



Integrated Social Science

A textbook of SOCIAL STUDIES



Teacher's
Resource
Book



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1. What, When, Where and How

Practice Time

I. 1-(iii), 2-(i), 3-(i), 4-(ii), 5-(iii).

II. 1. The archaeological finds include both written and unwritten sources such as works of art and literature, newspaper, magazine, coins, tools, photographs, posters, plant and animal species and their remains etc. The tools and monuments may be made of stone.

2. The pre-history means the period of history when writing had not begun.

3. The first writing system known as *cuneiform* or picture writing was developed in Mesopotamia.

4. The dates and events have a close relationship like, for example, they separate one event or particular period from the other.

5. Two early cities were Mohenjodaro about 4,700 years ago and later Magadha.

III. 1. Two ways in which lives of kings would have been different from those of farmers were: (i) Most kings recorded what they did like victories in battles in inscriptions and in other ways whereas the farmers could not do it; (ii) Kings and emperors built temples whereas farmers thronged these temples often in praise of the king.

2. Ordinary men and women did not generally keep records because most of what they did was transmitted orally from generation to generation, a tradition inherited from the past and, secondly, most ordinary people especially tribals have different pasts.

3. R. G. Collingwood, an English philosopher and historian, says, "*History is the human self-knowledge..... it teaches us what man has done and that man is.*" It is important to understanding the present and is the test of our progress. We can know the food the people ate and their dress in the past.

4. Archaeological sources are very important for two reasons. (i) Some such sources like monuments, coins or other artifacts may provide direct evidence. (ii) These sources

span over millions of years whereas written records exist only for a few thousand years. (iii) Wheat was grown in Garo Hills about 8000 years ago and Asian variety rice in the same area about 4,700 years ago.

IV. 1. The sources of information are divided into *primary* and *secondary sources* of information.

(i) The sources that provide direct or firsthand evidence of events and happenings are called primary sources. Examples of such sources are works of art and literature, audio, video, tape recordings, newspaper, magazine, legal and census reports, coins, tools, photographs, posters, plant and animal species or their remains etc. (ii) The secondary sources are often the interpretations based on the primary sources and provide valuable clues. These sources may include records of meetings, conferences, editorial comments in newspapers, biographies, laws and books written thereof and analysis and interpretations of archaeological objects.

2. In BCE format 6,000 and 1,000 years ago can be written respectively as 4,000 BCE and 1,000 CE.

3. The people of India have different pasts because: (i) They belong to a variety of cultures. The lives of hunters, gatherers and farmers are different from those of crafts persons or for that matter traders and other business persons. (ii) Further, some people like tribals numbering about 85 million in the North-East, in Kashmir or in the Andaman and Nicobar Islands stick to their own past even today. They refuse to adapt the modern lifestyles and still live in the open. (iii) Besides the differences in customs, manners and life styles, they do not keep the written records of their battles, kings or rulers which are transmitted orally from generation to generation, a tradition inherited from the past.

V. (i) F, (ii) T, (iii) T, (iv) T, (v) F.

VI. 1-(ii), 2-(i), 3-(iv), 4-(v), 5-(iii)

VII. 1. Manuscript is a piece of any document written by hand whereas inscription is written record engraved on clay, metal or stone;

2. Secular literature is not based on any religious beliefs. Religious literature has religious theme;
3. The sources that provide direct or firsthand evidence of events and happenings are called primary sources whereas the secondary sources are often the interpretations based on the primary sources and provide valuable clues;
4. A person or animal that hunts is called hunter and one that gathers naturally grown food is called gatherer;
5. Indus is the Greek pronunciation of river Indus. The Sanskrit name of the same river is Sindhu.

HOTS

1. After studying the timeline I have been able to know about the major events and dates that took place in India from millions of years ago up to the present in chronological order. The division of whole period of study into BCE and CE has also helped me. In short a timeline is a repository of knowledge.
2. The archaeological sources of writing history span over millions of years and are important even today for several reasons. The happenings being based on interpretation and analysis by many experts including archaeologists they are authentic sources. Surveys, for example, are conducted even today. These surveys and other findings have revealed the existence of monuments, inscriptions, coins and other artifacts of particular period..

Activity Time

□ Map Activity

With the help of suitable map-legend (italics), label and locate the following on an outline map of India: (i) *Areas of first agriculture (8,000 years ago)* – Garo hills; (ii) *Cities: 4,700 years ago* – Harappa; *2,500 years ago* – Magadha and (iii) *Patliputra* - Magadha

□ Project Work

Tribals of southern Western Ghat still practise hunting-gathering, dam-fishing for ornamental fish etc. It is a part of diversity in the area. Disturbances – Construction of roads, dams, hydro-electricity and destruction of habitats.

□ Picture Study

Termed as artifacts they are valuable sources of information of a particular period, the type of skills they possessed, advancement and organisation of the society, their religious beliefs as most such pottery is found in graves of the dead

□ Surf the Net

The hieroglyphic writing system of the Maya was very sophisticated and developed completely independent of other area.

□ Imagine

1. What is most exciting thing about your job, sir?; (ii) How can I become an archaeologist?; (iii) Do archaeologists carry out excavations in their backyard too? (iv) What kinds of exciting artifacts you have found so far? (v) Where can I study archaeology?
2. It will reveal many links among people living in other areas (Elaborate).

2. The Earliest Societies

Practice Time

- 1–(i), 2–(i), 3–(ii), 4–(iii), 5–(ii).
1. Three broad divisions of the Stone Age are the *Palaeolithic Age*, the *Mesolithic Age* and the *Neolithic Age*.
 2. I today use metal tools for cutting fruit. They are generally made of iron and steel.
 3. The habitation-cum-factory were the caves where early people lived close to their work place of tool making. For example Kurnool caves in Andhra Pradesh.
1. (i) By core and flake implements we mean the tools made from the chunks of small rocks including pebbles, called core, and blades of stone or flake. (ii) Such tools included *hand axes*, *choppers*, *cleavers* and *spearheads* of stone and some other chipping tools.
 2. (i) At Wonderwork Cave in South Africa, near Kalahari Desert, traces of ash dating to about a million years ago have been discovered. (This suggests that the people were familiar with the use of fire. (ii) One example from India is that from Kurnol Caves in Andhra Pradesh where similar traces of ash have been found.

