower house represents the country as a whole, the upper house represents the states (units). In the first case the members are elected directly from the constituencies demarcated for this purpose. The states send their representatives to the upper house.
- The Rajya Sabha in India is constituted of members elected indirectly by the members of the State Assemblies. The Union Territories similarly send their representatives. The Rajya Sabha also includes 12 nominated members. The Senate in U.S.A. consists of members elected by the states. Every state elects two members to the Senate.
- Thus the U.S. senate has 100 members from its 50 States.

The Executive

Unicameral and Bicameral Legislature

- Unicameral and Bicameral legislature are two systems of the organisation of the legislature when there is a single house of the legislature, it is called a unicameral system.
- In most of the cases, there are two houses of the legislature popularly known as bicameral system. They are called the Upper House and the Lower House.
- The Lok Sabha in India, the British House of Commons and the House of Representative in U.S.A. are the lower houses. The Upper Houses in the respective countries are Rajya Sabha, the House of Lords and the Senate. The two houses are constituted on the basis of different principles of representation.
- While the lower house is based on the principle of direct election, for the upper house different principles are followed. Thus, the members of the Lok Sabha are elected directly every five years, the Rajya Sabha members are elected indirectly by the legislators in the states.
- The executive is the most visible and the prominent organ of the government. Government officials are seen almost everyday and the people come in their contact on many occasions.
- The people are directly affected by their actions. In fact, they are often referred to as the government.
- The executive is responsible for executing the laws passed by the legislature and for implementing the policies and programmes of the government.
- The executive is the primary organ of the government both in terms of its evolution and importance. Even before the evolution of the well organised legislature and judiciary, the executive performed the functions of the state.
- Laws become effective only when they are executed. Laws do not have much meaning if they are not executed. Laws help the state in attaining its objectives.
- In fact, the effectiveness of the state depends much on the efficiency of its executive branch.
- The performance of the executive functions is understood in terms of its two components of policy making and detailed implementation.
- The Federal Council is elected by the two houses of the legislature (i.e., the National Council and the Council of States) in their joint session.

- But unlike the ministry in the parliamentary system of government the members of the Federal Council cannot be removed from their offices before the completion of its full term of three years.
- The Swiss system combines the characteristics of the residential and the parliamentary systems of government.
- With expansion in the functions of the modern welfare states, social and economic activities covered by the state agencies have increased. The citizens come to contact with the state agencies at many points covering various activities.
- The executive performs some legislative functions also. In a parliamentary system of government, the legislature and the executive are combined to some extent.
- The Prime Minister and the Minister belong to a political party of a coalition of parties that are majority in the legislature. The functioning of the legislator and the legislative business is dominated by these political parties.
- In the presidential system also the influence of political parties on legislature is apparent, though not as directly as in the parliamentary system.
- Occupied with political and other matters the legislature also is not able to devote the required amount of time to the legislative business. Much of the initiative, then is passed on to the executive. The legislative function also includes activities requiring technical skills.
- It is concerned with some of the basic concerns of the state for setting disputes, application of laws to maintain law and order in society and to ensure justice to the people.
- Conflicts of different types at several levels in human societies and settling them amicably are the purpose of the political process. Among various means to achieve this, the judicial process is the foremost to settle disputes according to the laws of the state.
- In the absence of the law of state, the society is likely to move towards the state of nature as described by Hobbes. The laws are the basis for bringing order in society by means of the judiciary.
- The judicial process helps the process of legitimacy of the state. A belief that the state has a 'right to rule', that the rule is beneficial of the society and serves the interests of the people go a long way to ensure their voluntary obedience.
- The rule and ruler is just and the people will get justice in the hands of rulers which makes them accept the state. People resent unjust rule and unjust rulers.
- Justice has a moral connotation while it emphasises on 'what is right' and 'what is wrong' from the point of view the well being of the society. In this sense, it defines the rights and obligations of the individuals.
- Justice in a narrower sense refers to the laws of the state which the individuals must obey. Thus, a distinction is made between 'just' and 'legal'.

Bureaucracy

- A distinction between the political executive and the permanent executive has already been made. Kautilya mentions *Amatya* as one of the seven elements of the state.
- The political executive like the Prime Minister and the Council of Ministers of the President are elected for a specified period. In India their term of office is five years while the President of U.S.A. is elected for four years.
- After the completion of their term, there is a change in the political executive. Such changes may take place even earlier, for example when there is a change in the party position in the legislature bringing of power another Prime Minister and Ministers.
- Often members from different political parties are elected in successive elections. But every time there is a change in government, the policies of the state and its functions need not necessary be changed.
- Also, during the period when the new executive is in the process of being instituted, the government has to continue its basic functions. The permanent executive or the bureaucracy provides continuity to the government.
- The change of government is sometimes an occasion for disturbances in the country, e.g. during the *coup d'etat* in certain countries.

The Judiciary

- The Judiciary is the third branch of government along with the legislature and the executive.
- The judiciary is mainly concerned with the latter, though broader considerations of justice are ever present. The law courts have to keep in view standards of 'fairness' and 'reasonableness' while applying the laws to individual cases.
- Judiciary perform many functions in the state. It settles disputes between individuals, between the individuals and groups, between the individuals and the state. While doing so it selects the law that is appropriate of the individual case.
- The Supreme Court of India has two types of jurisdictions original and appellate. Cases that can be heard by a Supreme Court directly are under its original jurisdiction e.g. disputes between the states and enforcement of Fundamental Rights.
- The appellate jurisdiction refers to cases on which High Court has given a judgement, but the affected party wants to appeal against that judgement. The appellate jurisdiction applies to three types of cases-Constitutional, civil and criminal.
- It becomes necessary also to interpret the law and advise the state.
- The Supreme Court of India performs advisory function under Article 143 of the Constitution.
- The decision of the Supreme Court of India regarding powers of the parliament to amend the Constitution pointed out that this power is limited the basic structure of the constitution cannot be changed by the Parliament.
- The judgements in the Keshavanand Bharati case (1973) and Minerva Mills case (1980) stressed this limitation.
- The meaning of the basic structure of the Constitution has been elaborated by the Supreme Court since then in several cases that came before it.

7. Legislature : A General Profile

- Legislature is known in various political systems with different names.
- In the names, there is not much uniformity. Still assembly is becoming a growingly popular name for the lower house.

Important Functions of a Legislature

1. Legislation inclusive of (a) law-making (b) amending the constitution (c) approval of the ordinances (d) other miscellaneous functions.
 2. Finance as custodian of national purse
 3. Participation in the election/selection of the executive and the judicial heads
 4. Supervision and control of the action of the executive, although it does not directly participate in executive functions
 5. Performance of judicial functions
 6. Representative role, which implies channelising of demands from below and providing information and explanation from above; and other miscellaneous functions
- The functions of government in every civilised state have extended enormously. The result has been the widening of the sphere of activity of the legislature.
 - But the legislatures are finding it impossible to cope with the increasing pressure of business.
 - So even in advanced countries like England, the legislature delegates a part of its authority to administrative bodies.
 - Still the representative role of the legislature is of pivotal importance. It legitimatises authorisation of governmental policy.

Functions of a Second Chamber—the Three Theories

- The theories have been advanced regarding the functions of a second chamber. A second chamber may have equal power in all matters with the popular house. Such a position is sure to give rise to frequent deadlocks.
- The second view is that it should be subordinate in financial legislation to the lower chamber, but should enjoy equal power in all other matters. In this case also, deadlocks between the two chambers may arise.
- Thirdly, the second chambers may have the limited power of suggesting amendments and recommending modifications of details only.
- According to the third view, a time limit is fixed after which the second chamber must accept any bill passed for a second or third time which it has previously rejected. Such a method of avoiding deadlock is to be found, for example, in the English constitution.

Classification and Composition of Legislative Chambers

- Second chambers may be classified according to the method of composition into hereditary, nominated, partially elective and wholly elective. With the exception of the British House of Lords, all other purely hereditary upper houses have been swept away by the flux of time.
- A nominated second chamber is distinguished from hereditary one by the fact that, while the office of the hereditary member is handed down from father to son, that of nominated member is terminable with death or after a period if the constitution so provides.
- Theoretically it may have equal power with the first chamber, and no Bill may become a law without its consent.
- Though the principle of composition of the second chamber is different in different states, there is substantial agreement concerning the composition of the lower houses.
- In every modern state the right of choosing representatives is extended to a large number of citizens.

Legislative Procedure

- Legislative bodies generally adopt certain rules, regulating their organisation, methods of passing laws and voting taxes and adjournments.
- The procedural rules prevent hasty action, ensure orderly deliberation, and allow effective utilisation of limited time available for discharging the multifarious duties assumed by the legislature.
- There is substantial agreement in procedure followed by the legislative bodies of most of the democratic countries, because they have taken up the model furnished by the British Parliament.
- Thus, in every legislature, we find that bills are first formally introduced in either of the two houses, then discussed by committees and debated on the floor of a house.
- Amendments are proposed and voted, and a final vote is taken on the amending measure.

The Speaker

- Another important variation in the procedure relates to the position of the speaker, the chairman of the lower house of legislature.
- The speaker, of course, everywhere is originally elected by the majority party from amongst itself.
- But once the speaker is elected, he divests himself or party character and becomes a completely impartial moderator of the proceedings.
- This is the British model. But in America, the speaker continues to remain and behave as a party man.