3. The three ways in which hunter-gatherers used fire in a controlled way were: (i) fire as a source of light; (ii) for keeping warm in cold weather; and for (iii) cooking meat as well as for scaring away animals.
 4. In the Paleolithic Age three ways of tool making were: (i) by grinding and polishing rather than chipping flakes; (ii) in India new stones like gneiss, sandstone and basalt were used; and (iii) the implements were core or chunks of small rocks including pebbles and flake or blades of stone.
 5. The importance of Bhimbetka rock-shelters is three fold: (i) They belong to Palaeolithic Age; (ii) At some sites like Hunsgi, a *habitation-cum factory site*, large numbers of tools were discovered; (iii) They are a representative of a lot of skill including colours that have gone in making these paintings.
- IV.**
1. The main human characteristics found in the present species of man, the homo sapiens sapiens are: (i) This species of man had emerged after a series of changes including extinction of earlier species; (ii) Possessed skills like for handling tools of stone, bone or wood to do cutting, grinding and chopping; (iii) Adapted to hostile environments and survived hot and cold climates; (iv) The early humans were called *hunter-gatherer* as they moved from place to place for many reasons such as in search of food as the animal resources at one place would not last for long, the animals themselves moved from place to place, fruit bearing in different seasons and water as an essential need for man, animals and plants was not available everywhere or dried up in certain seasons.
 2. **Climate Change:** (i) Change in weather and climate from cold to warmer climate and vice versa is known as the period of climate change.
Timings and impact: (i) During Mesolithic period weather and climate became gradually warmer. Its impact was: (i) The Ice Age animals such as woolly mammoth died out or became extinct and reindeer moved to arctic and sub-arctic environments; (ii) The climate change made some tribes to move to colder climates or other areas in search of their livelihoods; (iii) There set in second phase of mass migration to other lands. New types of forests and grasslands grew with warmer weather. These grasslands supported more and new types of animals.
- 3. Neolithic Man:** Neolithic period began around 10,000 years. The man in this 'new' stone age had reached an advanced level of development. Many animals of Ice Age, the end of which characterised the beginning of this period, became extinct. The tool making underwent change and the Neolithic Man was on the path of Domestication Revolution. The domestication of plants and animals was the forerunner of social organisation of the people. With agriculture man also learnt to store food, ground whole grains into flour and eat cooked food. (Elaborate).
- V.** 1. of safety. 2. 10,000. 3. walls. 4. Limestone.
- VI.**
1. Because of human characteristic of social organisation.
 2. The rock paintings show scenes of hunting of wild animals drawn with great accuracy. The colours used area also a manifestation of advanced level of development.
 3. The climate became gradually warmer which did not suit the woolly mammoth.
 4. Man began living at one place which required new social organisation.
 5. The warmer climate and changes in weather conditions and more availability of grass helped new animals to grow.
- VII.**
1. The word *palaeo* in Greek means 'old' and *lithos* means 'stone'. This Old Stone Age lasted from two million years ago until 12,000 years ago. Mesolithic, the Middle Stone Age, lies between the Palaeolithic and Neolithic Ages. This stage lasted from around 12,000 years ago until 10,000 years ago.
 2. Wood hut was made by early man from branches of trees and logs of wood for shelter. The rock-shelters were naturally made caves which early man used for shelter.
 3. The implements of core were chunks of small rocks including pebbles, called core, and blades of stone called flake.

4. Habitation site is any living place whereas factory-cum-habitation site is both living-cum-work place or where people lived close to their work place.

VIII. 1-(iv), 2-(v), 3-(i), 4-(iii), 5-(ii)

HOTS

1. The climate change helped new types of forests and grassland to grow with warmer weather conditions. These grasslands supported more and new types of animals too.
2. The important skills that man learnt during the Palaeolithic period were skills of handling tools of stone, bone or wood to do cutting, grinding and chopping; skills of adaptation to hostile environments and survive hot and cold climates, skill of storing water where it was not available or had dried up and skills of forming groups, sharing work and food and caring for new born or children though it was essentially a human trait.

Activity Time

□ Map Activity

Consult a standard atlas

□ Project Work

Use internet to find out about such sites in your area and state-

□ Picture Study

Skills like chopping wood, cutting branches of trees, handling of stone tools, bending, tying and making of hut. He had then to think about protection against hostile weather conditions like winds blowing up the roof or rains removing the gathered materials. So huge stones were used both for protection and support.

□ Surf the Net

The National Museum of Natural History promotes the natural heritage, the flora and fauna and the environment. It undertakes various educational programmes with this in view visit the site given.

□ Imagine

The children in earlier times worked and helped their parents. Researchers have found stories of oral folklore were told even 10,000 years' ago.

3. The First Farmers And Herders

Practice Time

- I. 1-(iii), 2-(i), 3-(iii), 4-(ii), 5-(iii).
- II.
 1. Egyptians first used bread around 3,000 BCE.
 2. Temperature and rainfall are essential factors for growth of crops.
 3. Mehrgarh, now in Pakistan, is one of the sites in the Indian Subcontinent where people lived in villages in Neolithic times.
 4. The two main characteristics of a tribe are living in groups such as communities and having pastimes such as dancing, singing, painting and decorating their huts.
 5. Cord marked pottery is the pottery made by twisting cords into clay such as found at Daojali Hading.
- III.
 1. Growing agricultural crops is tied to climate (temperature and rainfall) as well soils. Seeds of agricultural crops are sown in one season. Growth, flowering and harvesting takes time and crops need to be protected from being eaten away by birds or destroyed by other animals. There is also need for watering (irrigation) of plants etc. So it is necessary to stay at one and look after the crops.
 2. At Mehrgarh, now in Pakistan, small permanent settlements in an area called *villages* had developed. Archaeologists have discovered a number of mounds in a plain. One of the mounds is 11 metres deep and represents a classic archaeological site. Lowest layer of the mound represents the earliest period of around 7,000 BCE and other layers later periods until 3,000 BCE. At layer 4 bones of wild animals such as deer and pig were found. In later levels bones of sheep and goat were found. From this the archaeologists conclude that people were hunter-gatherers to begin with and herding became more important later.
 3. The domestication was not a single and simple step but involved series of steps. (i) Only plants not prone to diseases had to be domesticated. (ii) Similarly, relatively gentle animals had to be tamed. (iii) They had to

stay near their camps to observe the growth of seeds or young plants. (iv) They needed to continue their hunting-and-gathering activity even though they had to stay at one place.

4. During the Neolithic times, people in the Indian Sub-continent engaged in work related specialisation because of population growth. People engaged in farming, hunting, herding animals, fishing or even as priests in later periods. Women did most of the agricultural work like preparing the ground, sowing seeds, looking after and harvesting the grain and other house-hold work like cooking and grind grain. Children on their part helped men-folk or women like driving away birds and other domesticated animals that might eat the crops. They also looked after small herds of animals.
5. Archaeologists draw conclusions that people of Catalhoyuk in Turkey engaged in getting many things from distant lands based on findings of settlement site of Neolithic period in 1950 in this area. The settlement was famous for dense occupation. Many things like flint from Syria, cowries from the Red Sea, shells from the Mediterranean Sea and many more have been discovered.

IV. 1. Lives of farmers and herders would have been different from hunter-gatherers during early agriculture in following three ways: (i) The transformation of man from Palaeolithic hunter-gatherers to the Neolithic farmers and herders first took roots around 12,000 years ago; (ii) The cultivation of plants required more than just sowing the seeds but also watching the seeds grow into plants over time, supplying water, looking after and allowing them to ripen and then do harvesting. This meant that the hunter-gatherers had to give up their lifestyles of going from place to place. (iii) They could not have solely depended on the growth of these plants and needed to continue their hunting-and-gathering activity even though they had to stay at one place.