8. Legislature in India

- Parliament is the central legislature of the Indian union. It is a bicameral legislature.
- Thus, the legislature of the Indian Union, also known as Parliament, consists of the President and two houses—Rajya Sabha or Council of States and Lok Sabha or House of the People.

Qualification for Membership of the Parliament

- In order to be chosen a member of either house of Parliament, a person must be a citizen of India.
- He must be not less than 30 years of age in the case of the Rajya Sabha and not less than 25 years of age in the case of the Lok Sabha.
- He/she must be of sound mind and solvent.
- Additional qualification for members may be prescribed by Parliament by law.

Disqualification of Membership

- A person is disqualified to be a member of either house of the Parliament if
 - He/she holds any office of profit under the government of India or the government of any state;
 - He/ she is of unsound mind and stands so declared by a competent court;
 - He/she is an undischarged insolvent;
 - He/she is not a citizen of India or has voluntarily acquired the citizenship of some foreign state; and
 - He/she is disqualified by or under any law made by Parliament.

Salaries and Allowances of Members and Conduct of Business

- Members of either house of the Parliament shall be entitled to receive such salaries and allowances as may from time to time be determined by Parliament by law.
- Every member of either house has to take oath before taking his/her seat. Except some special cases all questions are determined by a majority of votes of members present and voting.
- One-tenth of the total number of members of the house constitutes the quorum. If during a meeting there is no quorum, the house is either adjourned or suspended.

The Rajya Sabha

Composition

- The Rajya Sabha consists of not more than 250 members with 238 members representing the States and the Union Territories and 12 to be nominated by the President to give representation to persons of distinction in the fields of art, science, literature and social sciences.

- The nominated members should be men and women of learning and wide experience such as artists, writers, scientists and social workers.
- The representatives of the Union Territories are elected by the same method by a special electoral college. The Vice President of India is the ex-officio Chairman of the Rajya Sabha.
- The Deputy Chairman is elected from amongst the members of the Rajya Sabha. The Council of States is a permanent body not liable to dissolution but one-third of its members retires every second year. Every member enjoys six year term.

The Lok Sabha

Composition

- The Lok Sabha consists of members directly elected from the territorial constituencies in the states. The number of seats for each state is so allocated that the ratio between the number and population of the state is as far as practicable the same for all states.
- Unless dissolved earlier, the term of the House is five years from the date of its first meeting. The term can be extended by a year during the period of emergency and in no case beyond a period of 6 months after the proclamation of emergency has ceased to operate.
- The maximum strength of House of the People is 550 members. Among these are 530 directly elected on the basis of adult suffrage from territorial constituencies in the states and 20 members represent the union territories who are chosen in such a manner as Parliament may by law provide.
- Every citizen of India who is 18 years of age and also is not otherwise disqualified, has been given the right to vote.

Speaker

- The Lok Sabha elects two of its members to be its speaker and deputy speaker respectively. Both are elected for the life of the Lok Sabha which is normally five years.
- He/she does not vote but can use casting vote in case of a tie. He certifies whether a particular bill is a money bill or not. He presides over the joint sitting of the Lok Sabha and the Rajya Sabha.
- The speaker or the deputy speaker does not preside when a resolution for his/her removal is discussed by the house. He/she however, has the right to speak and participate in the proceedings of the house when such a resolution is being discussed.

Control on executive

- Another important function of Parliament is to control the executive. The Council of Ministers is collectively responsible to the Lok Sabha.

- The members of the Council of Ministers have to answer to questions asked to them in both the Houses of Parliament. In fact the government under a parliamentary system like that of ours can remain in power as long as it is able to command the majority in Parliament.
- Rajya Sabha has every right to be fully informed of all matters connected with the government's activities, though it has no right to pass a vote of no-confidence.
- Parliament of India has the power of removing the President of India through impeachment.
- The judges of the Supreme Court and the High Courts can be removed by the President only, when a request for their removal is made in the form of address adopted by a special majority of both the houses of Parliament.

State Legislature

- The system of government in the states closely follows the pattern of the Union Government.
- The legislature of a state consists of the Governor and one or two houses of legislature, as the case may be.
- Thus, for every state there is a legislature which consists of the Governor and (a) two houses, a Legislative Assembly (*Vidhan Sabha*) and a Legislative Council (*Vidhan Parishad*) in the states Andhra Pradesh, Telangana, Karnataka, Maharashtra, Bihar and Uttar Pradesh; and - one house, a Legislative Assembly in the other states.