2. (i) Dog, the earliest tamed animal, provided company and kept vigil against hostile

animals etc; (ii) Sheep, Goat. Pigs and Cattle between 9,000 and 7,000 BCE were used for their milk, meat and skins and their bones for tools. Use of animals for milk is much debated subject even today; (iii) Buffalo was first domesticated somewhere in Asia. It was first used as a farm animal and later for milk; (iv) Ox was also first used in Western Asia as a farm animal and pulling, dragging and taking heavy loads. (v) Cats (not in the lesson) were domesticated from around 3,000 BCE. It has been variously used for play and pest control.

3. The work related specialisation had developed during late Neolithic period because of:
(i) Each separate group of members of a tribe followed different occupations such as farming, hunting, herding animals, fishing or even as priests in later periods; (ii) Women did most of the agricultural work like preparing the ground, sowing seeds, looking after and harvesting the grain and other house-hold work like cooking and grind grain. (iii) Children on their part helped men-folk or women like driving away birds and other domesticated animals that might eat the crops. They also looked after small herds of animals; (iv) The pastimes such as dancing, singing, painting and decorating their huts were some of the early characteristics of man. With the passage they had become more and more specialized; (v) They buried their dead with some beliefs and constructed tombs and called them *Menhirs*, *Dolmen* etc. which too were specialised tasks.

4. Special about Mehrgarh archaeological site is that (i) Lowest layer of a mound represents the earliest period of around 7,000 BCE and other layers later periods until 3,000 BCE. (ii) In one of the layers bones of wild animals such as deer and pig were found. In later levels bones of sheep and goat were found. At this time many animals were domesticated and very much valued; (iii) The upper layer of this mound represents the period after 3,000 BCE. Small mud-brick houses and storage pits were discovered; (iv) During this period, people buried their dead with certain burial rites like with goats. The goats were meant to

serve as food for the dead in the next world. They may have believed in life after death. During later period the site was abandoned suggesting the uncertainty surrounding the end of Indus Valley Civilisation.

- V. 1. T, 2. T, 3. F, 4. T, 5. T
- VI. One word: 1. Sedentary, 2. Neolithic, 3. Village, 4. Mound, 5. Cord-impressed
- VII. 1-(v), 2-(iv), 3-(i), 4-(ii), 5-(iii)
- VIII. 1. Plants and animals living in forests naturally are wild animals. Tamed plants and animals by man are called domesticated plants and animals.
2. Clay pottery is simply made from clay whereas when cord is impressed for durability it is called cord-marked pottery.
3. Hunter-gatherers are people roaming from one place to another especially forests and engage in gathering fruits, nuts, roots etc. Farmers cultivate crops, fruits etc. while living at one place.
4. Living at one place is sedentary community. The community that keeps moving from one place to another is mobile community.
5. Both are cereals but barley is a coarse grain and is also used for brewing and stock-feed wheat is soft grain especially for human consumption.

HOTS

1. About 12,000 years ago domestication of plants and animals happened in such a repeated and regular manner, that this pattern developed at many centres independently across the globe where the Palaeolithic man had set foot. This does not mean that the things changed everywhere and all at once. In many areas, men and women still continued to hunt and gather food, and elsewhere people adopted farming and herding slowly, over several thousand years.
2. With domestication of the dog, the Early Man it used to clear the place of his rest and how it discharged its wastes. This gave him the first insights into the necessity of hygiene. He learnt to discard humid wastes at some isolated place. Later when cat was domesticated he learnt about the necessity of controlling pests to be free from diseases and contamination.

Activity Time

MAP ACTIVITY

For 1, 2 and 3 questions refer to map on page 25 and table on page 26.

PICTURE STUDY

The salient features are: (i) Construction of Neolithic house for permanent settlement; (ii) The picture shows rectangular pit-house at Gufkral in Kashmir; (iii) Pit-houses were dug into the ground with steps leading to them; (iv) These might have been constructed for protection against harsh weather conditions as well as animals; and (v) at other sites remains of square or rectangular houses have been discovered. Each house had four or more compartments.

Surf the Net

The website traces the origin of agriculture in Northern India to spread of agriculture in China. There was almost 100-times more population over a period of 3,500 years from 6000 BCE to 2,500 BCE. This population growth had necessitated not only spread of agriculture but spread of Neolithic man to other lands. Read more...

Life Skills

1. Refer to 'Specialisation' in this chapter;
2. They are almost the same as shown in table on page 26.
3. Same as in table on page 26 except some cereal crops like maize that were introduced by Europeans in Middle Ages.

Imagine

Write mainly about the damage done by man to natural environment like deforestation, pollution, extinction of plants and animals and the contribution you want to make to save our environment.

4. The Harappan Civilization

Practice Time

- i. 1-(ii), 2-(i), 3-(ii), 4-(ii), 5-(i).
- ii. 1. The Indus Valley Civilisation is known as Harappa because Harappa is on the banks of Ravi and is one of the five rivers of Indus system.

2. The system of urban sanitation has been found in Rakhi Garhi.
 3. About six granaries have been found so far including the Great Granary at Harappa.
 4. The fire-altars discovered at Kalibangan and Lothal offer conclusive evidence of certain beliefs.
 5. Discovery of a terracotta toy cart shows that Harappan used wheeled transport.
- III. 1. The archaeologists have made many discoveries such as a spindle whorl, a device for spinning yarn; a piece of cloth found attached to a lid of a silver vase and some copper objects at Mohen-jo-Daro and some piece of embroidered cloth worn by the Priest King. Besides, Rig-Veda also mentions cotton crop having been cultivated in India.
2. *Carnelian* is a special type of red stone used to make beads at Chanhudaro and Lothal where workshops have been discovered. It was obtained from Rakhi Garhi in Haryana.
 3. The Harappan script forming the basis of a language is shrouded in mystery. The archaeologists have discovered more than 2,000 seals used in sealing the goods traded. Almost all bear some signs either impressed or engraved on stone. Along with the shapes of animals carved on them, they bear some kind of letters on the top. Despite many attempts by scholars, the script has not been deciphered so far.
 4. At Lothal, a port city, about 12 km from the Gulf of Cambay, many discoveries like a store house in the city many seals and sealings, chess-board, a measuring scale and some rice-husks in the form of imprints on the pottery have been found. There was a dockyard, a citadel and a lower house complete with drains and baths like the one at Mohen-jo-Daro, a granary built on a brick platform and many bead-making workshops. Dholavira the fifth largest city is located on the Khadir Beyt, an island in the Great Rann of Kutch in Gujarat. It too had elaborate system drainage in addition several large reservoirs of fresh water. Unlike other Harappan sites, Dholavira was divided into three parts. Each of these parts was surrounded by massive stone walls with entrances through gateways. In the open area in the front public ceremonies could have been held. A huge signboard with Indus script has also been discovered. Many graves containing pottery and jewellery have been found.
- IV. 1. The importance of the following for Harappan must be seen from this perspective. **Metals:** They acted as raw materials are both natural and man-made substances that were further processed to make articles such as ornaments of precious stones, gold and silver. Some such raw-materials like ores of metals were processed to make finished goods. Some of these goods were traded to get other raw-materials not available locally. Metals such as *copper, bronze, gold* and *silver* were also used for making tools and weapons. **Writing:** The first major use of this writing was to stamp seals to keep records of trade transactions, taxes, contracts etc. **Wheel:** It was used for moving the cart carrying goods and other loads. It was also used for the wheel-thrown pottery which was an important industry for the Harappan. **Plough:** Based on discovery of the furrows or the plough-marks a field at Kalibangan, it was used for turning the soil and planting seeds.
2. The case studies on coastal towns and a port city in this chapter throw light on the trading and cultural contacts with other civilisations of this time. These other civilisations were like the Mesopotamia in modern Iraq and Syria. The case studies tell us about how Harappan travelled to distant lands, why they carried seals with them. The Mesopotamians had their own seals that too contained motifs of animals like the humped bull. Scholars believe that they might have inspired the Harappan rulers. The Mesopotamian texts also mention the contacts with the Indian Subcontinent which they called *Meluha*, the Sumerian name of the Indus Valley. Along the coastline of the Arabian Sea several towns along with the recently discovered site of Gola Dhore and the city of Lothal acted as ports.