Legislative Assembly

Composition

- The Legislative Assembly (*Vidhan Sabha*) of each state is constituted by direct election on the basis of adult franchise. The total number of the assembly members are not more than 500 or less than 60 chosen by direct election.
- A candidate for the Assembly should be a citizen of India and not less than 25 years of age. He should not be holding any office of profit under government and should possess sound mental and physical health. Every Legislative Assembly, unless sooner dissolved, continues in office for 5 years from the date of its first meeting. In emergency the term can be extended by 1 year.

State Legislative Council

- Every State Legislative Council is a permanent body and is not subject to dissolution out one-thirds of its members retire every two years.

Composition

- Legislative Councils (*Vidhan Parishad*) have one-third of the total membership of the assemblies but not less than 40 members.
- Of these one-third are elected by local authorities such as municipalities and district boards, one-third by members of the Assembly, one-twelfth by graduates of universities

residing in the state and one-twelfth by teachers teaching in institution not lower than that of a secondary school; the rest are nominated by the Governor.

Parliamentary Committees

- The work of government in a modern democratic welfare state assumes huge proportions. It is also of a very difficult and complex character.
- With the state purposely undertaking heavy responsibility in every field of corporate like-economic, social, educational and cultural—the elected legislature must prove itself to be fully equal to the task. Details of policy and their practicability have to be thought out in every sphere and then accepted. Again, the implementation has to be watched with the greatest vigilance and care.

Committee on Public Accounts

- At the commencement of the first session of Parliament every year, a Committee is constituted consisting of not more than fifteen members of the House of the People elected from itself on the basis of proportional representation.
- The committee has to satisfy that money shown in the accounts as disbursed was legally available or related to the purpose for which it was used.
- It will also examine that the expenditure conforms to the authority which governs it. It will further look into such trading, manufacturing and profit and loss accounts and balance sheets as the President may have required to be prepared.
- The committee will also examine the Auditor General's Report. Scrutiny by such a parliamentary committee is a great check on the executive.

Committee on Estimates

- This committee is to consist of not more than twenty five members elected by the House every year from amongst its members according to the system of proportional representation. The term of office of members is one year.
- It is the duty of the committee to report about economics, improvement in organisation, efficiency or administrative reform that may be effected in the estimates.
- It is also to suggest alternative policies to bring about economy and efficiency in administration.
- It is further to examine whether the money is well laid out within the limits of the policy implied in the estimates and to suggest the form in which the estimates shall be presented to Parliament.

9. Detailed Legislative and Financial Procedures

Introduction

A Legislature under the parliamentary system of government is entrusted with the work of legislation, sanctioning the financial proposals of the government of the day, controlling the ministry and performing other ancillary functions.

- If the legislature happens to be bicameral, the powers of the upper house are limited in matters of finance.
- Legislature in India follows this accepted principle.
- A bill, other than a money bill or a financial bill, may originate in either house of parliament, unless it has been agreed to by both the houses either without amendment or with such amendments as are agreed to by both the houses.
- In case of disagreement between the two houses, the President may order joint sitting of both the houses to iron out the differences.
- The constitution contains detailed provisions as regards joint sittings.
- When a bill is passed by both the houses of Parliament, it is presented to the President for his assent.
- The President declares that he either assents to the Bill or withholds it.
- The President has the power to veto a Bill.
- If he does not assent, he may return the bill, if it is not a money bill, to the houses as soon as possible with a message requesting that the bill be reconsidered by the Parliament. The President may specify particular provisions of the bill to be reconsidered or recommend amendments to be made in the bill. When the bill is returned, the Houses reconsider it accordingly; after such reconsideration, if the bill is passed again by the Houses either with or without amendments and is presented to the President for his assent, he cannot withhold the assent.
- Thus the President can return a bill to the Houses once and once only. On the receipt of assent of the President, the bill becomes an act of Parliament.

Legislature and the Government

- The session of Parliament begins with a joint sitting of the two Houses, which is addressed by the President. In each House, the first item of business is the Question Hour.
- During this hour, the members ask questions to elicit information from the ministers on various issues pertaining to their ministries.
- The question hour is one of the most popular items of the agenda.
- Questions are of two kinds, starred and unstarred.
- The starred questions are those questions which are answered by the ministers orally.
- While the unstarred questions are those which are meant for written answers.
- A member can call the attention of the government on any matter of urgent public importance, such as serious drought or flood situation in the country.

- Calling attention notice is a device which originated in our country itself.
- Through this device, the members can elicit information on important matters.
- If any matter is so urgent that it brooks no delay, the members can bring it for discussion through adjournment motion.
- If the adjournment motion is carried, it indicates a strong disapproval of the government's policy.
- Adjournment actually means putting off regular business till another time.
- There can either be adjournment of the debate or of the House.
- There are similarly other devices such as no-confidence motion through which the opposition can critically examine the policies of the government.