3. The button-shaped seals, for example, show the ingenuity of the people. The seals like the Pashupati Seal, the Bull Seal that have found during excavations offer conclusive evidence of certain beliefs. The Harappans seals bear some signs on the top and there is uniformity as well. The letters point to some script which though has not been deciphered so far. These seals were made of either stone or baked-clay. The seals were also used to stamp bags or packets containing goods that were meant for trade. An impression of a particular-seal was applied on the knot in order to identify the package. This of the seal is known as a *sealing*. Both seal and sealing helped the trader to make sure that goods had reached the destination or arrived safely.

V. 1. T, 2. F, 3. T, 4. F, 5. T.

VI. 1. The Kalibangan in Rajasthan receives scanty rainfall. The water could have been stored in underground wells for the purpose of irrigation.

2. Town planning, drainage systems, script, seals, metal working, irrigation works all point to skills of people.

3. Harappan people were divided into rich and poor. The division of the city into lower town and citadel, the different types of houses, use of ornaments, dress and cosmetics by a certain class of people are cited as proof of social differentiation of people.

4. At Lothal and Rangpur rice-husks were embedded in pottery which is evidence of rice cultivation.

5. The discovery of terracotta toys of bullock carts and use of raw materials not available are evidences of use of wheeled transport.

VII. 1-(iii), 2-(iv), 3-(ii), 4-(i), 5-(v)

VIII. 1. The Indus Valley city is known as Mohen-jodaro and that on Ravi is called Harappa;

2. The citadel part of the city was to the west and smaller but higher. It contained large structures built of small baked bricks. The lower town was situated to the east and was larger. It had residential blocks with buildings of mud-bricks where common people lived;

3. Sculptors are also artists who shape stone whereas artist is a general term for any skilled person;

4. Daimabad is in Maharashtra and Ghola Dhoro, is close to the Gulf of Kachchh in Gujarat. They are the two famous sites for craft and trading activities;

5. Harappa river valley civilisation is located in India and that of Mesopotamia in modern day Iraq.

HOTS

1. The importance of decipherment of Indus script lies in the fact that like in the case of Mesopotamia, modern Syria and Iraq it may reveal the type of writing that prevailed, the rulers, how the records were kept, trade transactions were carried, taxes, contracts etc. Some great literary works like in the case of Mesopotamia may come to light. How the Harappan Civilisation came to end about which we know little may come to light.

2. The Indus Valley or the Harappan Civilisation with a population of around five million geographically covered an area of approximately 1,260,000 square km. Its sudden disappearance around 3900 years ago is puzzling. Around this time climate change might have caused massive floods which might have wiped out this vast conglomeration of settlements. At Mohen-jodaro site garbage was piled up on the streets and the drainage system had broken down. Some new but less impressive houses had come up even over the streets. How this decline on a massive scale had begun? The scholars even today are searching for answers but without any success.

Activity Time

□ Map Activity



Map at right shows the four ancient river valley civilisations: (i) Sumerian Civilization - Tigris & Euphrates Rivers (Mesopotamia); (ii)

Egyptian Civilization– Nile River; (iii) Harappan Civilization– Ravi River, an Indus system; (iii) China– Huang He (Yellow) River. The students may refer to text book for the routes followed and dockyard and crafts etc.

□ Project Work

1. Terracotta toys are those of monkeys, ox, water buffalo, cart on wheels, figurines, charpoi (cots) and many other wild and domesticated animals and some birds. Children would have liked to play according to their individual choices.
2. Food of Harappans: Refer to: <http://a.harappa.com/content/what-kinds-things-did-indus-people-eat>
3. Life of farmers and herders given in Chapter 3 was obviously a difficult one than those of Harappan times because that was an advanced civilisation.

□ Picture Study

Though the cart was a toy a replica of a cart on wheels pulled by ox and some other animals used for taking and transporting load to different destination with which Harappan people had contacts in real life.

□ Surf the Net

The website traces the origin of Indian writing system and script to Ashokan times (Chapter 8). It also refers to the mystery surrounding the script used by people of Harappan civilisation.

□ Life Skills

Both questions depend on field visits and enquiries made by students of a particular locality.

□ Imagine

Travelling 4,000 years ago from Mohenjodaro in present day Sind in Pakistan to Lothal in present day Gujarat coast would indeed have been adventurous. In those days people travelled on foot or used boats for some distance. They also used animals like ox but not horse as it was introduced in India in later times. About food local people are said to have given food to travellers. Write your report in the light of this information.

5. The Vedic Age

Practice Time

- I. 1–(iii), 2–(i), 3–(iii), 4–(i), 5–(ii).
- II.
 1. The books we read today are written down and printed on paper but Rigveda was recited and heard and then memorised and transmitted orally from generation to generation.
 2. The main goals of education were development of character and moral training. Girls were also sometimes initiated as they were also expected to have some social conduct.
 3. The inferences drawn from some burials at Inamgaon located on the banks of Ghod River in the Pune district of Maharashtra, pertain to certain rituals followed. The corpses of the dead were laid straight with the head towards the north.
 4. Charaka, who lived around 1,600 years ago, was famous ancient scientist. He wrote a book on medicine *Charaka Samhita*.
- III.
 1. Archaeologists seek evidences how people buried their dead, for example, bones or other evidences of animals like goats, fruits, clothes etc. that inform them of certain burial rites followed and their beliefs.
 2. The life of a raja was different from that of a dasa or dasi in two important respects: (i) In the Later Vedic period rajas were leaders or chiefs who had some specific territory to rule. The dasa or dasi (female) were slaves and were property of their owners; (ii) Whereas the Rajas belonged to *Kshatriya* clan and spoke Sanskrit, the dasas/dasi belonged to the lowest social order and spoke some different language.
 3. The statement that Vedas are the earliest literary source of information refers to: (i) The Vedic texts form the primary source of information and are of great historical value; (ii) The Vedas being the earliest composition depict the life of early Vedic people and the conditions prevailing then.
 4. Throughout the Vedic period education was imparted orally. *Sruti* (what is heard) and *Smriti* (recollection) were the two means of obtaining education. Only first three *varnas* were entitled to education.