Legislative Procedure at the Centre

- A bill other than a money bill may be introduced either by a member or a minister.
- Each bill goes through three Readings.
- In the First Reading, the mover seeks the permission of the House to introduce the bill.
- If the leave is granted, the bill is introduced. In the Second Reading, there are two stages.
- In the first stage, a general discussion on the bill is held and the bill is either referred to a committee for detailed discussion or circulated for the purpose of eliciting public opinion.
- In the second stage, clause- by-clause consideration of the bill is taken up. Amendments are permitted and voted upon.
- In the Third Reading, the bill is moved for the final approval. After a general discussion, the bill is either passed or rejected.
- If the bill is passed, it is sent to the other House where it goes through a similar procedure.
- After the bill has been passed by both the Houses, it is sent to the President for his assent.

Procedure in Financial Matters

A special procedure has been laid down for money bills: A bill will be considered to be a money bill if it contains only provisions dealing with

- the imposition, abolition, remission, alteration or regulation of any tax;
- the regulation of the borrowing of money or giving of any guarantee by the Government of India;
- the custody of the Consolidated Fund or the Contingency Fund of India,
- the appropriation of money out of the Consolidated Fund;
- the receipt of money on account of the Consolidated Fund or the public account; and
- any matter incidental to the matters listed here. The decision of the Speaker of the House of the People is final on the question whether a bill is a money bill or not.

- A money bill cannot be introduced in the Council of States.
- After a money bill is passed by the House of the People, it is transmitted to the Council of States for its recommendations.
- The Council of States must, thereafter, return the bill with its recommendations within fourteen days from the date of its receipt.
- If it does not return the bill within this period, the bill is deemed to have been passed by both the houses in a form in which it was passed by the first chamber.
- If the first chamber returns the bill to the second chamber within this period with its recommendations, the second chamber has the authority either to accept or reject any of these recommendations.
- The bill is thereafter deemed to have been passed by both the Houses of Parliament.
- The passage of a bill into a law involves quite a lengthy process.

Let us turn for a while to a detailed study of procedure in financial matters.

(i) The Initiative of the Executive

- It is an essential principle of democracy that all taxation and all public expenditure must be voted by the people.
- The executive, therefore, can raise money by levying taxes or borrowing or otherwise, and can spend money, only with the authority of the representatives of the people.
- The initiative in these matters must come from the executive because they are in direct charge of the administrative machine and are in a position to know exactly the nature of the requirements of the state and also the limitations on its ability to satisfy them.
- All financial proposals must, therefore, emanate from the government. The legislature will have the power to sanction particular items or to reduce them or even to reject them. But they have no power to recommend an increase either in taxation or in expenditure.
- This is a very healthy restriction for the successful working of democracy in the country because it imposes an effective check on the temptation to indulge in irresponsible though attractive suggestion on the part of members of the legislature and thereby to achieve easy popularity with the electorate.

(ii) The Budget

Estimates of the income and expenditure of the state are prepared by the Ministry, the Finance Minister being mainly entrusted with handling the task.

- After being prepared, the President asks the Finance Minister to prepare the annual finance statement, the budget, for the ensuing year to be laid before the Houses of Parliament.
- The statement contains the estimated receipts as well as all expenditure of the Government of the Union.
- The estimates of expenditure distinguishes expenditure and shows separately: (a) the sums required to meet expenditure which is charged upon the Consolidated Fund, and (b) the sums required to meet other expenditure proposed to be made from the Consolidated Fund.

(iii) Expenditure charged on the Consolidated Fund

The expenditure charged on the Consolidated Fund of India is: (a) the emoluments and allowances of the President and other expenditure relating to his office; (b) the salaries and allowances of the Chairman and Deputy Chairman of the Council of States and the Speaker and the Deputy Speaker of the House of the people; (c) debt charges, including sinking fund and redemption charges; (d) the salaries, allowances and pensions payable to Judges of the Supreme Court (as these existed before the inauguration of the Constitution) and pensions payable to judges of a High Court; (e) the salaries, allowances and pensions payable to the Comptroller and Auditor General of India; (f) any sums required to satisfy any judgement, decree or award of any court; and (g) other expenditure declared by the constitution.

- The examples relate to administrative expenses of the Supreme Court and the Comptroller and Auditor General, grants-in-aid to the states, expenses of the Union Public Service Commission, etc.
- Parliament also has been given the power to add to the list by passing a law to that effect.
- All the expenditure which is charged upon the Consolidated Fund of India will not be submitted to the vote of Parliament; but all these items of expenditure are open to discussion by either house of Parliament. The legislature will thus get an opportunity every year to criticise the administration even in respect of matters which are, therefore, not allowed to be voted upon by the legislature.
- It is noteworthy, however, that the construction of salaries of ministers, as also the salaries of members of the All-India services, are made subject to the annual vote of the legislature.
- The working of a department can, therefore, be criticised, and grievances in regard to it can be ventilated by a discussion on a taken or nominal cut in these salaries.

(iv) Expenditure voted by Parliament

- All expenditure other than that which is charged on the Consolidated Fund is to be submitted to the House of the People in the form of demands for grants; and the House shall have power to assent or to refuse assent to any demand, or to assent to any demand subject to a reduction of the amount.
- It will have no power to suggest an increase in the expenditure.
- No demand for a grant is made except on the recommendation of the President. What is in actual practice, the government in power who knows best the real requirements.

(v) Stages in the Passing of the Budget

The procedure in the Indian Parliament in regard to the passing of the budget consists of the following stages:

The presentation of the budget: On a stated day, the budget for the ensuing year is laid before both Houses of Parliament. The Finance Minister personally presents it to the House of the People. While presenting the budget, he makes an exhaustive

explanatory speech clarifying all the important issues involved in the proposals. The budget and copies of the Finance Minister's speech are circulated to all members who are then given some time to study them carefully. There is no discussion on the budget on the day on which it is presented to the House. A budget generally contains three different kinds of information: (a) actual receipts and expenditure of the previous year with a review of the financial position during that period; (b) an estimate of the receipts and expenditure for the coming year; and (c) proposals of taxation and other methods for meeting the expenditure of the coming year. The financial year is the period from 1 April to 31 March of the next calendar year.

General discussion: The second stage in regard to the budget is a general discussion on its proposals subsequent to its presentation.

- A certain number of days are allotted for this purpose.
- The discussion will extend to the budget as a whole and to any question principle or policy involved in it.
- At this stage, no motion is moved nor does voting take place on any item.
- No item of expenditure is exempted from this general discussion and even items that are charged on the Consolidated Fund can come within the purview of the criticism of the legislators.
- In fact, this is an occasion on which members of the different political parties, particularly those of the opposition parties, give expression to their grievances against the administration as a whole.
- They may cite instances in support of their criticism of the way in which particular department of government is actually functioning.

Demands for grants: After the general discussion is over, the estimates are submitted to the House of the People in the form of demands for grants under particular heads.

- They are put forward by the Ministers of the respective department who make explanatory speeches, justifying the amount mentioned in the demands.
- Speeches from members may follow and the House may ultimately assent to the demands or refuse them altogether or reduce the amount that is demanded.
- Amendments will have to be moved for the later two purposes.
- The House has no power to increase the amount demanded.
- The Speaker, in consultation with the leader of the House allots a definite number of days for discussion and voting of demands for grants.
- It is, of course, necessary that such a restriction should be imposed.
- Otherwise discussions might become endless and the work of the government might be unnecessarily hampered.
- The number of days so allotted must not however, be too small, because it would amount to a denial of an adequate opportunity to the members of the legislature to ventilate the grievances and opinions of the public on particular issues.
- On the last day allotted for the voting of grants at a stated hour has been prescribed in the rules, the Speaker must stop

all discussions and put all the remaining demands to a vote of the House which will be at liberty to accept them or to throw them out but which will now have no opportunity to modify them in any way.

Cut motions: When a demand is made by a minister, a cut may be proposed in it by any member.

- The motion for a cut, which comes in the form of an amendment, may be intended to bring about reduction in the expenditure because in the opinion of the mover, there is scope and justification for such a reduction.
- If the motion is passed, the department concerned will actually get only that amount to spend as has been sanctioned by the legislature.
- Substantial cuts are not likely to be proposed by members belonging to the party in power, because the ministers are their own leaders in whom they have implicit confidence and whose lead they are normally expected to follow on all occasions.
- If there are serious differences of opinion between the leaders and their followers, they can be thrashed out at party meetings.
- Ministers may even agree to yield to the pressure that may be exerted on them by the rank and file.
- Thus, when the matter comes up before the legislature, the minister himself may announce that he has accepted certain modifications.
- Members of the opposition also may suggest substantial cuts for the purpose of affecting economy.
- But there is no chance of their proposals being passed, because they are in a minority in the house.

Token cuts: Most of the cuts which are moved are not, however, intended to reduce the amount of expenditure. They are called token cuts and suggest a reduction of only nominal the amount that is demanded.

- The idea is to get an opportunity to discuss the operations of that particular department, to expose its inefficiency or weaknesses and to suggest concrete ways of improvement.
- Members of the party in power as also members of the Opposition may move such motions. Ministers intervene in the debates, give replies to criticisms and clarify issues.
- Quite often such motions are not pressed to a division because the purpose is served when adequate discussion has taken place.
- But, if such a motion is made by a member of the House, it may be taken to be a vote of no-confidence in the ministry and the resignation of the government may follow.
- This is, however, not likely to happen as long as the solidarity and discipline of the political party in power are in tact.