- IV. 1. Importance of Vedas to historians:** (i) Being the literary sources, they are the primary source of information and provide direct evidence of the events or the happenings. (ii) There is mention of Sarasvati river in the hymns of the Rig Veda. The historians are now trying to establish whether the drying up of this river was the major cause of collapse of the Indus Valley Civilisation. (iii) Citing the dialogue between the sage Vishvamitra and the rivers. This means that the sage might have lived in Indus area and later after floods moved to the Ganga valley. (iv) The Vedas mention the lifestyle, clothing, food, social structure and other aspects of society.
- 2. Life in Early Vedic Period:** (i) The largest social unit in the Early Vedic Period was called *jana* or tribe. It consisted of several groups or clans called *vish*. (ii) All members of a *vish* were related to each other and performed certain work related functions. (iii) The two groups described in terms of their work were the priests or *Brahmins* and the leaders or *raj*s. Thus in the early period the society was organized into the three sections of the warriors, priests and the ordinary people. (iv) The priests or the *Brahmins* conducted religious ceremonies and performed sacrifices. Some others were teachers and doctors who treated the people of ailments and diseases. The leaders of the clan and warriors were known as *Kshatriyas*. The majority of people were farmers, herders, craftsmen and traders. They were called *Vaishyas*. (v) Besides caste divisions there were other divisions in society. Like, for example, people of fair complexion were called the Aryans and those having dark complexion were considered belonging to *dasa varna*.
- 3. (i)** Based on the settlement patterns the Vedic period is divided into Early Vedic Period and Later Vedic Period. (ii) In the Early Vedic Period the Aryans first settled in the North-West in the areas of present day North-West Frontier Province (NWFP) and Sind now in Pakistan and Punjab. This whole area was called *Sapta Sindhu* or the area drained by Indus and its 7 tributaries which included now dried up Sarasvati. (iii) The area of later period settlement in the Gangetic valley was known as *Aryavarta*. (iv) These two patterns are important for the social and cultural practices of the Aryans.
- V. 1.** In a significant departure from prevailing practices one body probably of the chief was placed in cross-legged position in the courtyard of a five-room house.
- 2.** Brahmins devised the doctrine of ashramas in the Vedic period to demonstrate their power over the lives of people.
- 3.** In the Early Vedic Period tribal leaders or chiefs were called *raj*s. With passage they had now some specific territory to rule and these rulers were called *raj*s.
- 4.** Occupations had become subject of differentiation among people in Later Vedic Period because the occupations became hereditary.
- VI. 1–(iii), 2–(iv), 3–(ii), 4–(v), 5–(i).**
- VII. 1.** Of the four Vedas, two namely *Sama Veda* is a collection of verses mostly from the Rig Veda arranged in poetic form to facilitate singing and the *Athar Veda* is a collection of magic spells and charms to ward off the evil spirits and diseases.
- 2.** The Aryans had settled in the North-West was called *Sapta Sindhu* or the area drained by Indus and its 7 tributaries which included now dried up Sarasvati. The area of later period settlement in the Gangetic valley was known as *Aryavarta*.
- 3.** The largest social unit was called *jana* or tribe. It consisted of several groups or clans called *vish*.
- 4.** The Chalcolithic settlements of Inamgaon are dated between 3600 and 2700 years when people settled in Gangetic Valley whereas Neolithic settlements of Harappa developed about 4,700 years ago.

HOTS

1. People of Deccan were meat eaters as in some Megalithic burials in Deccan animal bones, skeletons of horses, horse equipment and ornaments of stone and gold have been found.
2. The megaliths are proof of social differences in

the society. The variety and style in which these megaliths were built and the objects found like the one at Brahmagiri with 33 gold beads, 4 copper bangles and one conch shell are proof of these social differences. The differences were in many respects like rich and poor, position in society, chiefs and followers and in many other ways.

Activity Time

Map Activity

Refer to website <http://www.facts-about-india.com/aryans-arrival-in-india.php> –

Surf the Net

The environment education and protection though a recent phenomenon has its roots in Vedic texts particularly in the *Samhitas*. The concept may differ from time to time and age to age no doubt the ancient Indians were aware of our environment. Read more

Life Skills

1. The school library might have Vedic literature given in this chapter.
2. Songs in Vedic Age were special techniques of memorization and Aryans conducted animal sacrifices and lit fires during which they would sing special songs. Ask your elders about such songs.

6. Kings, Kingdoms and Early Republics

Practice Time

- 1–(iii), 2–(ii), 3–(i), 4–(i), 5–(ii).
1. Rajas of Mahajanpadas were always in a struggle for supremacy and some like Vatsa had built huge *fortification* walls to secure their main city, especially their capital.
2. The present day elections are based usually on Universal Adult Franchise under which all adult persons have right to vote in the election of their representatives but in the case of janpadas in early stages one of the elders was elected as the chief (*raja*).
3. The territory Vedic janas was called janpada.
4. Punch-marked coins were the metal coins having defined weight and stamped with symbol of authority.

5. Between 600 and 400 BCE the position of women in the society had worsened. They like *shudras* were not allowed to take part in sacrifices nor were they allowed to study the Vedas.
1. The *ganas* were like oligarchies where many chiefs ruled together. They met and discussed the matters in assemblies. However, women and *dasas* could not participate in these assemblies
 2. In the period between 600 BCE and 400 BCE, the *varna*-based division of society advocated by Brahmins, became hereditary. The *Brahmins* performed sacrifices, observed rituals, received gifts and studied Vedas and were expected to teach. The *Kshatriyas* were rulers and warriors. The *Vaishyas* were farmers, traders, crafts persons and other working class people. The *Shudras* were expected to serve the other three groups and could not perform any sacrifices.
 3. The landless agricultural workers, called *kammakaras*. They did most of agricultural work including transplantation of paddy saplings.
 4. Between 700 BCE and 400 BCE Northern Black Polished Ware (NBPW) was known as ceramics in India. It was made at many centres. Its surface colours ranged from pink, silver and brown to golden and many others.
 5. Alexander was the Greek king and conqueror. In ancient times India was known for its many riches and was called the 'Land of Gold'. In 327 BCE, Alexander invaded India.
1. **Factors responsible for emergence of new types of rulers were:** (i) The agricultural surplus became the basis of this change and led to large scale urbanisation and consequent need for maintenance of law and order; (ii) Population both through larger families and migrations necessitated new order; (iii) Emergence of new territories known as janapada led to mutual rivalry and new leaders; (iv) Taking advantage of emerging conditions Brahmanas introduced big sacrifices including the horse sacrifice called Ashwamedha Yagna. With the passage of time these sacrifices too became more of a

ritual and led to emergence of new types of rulers; and (v) Struggle for supremacy led to building of huge fortification walls to secure their main city and rulers.