Lesser power to the Council of States: The powers of the Council of States in respect of financial matters are lesser than those conferred upon the House of the People.

- The budget must be presented to the House of the People and it has a right to hold a general discussion on all its items, including expenditure charged upon the Consolidated Fund.

- The occasion can be utilised by its members to express their opinion on the general working of the various departments of the state and thus present the point of view of a body, many of the members of which are supposed to be 'elder statesman'.
- However, no motions can be made at this stage and there can be no taking of votes.
- The Council does not possess the right of voting grants; that is the exclusive privilege of the House of the People.
- There is no question, therefore, of any demand for grants being submitted to the Council of States and any cut motion being suggested to them.

Appropriation bill: After all the grants demanded by the ministers have been made by the House of the People, a bill called the Appropriation Bill is introduced in the House.

- This bill provides for appropriation out of the Consolidated Fund of India of all monies required to meet: (a) the grants voted by the House of the People, and (b) the expenditure charged on the Consolidated Fund of India not exceeding the amount shown in the budget.
- No amendment can be proposed to any such bill in either House of Parliament which will have the effect of varying the amount or altering the destination of any expenditure charged on the Consolidated Fund.
- The bill, like any other bill, must be passed by both the Houses before it can be enacted into law.

No money shall be withdrawn from the Consolidated Fund of India except under appropriation made by the Appropriation Act.

- The mere voting of grants by the House does not by itself authorize expenditure of money out of the Consolidated Fund.
- It will be seen that the Appropriation Act contains authorization in respect of expenditure voted as well as expenditure charged upon the Fund.

Thus, it is a practice in India to submit to the legislature every year what is known as the Finance Bill which incorporates all proposals of new taxes as well as all changes in the rates of taxes or duties which are already in operation according to permanent acts passed for that purpose.

- Changes in the rates of income tax which are already in operation under the Indian Tariff Act; or changes in the rates of postage which are already there under the Indian Post Office Act can be cited as examples.
- This bill, like other bills, has to be passed by both the Houses before it can become an Act. It must be understood that an Appropriation Act embodies proposals for expenditure, while the annual Finance Act has all proposals for taxation and revenue for the financial year.
- No money bill can be introduced except on the recommendation of the President and such a Bill shall not be introduced in the Council of States.

Supplementary Budgets

It may happen that an amount authorised by the Appropriation Act for being spent on a particular service during the current

financial year is found insufficient or some need may arise during the year for supplementary or additional expenditure which was not contemplated when the budget was prepared and presented. It may also happen that money has been spent on some service during the financial year in excess of the amount granted for that service for the year.

- In such cases supplementary budgets must be laid before both the Houses of Parliament, showing the estimated amount of the additional expenditure.
- Demands for grants to cover that amount must be presented to the House of the People for its sanction.
- After the grants are voted by the Houses, an Appropriation Bill embodying them must be presented to both the Houses of Parliament and passed by them into an Act.
- Supplementary budgets are naturally not looked upon with much favour by members of the legislature, because they practically amount to an ex-post facto confirmation of the expenditure which has already been incurred by the government in anticipation of the legislature's sanction.
- Yet the power of spending money in exceptional cases, in excess of the amount sanctioned, cannot be denied to the executive, because unforeseen circumstances may arise and the situation has got to be handled with efficiency and despatch.

Emergency Expenditure

Sometimes, in a national emergency, the government may feel that it is essential to spend some amount of money forthwith in the interest of the state. However, it may not be possible for it to work out detailed estimates, because the situation may be full of unpredictable elements.

- Similarly, sometimes the services for which expenditure has to be incurred may be of such a magnitude and of such an indefinite character that details of the expenditure cannot be previously worked out and given in the budget. Demands for the necessary expenditure will, therefore, have to be made in rather an unexpected manner.
- Occasions may also arise when a particular or special purpose does not form part of the current services of the year and yet expenditure on it is considerable during the current year. Money bill, therefore, has to be voted by the House separately for such a particular purpose.
- In order to cover all these exceptional circumstances, the House of the People has been given the power to pass the necessary Appropriate Acts.

Legislative Procedure at the State Level

- With the exception of Money bills and other financial bills, a bill can originate in either house of the legislature. Subject to the provisions relating to Money bills and to general restrictions on the powers of the Legislative Council, a bill shall not be deemed to have been passed by the House of the legislature of a state having a Legislative Council unless it has been agreed to by both Houses either without

amendments or with such amendments only as agreed to by both the Houses.