2. **Mahajanpadas:** They holding of *ashwamedha yagna* by some ambitious rulers of janpadas led to conquests of smaller neighbouring *janapadas* and formation of Mahajanpadas. The *mahajanapadas* were like early monarchies and most of these were located north of Vindhya. Between 600 BCE and 400 BCE, there were 16 Mahajanpadas such as Magdha, Kashi, Vatsa etc. **Main Features:** (i) Though Buddhist or Jaina texts give slightly different names, four of these kingdoms, Vatsa, Avanti, Kosala and Magdha were very large and powerful; (ii) The main city was their capital; (iii) They were mostly monarchical in nature where the position of the king was hereditary. Some were republics (v) Some treated the king as god and people touched his feet; and (vi) They were always in a struggle for supremacy and some like Vatsa had built huge *fortification* walls to secure their main city. **Society:** It was organised on the basis of rules mentioned in the Vedas. The *varna system* had by this time become hereditary. The Brahmins had become very powerful. On account of material prosperity of some people as well as class and caste divisions there were many inequalities which gave rise to cruelty, theft, violence. **Position of Women:** The position of women in the society had worsened. Both women and *shudras* were not allowed to take part in sacrifices nor were they allowed to study the Vedas.
3. **The main factors responsible for rise of Magdha to prominence were:** (i) Many rivers such as the Ganga and Son flowed through Magadha which helped agriculture and provided means of cheap transport; (ii) Superior military power; (iii) Existence of forests provided timber, animals including elephants for use of the army; (iv) Rich copper and iron ore deposits in Chhota Nagpur plateau; and (v) These favourable factors helped Ajatasattu to conquer neighbouring *janapadas*.

V. 1. T, 2. F, 3. F, 4. F, 5.–T.

- VI. 1. In the *ashwamedha* sacrifice, if the horse was not challenged or stopped, these other *rajyas* too were invited to take part in the sacrifice and accepted his power.
2. In order to give the soldiers regular salary in the form of these punch-marked coins.
3. The rise of large urban centres of towns and cities helped in creating demand for both agricultural and crafts goods.
4. Alexander did not cross Beas river because at that time it was swollen with monsoon rains.
5. In Athens at this time free men above the age of 30 were considered as full citizens and had the right to vote and direct democracy existed.

VII. 1. (*Printing mistake:* Replace this chart with that on page 58) Begin from top right to bottom right: Farmers, Crafts persons, Herders, Traders and Hunter-gatherers. 2. Sixteen. 3. Punch-marked coins. 4. Women. 5. Son.

- VIII. 1. The tax-collector was known as *sangrihitri* and the *Baga* was the share of produce of crops that could also be paid in coins.
2. Mahajanapadas were like monarchies where king was all powerful and claimed all revenues. *Gana* or *sangha* were tribal oligarchies where all tribal chiefs acted together and shared revenues.
3. Both are parts of Vedic literature. Upanishads deal with the philosophy and spiritualism. The *Samhitas* are the first part of each Veda and are a collection of hymns or mantras.
4. The earthenware and pottery prevailing between 700 BCE and 400 BCE is called Northern Black Polished Ware (NBPW) or ceramics. Painted Grey Ware pottery was extremely fine to touch and was made of clay tempered with fine sands.
5. Between 600 and 460 BCE the Mahajanapada of Magadha with its capital at Rajagiri in modern day Gaya and Patna was strategically located and more powerful kingdom. *Vajji*, during this period was the united kingdom of eight smaller kingdoms and had *gana* or *sangha* form of government.

HOTS

1. The rajyas of Mahajanapadas needed resources to maintain the huge army and run administration, build huge forts to secure the external boundary of the empire. They could no longer afford to depend on the gifts brought by people or the war booty. So they began collecting taxes.
2. I may have challenged the *varna system* which had by this time become hereditary and more rigid. The Brahmins had become very powerful. There existed many inequalities on account of the material prosperity of some people as well as class and caste divisions gave rise to cruelty, theft, violence and many other vices. All this could have been reformed with the challenge to authority of Brahmins.

Activity Time

Map Activity

1. Students to do;
2. Refer to Page 51 of the textbook

Project Work

Back to Direct Democracy: It is not possible in modern time because of huge population. Refer further to file:///C:/Users/User/Downloads/emocracy,+is+it+possible,+do+we+want+it.pdf

Picture Study

For diagram at right first refer to printing error (Question VII.1 above) and then completed diagram on page 53.

Surf the Net

1. This website deals with detailed history of India from pre-historic times. A Government of Tamil Nadu textbook, it is worth reading.
2. This Odisha Government website. Read about the history of Odisha from around 261 BCE (Ashokan times)

Life Skills

1. Depending on their income persons like farmers and crafts persons pay taxes even today. Similarly land revenue fixed.
2. Greece also follows Universal Adult Franchise (persons above 18 years age) for its citizens in respect of voting but party system is very complicated. Women have also right

to vote since 1930. So people of all groups have right to vote.

Imagine

Vaishali in modern Bihar was the capital of Vajji, the united kingdom of eight smaller kingdoms and had *gana* or *sangha* form of government. During an attack by Magadha we might hear the murmurs of the chiefs of eight participating kingdoms about their common decisions to merge their kingdom with Magadha.

7. New Ideas and New Religions

Practice Time

- I. 1–(i), 2–(iii), 3–(i), 4–(ii), 5–(i).
- II. 1. After reading the story of Kisagotami whose son had died and went to Buddha, one can conclude that the story of Buddha is a lesson in learning for students.
2. The moral of the story of Kisagotami is that one has to *come to terms with bereavement, loss and compassion*.
3. The oldest and most important scripture of Buddhists in Pali are the *Tripitaka* or *The Baskets of Wisdom*.
4. Svetambaras are the followers of Bhadrabahu, who wear white dress and cover their mouths to practice Ahimsa or killing any organism in the mouth.
5. The spread of Buddhism and Jainism in 600 BCE had major impact on architecture as stone carvings and statues as well places of worship were erected not only in India but in the countries of South-East Asia, China and Japan where Buddhism had spread.
- III. 1. The questions that the Upanishad thinkers wanted to answer is the ultimate goal of the Vedanta, the teachings of the Upanishads, or how the soul (*Atman*) can be united with the ultimate truth (*Brahman*) or as some call it the universal soul. They seek the life of contemplation, consciousness and bliss.
2. The event when Gautama Buddha left his home and wandered for six years from place to place is known as the Great Renunciation. He then studied Hindu scriptures and meditated under a banyan tree. When he could not get

much knowledge he turned to asceticism and starved himself but ultimately adopted a path between the two extreme ends.

3. After having attained enlightenment Buddha laid emphasis on *things to do* rather than the *things to believe*. The ultimate goal of the things to do is to end suffering and absolute joy. He believed that the results of our actions (*karma*) whether good or bad affect us both in this and next life. The things to do are best summarised as Four Noble Truths.
 4. In Mahayana Buddhism Bodhisattvas are the persons who have attained Nirvana, the path to salvation, but chooses to be reborn within *samsara* in order to help others on the path of enlightenment. In the sect of Buddhism, Buddha and Bodhisattva are both worshipped.
 5. The importance of Tri Ratnas or the *Three Jewels* in Jainism is that these teachings form the basis of Mahavira's teachings. They are: (i) *Right Faith* – We must believe in truth; (ii) *Right Knowledge* – We must understand what life is all about; and (iii) *Right Conduct* – Strength of passion is the worst thing – the passion of violence, desire and possession. Therefore, we must practice ahimsa, which became the fundamental rule for Jains to follow.
- IV. 1. After having attained enlightenment he laid emphasis on *things to do* rather than the *things to believe*. The things to do are: (i) Four Noble Truths based on Buddha's four sights of suffering. (ii) By following the path one can escape from rebirth and attain perfect freedom and bliss. (iii) The Triple Jewels also known as the three treasures, are the central focus of inspiration and devotion for Buddhists. These are: the Buddha, the founder of Buddhism; Dhamma which in Sanskrit means Dharma and is practiced for realisation of the teachings of Buddha; and Sangha, literally meaning 'community' or 'assembly', the community of disciples. (iv) He emphasised establishment of the order of monks who later underwent training and were instrumental in spreading the message of Buddhism.
2. The main teachings of Mahavira were: (i) Mahavira's main teachings are the teachings of Parsva, the 23rd tirthankara; (ii) These four fold teachings are *chaturyama dharma*, *abstention from violence*, *untruth* and *acquisitiveness*; (iii) These teachings form the *Tri Ratnas* or the *Three Jewels*; (iv) They are: *Right Faith* – We must believe in truth; *Right Knowledge* – We must understand what life is all about, and *Right Conduct* – Strength of passion is the worst thing – the passion of violence,
 3. **The Four Noble Truths are:** (i) The world is full of suffering; (ii) Desire, thirst or *tanha* is the main cause of suffering; (iii) To end suffering one must get rid of desire; and (iv) In an attempt to deal with harsh realities one must pursue the 'eight-fold path.'
 4. **Spread of Buddhism:** From Magadha in Bihar Buddhism first reached Sanchi in Madhya Pradesh where a grand stupa was built. From Sanchi, Buddhism spread to Ceylon (Sri Lanka), Myanmar, Thailand, other countries in South-East Asia, Tibet, China and Japan. The absence of rituals and simplicity; establishment of the order of monks, building of the great centres of learning like the universities of Nalanda, Taxila and Vikramshila and the patronage of kings and princes like Asoka, Kanishka and Harsha helped in its spread. *Spread of Jainism:* Jainism from its centre of origin in Bihar became more popular in Orissa. Thereafter it reached Rajasthan and Gujarat in the west where many temples or monasteries were built. Other centres of its spread are Karnataka and Andhra Pradesh.
- V. 1. F, 2. T, 3. T, 4. F, 5. T.
- VI. 1. It was easy for slaves to join *sangha*, the community of disciples because of absence of rituals and simplicity of Buddhism.
2. Most Upanishadic thinkers were men especially Brahmins and rajas.
 3. After enlightenment, Buddha went to Sarnath, near Varanasi, where he taught for the first time.
 4. At Bodh Gaya, Buddha decided to find his own path of realisation and meditated for

days on end under a *peepal* tree at Bodh Gaya in Bihar.

5. Because strength of passion is the worst thing – the passion of violence, desire and possession.

VII. 1–(v), 2–(iv), 3–(i), 4–(ii), 5–(iii)

- VIII. 1. Hinduism believes in certain concepts such as karma, dharma, nirvana and meditation. Jainism believes in Ahimsa, severe penance and worship of 24 tirathankaras;
2. In Hinduism Sanskrit was the language of the Vedas but ordinary people spoke Prakrit whereas the Buddhist scriptures are in Pali, the language of the people.
 3. In Buddhism Sangha is a community of people who left their homes in search of truth whereas in Sanskrit Dhamma means Dharma and practiced for realisation of the teachings of Buddha;
 4. Vedas are divided into *Samhita* and *Brahmana*. The Brahmana includes *Aranyaka* and *Upanishads*;
 5. On the path of enlightenment Nirvana is the path to salvation, but persons may choose to be reborn within *samsara*, the present world, in order to help others.

HOTS

1. The factors that gave rise to new religions around 600 BCE were: (i) The rigidity in society, (ii) The many rituals, (iii) The evils in society like cravings and desires, (iv) The rebellion in society against these norms; (v) the Sanskrit language was no longer the language of the common people; and (vi) the exclusion of women and *shudras* had alienated a large section of the population.
2. **Upanishads and Treatment of women and other sections of society:** Comment on on the following factors: (i) Most Upanishadic thinkers were men especially Brahmins and rajas. One famous exception of women thinkers was Gargi and of common men was Satyakama Jabala, named after his slave mother Jabali; (ii) The ‘learning is sharing’ contained in “The Chhandogya Upanishad” gives an insight into the treatment given to weaker society and beginning of rise of new ideas; and (iii) The divisions of Upanishads

are actually an elaboration of the four stages of life called the *ashramas* that allowed men to spend some part of their lives in meditation but excluded the women. The women were not allowed to study the Vedas, and they had to follow the *ashramas* chosen by their husbands.

Activity Time

□ Map Activity

Copy outline map of Asia given on page 63:

1. Show spread of Buddhism from Sanchi, India;
2. Label to which Buddha and Mahavira respectively belonged.
3. Label: Confucius – China and Zoroaster – Iran shown in the above map.

□ Project Work

Read the below-given e-book and prepare your project report.

□ Surf the Net

This is an e-book of short studies on Science of Comparative Religions embracing all religions of Asia published long back in 1897. Religions and their literature is the main theme.

□ Life Skills

1. The five ideas mentioned in this lesson are: (i) Absolute Truth, (ii) Upanishadic thinkers, (iii) Knowledge of the beggar, (iv) Hindu scriptures, (v) Founder of Jainism. Three questions from this list are: (i) Why were Upanishadic thinkers mostly men? (ii) How did the beggar know that he is also a part of the Universe? (iii) Who is the founder of Jainism? Discuss why these ideas and questions are important even today. Record the discussion.
2. People like many sages of all religions and sadhus renounce the world even today. They renounce the world for many reasons such as - (i) propagate their religion; (ii) for finding peace, (iii) rigid beliefs; (iv) belief in asceticism etc.

□ Imagine

Dad perhaps you know that one Buddhist monk has come to the town and many of my school mates are going to listen to his discourse in the

City Park. But I have to pay the ferrymen to cross the river. You know when Gautma Buddha had no money he took to air and crossed the river. If you have the money please give me and I will ask the monk how we too can take to air. Surprised boy's Dad gave him some punch-marked coins but told him not to become a monk.....