- The Legislative Council has been given a subordinate position in law-making.
- Its powers have been greatly circumscribed both in respect of Money bills and other bills.
- The power of a Legislative Council to amend a bill which has been passed by a Legislative Assembly and sent to the Council is severely limited by it.
- When such a bill is (a) either rejected by the Legislative Council or (b) passed by it with amendments to which the Assembly does not agree or (c) more than three months elapse from the date on which the bill is laid before the Council without the bill being passed by it; the Legislative Assembly may again pass the bill in the same or in any subsequent session with or without amendments suggested by the Council.
- The bill so passed is to be transmitted back to the Legislative Council. If now the Bill is rejected by the Council or passed by it with amendments to which the Assembly does not agree or if more than one month elapses from the date on which the Bill is laid before the Council, without being passed by it, the Bill is deemed to have been passed by both Houses of Legislature of the State, passed by the Legislative Assembly with such amendments, if any, as have been agreed to by it.
- The powers of a Legislative Council in relation to Money bills are similar to those of the Council of State, the upper House of Parliament.
- No Money bill can be introduced in a Legislative Council.
- When a Money bill is passed in a Legislative Assembly, it is to be transmitted to the Legislative Council for its recommendations.
- If thereafter the bill is not returned to the Assembly with the recommendations of the Council within a period of fourteen days from the date of the receipt of the Bill in the Council, the Bill is deemed to have been passed by both Houses.
- If the Council returns the Bill within this period with its recommendations, the Assembly will have the authority to either accept or reject any of the recommendations.
- Then the Bill is deemed to have been passed by both Houses in the form in which it has been passed by the Legislative Assembly with or without any of the amendments recommended by the Council.
- The definition of Money bills is similar to that given in connection with the Parliament.

Role of the Governor

- When a bill has been passed by the House or both Houses of the State Legislature, it is presented to the Governor.
- The Governor, may, then either assent to the bill or withhold his assent from it or reserve the bill for the President's consideration.
- It is provided that the Governor may return the bill, if it is not a Money Bill, to the legislature with his recommendations. The legislature may then again pass the bill with or without any amendments and present it to the Governor.

- This time the Governor cannot withhold his assent from the bill.
- When a bill is reserved for the President's consideration, the President may, where the Bill is not a Money Bill, direct the Governor to return the Bill to the legislature with recommendations.
- Thereafter, the legislature must reconsider the Bill within a period of six months and if it is passed again by it with or without any amendment, it is presented to the President for his consideration.

Financial Procedure at State Level

- As in the Centre, the main features of the financial procedure in the states are (a) the annual financial statement; (b) the demands for grants; (c) the Appropriation Bills; and (d) other Financial Bills.
- In respect of every financial year, the Governor must place before the House or Houses of the state legislature an annual financial statement showing the estimated receipts and expenditure of the state for that year.
- The estimates of the expenditure must show separately (i) the expenditure charged upon the Consolidated Fund of the state; and (ii) other expenditure to be made out of that Fund. The expenditure charged upon the Consolidated Fund of the States are: (a) the emoluments and allowances of the Governor and other expenditure relating to his office; (b) the salaries and allowances of the Speaker and the Deputy Speaker and, in the case of a bicameral legislature, also of the Chairman and the Deputy Chairman of the Council; (c) debt charges; (d) expenditure in respect of the salaries and allowances of the judges of any High Court; (e) any sums required to satisfy any judgement, decree or award of any court or arbitral tribunal; and (f) any other expenditure declared by the Constitution or by the legislature of the state by law to be so charged.
- The other items to be charged on the Consolidated Fund of the State are: (i) sums required to meet the administrative expenses of High Courts; (ii) sums required to meet such contributions to the privy purse of rulers as may be determined by the President; and (iii) sums necessary to meet the expenses of the State Public Service Commission.
- The expenditure charged on the Consolidated Fund in terms of items (a) to (f) are non-votable.
- They can, however, be discussed in the legislature. Other expenditures must be submitted to the Legislative Assembly in the form of demands for grants.
- The Assembly can then either assent or refuse any of these demands or reduce the amount of any demand.
- No demand for grant can be made except on the recommendation of the Governor.
- After the grants have been made, a bill is introduced to provide for the appropriation out of the Consolidated Fund to meet the grants made by the Assembly as well as the expenditure charged on the Consolidated Fund.

- No amendment can be proposed at this stage by the House or the Houses of the legislature, which may have the effect of varying the amount or altering the destination of the amounts. No money can be withdrawn from the Consolidated Fund except in accordance with the provisions of the Appropriation Act.
- The Governor is authorised, whenever he thinks it necessary, to place before the House or the Houses of the State legislature supplementary financial statement and cause to be laid before the Assembly demands for supplementary or additional or excess grants.
- But the same procedure will apply to these matters as has been laid down for the annual financial statement or the ordinary demands for grants.
- The legislative assemblies of the States have also been authorised to sanction advances and grants as well as exceptional grants.