8. Kingdoms to Empire

Practice Time

- I. 1–(ii), 2–(iii), 3–(i), 4–(i), 5–(ii).
- II. 1. Ashoka wanted to solve the problems of intolerance, killing of animals and violence, lack of respect for Brahmans and other religious teachers and others.
 2. Ashoka was a democratic ruler in one important respect in that he is perhaps the only ruler to take his messages to people through rock edicts and other inscriptions and asked his officials to take responsibility for the decisions.
 3. The rulers of many forested regions and others which were administered by local rulers in acknowledgement of submission and payment of tribute to Mauryan rulers for providing protection.
 4. The Mauryan School of Art was known for stone sculptures and extraordinary craftsmanship.
 5. Three principal cities of Mauryan Empire were Patliputra, Taxila, and Ujjain.
- III. 1. The means adopted by Ashoka to spread the message of dhamma were: (i) Appointment of officials, known as the *dhamma mahamattaras*. (ii) He got his messages inscribed on rocks and pillars; (iii) Ashoka sent messengers to Syria, Egypt, Greece and Sri Lanka; and (iv) Built roads, dug wells, and built rest houses etc.
 2. The slaves and servants were ill-treated because of caste-system, belief in rituals, quarrels in the family and among neighbours and other problems in the society. Even on the orders of the emperor things would not have improved.
 3. Emperor Chandragupta had raised a vast army of 600,000 foot-soldiers, 30,000 horse-
- back soldiers and 9,000 elephants. Supported by Chanakya he was able to lay the foundation of Mauryan Empire.
4. Ashoka inherited sound administrative machinery from Chandragupta. (i) He had divided the empire into provinces with each of the provinces headed by a royal prince; (ii) Each province was further divided into districts. In a district there a number of villages; (iii) Each village was placed under a headman who also collected taxes; and (iv) All the princes and officials were representatives of the king. Many officials and soldiers were given salaries.
5. Ashoka erected a large number of pillars because: (i) For inscribing messages on rocks and pillars surfaces; (ii) He revered animals such as lions the figures were placed as capitals of these pillars; (iii) The rock and pillar edicts of Ashoka carry inscriptions that throw light on the emperor's policies and life of the people.
- IV. 1. Ashoka's Lion Capital at Sarnath is shown on a currency notes for following reasons: (i) It has been adopted as the National Emblem of India; (ii) The symbolism reminds us of protection of our environment; (iii) Sarnath Capital shows four different phases of Buddha's life represented by four animals; (iv) It has 24-spokes shown on a Dharma wheel over a bell-shaped lotus; (v) Ashoka was the first emperor of India whose territory much larger than modern day India; and (vi) The Government of free India adopted the emblem on 26th January 1950, India's Republic Day. Besides currency notes it can be seen on all Government stationary, official stamp, 24-spokes wheel also appears on India's Nation Flag.
 2. Occupations of the people in the Mauryan Empire ranged from ministers of Ashoka, government officials, merchants, crafts persons, script writers, hunter-gatherers, tax collectors, wood cutters, mud brick layers, stone carvers, builders, gardeners, construction and road workers and many more.
 3. **Three principal cities of Mauryan Empire:** (i) *Pataliputra (modern Patna)*: It was fortified

with a wooden wall and public facilities such as drains, roads, wells and other facilities for maintenance of peace and justice to people. (See also next question); (ii) Taxila also called Takshashila today is in Rawalpindi, Pakistan. It was the provincial capital and was gateway to the northwest, including Central Asia. It boasted of a world-class university where Chanakya had studied and later worked as professor. (iii) Ujjain then known as Ujjaini was one of the four great powers of 600 BCE mentioned in Buddhist literature. It lay on the route from north to south India and was of great importance to merchants, officials and crafts persons.

4. **Megasthenes says about Pataliputra:** It is of the shape of a parallelogram with loopholes for discharge of arrows. The wall has a ditch in front for defence and for receiving the sewage of the city. He writes, "This is a large and beautiful city. It is surrounded by a massive wall. It has 570 towers and 64 gates. The houses, of two and three storeys, are built of wood and mud brick. The king's palace is also of wood, and decorated with stone carvings. It is surrounded with gardens and enclosures for keeping birds."

V. 1. T, 2. F, 3. F, 4. T

VI. 1. There was great violence, too many killed and many others deported. This brought about a change and Ashoka had strong inclination towards dhamma.

2. Ashoka appointed the *dhamma mahamattaras* who went from place to place teaching people about *dhamma*; 3. India has adopted Lion Capital of Ashoka as its National Emblem because it represents power, courage, compassion and victory.

4. Ujjain was of great importance to merchants because it was one of the great powers in 600 BCE and lay on the route from north to south India.

5. Great Wall of China is a great product of peace rather than war.

VII. 1. Taxes, 2. Governors, 3. Roads, Rivers, 4. Tribute

VIII. 1. Chandragupta was the founder of Mauryan

Empire and Ashoka to a large extent followed the political and social organization as prevailed during the reign of his grandfather Chandragupta Maurya.

2. Ashoka's *dhamma* did not involve worship of a god or goddess or performance of a sacrifice nor any kind of rituals whereas Hindu dhrama does involve worship, sacrifices and rituals.

3. Mauryan Empire was divided into provinces with each of the provinces headed by a royal prince. These provinces each had their capital cities which acted as administrative headquarters.

4. The taxes were collected from almost all classes and workers, traders and other businessmen. Tribute was a kind of payment made by rulers of many forested regions and others which were administered by local rulers in acknowledgement of submission and payment for providing protection

5. Taxila in modern day Rawalpindi, Pakistan was the place of famous university in Ashokan times. Pataliputra present day Patna was the capital of Mauryan Empire.

HOTS

1. After Kalinga war Ashoka ruled his empire with peace. He strengthened his empire without armed expansion. The borders and the officials were under constant watch. There were spies and other messengers.

2. I will get my orders inscribed concerning these subjects: (i) Protection of environment; (ii) Don't waste or pollute water; (iii) Every persons should plant at least 10 trees a year; and (iv) Follow Ashoka's example of living in peace.

Activity Time

Map Activity

Refer to map on page 71.

Surf the Net

1. "The Under the Mauryans the era as known as modern Punjab was included in the larger province of Gandhar whose capital was at Takahila (now in Pakistan) which was a flourishing center of education," says the website

2. This website gives history of Bihar from ancient to modern times.

□ **Quiz**

Locate the places in Afghanistan, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

9. Vital Villages and Thriving Towns

Practice Time

- I. 1–(iii), 2–(i), 3–(ii), 4–(iii), 5–(iii).

II. 1. Some early iron tools were sickle, tongs and axes for clearing forests, and the iron ploughshare for turning the soil;

2. The spread of agricultural settlements in the Ganga valley was made possible by iron tools, small canals and water channels which were well within the capacity of village communities;

3. Two important functions of villages were: (i) The village farmers and herders brought their milk and milk products, agricultural produce to the city; and (ii) The crafts persons made stones statues and other things for the pilgrims;

4. The early Tamil literature is called Sangam Classics, the word *sangam* refers to assemblies and these texts are supposed to have been composed and compiled in assemblies.

5. Ring wells as found in Delhi are earthen pots arranged one on top of the other, looking like toilets or drains.

III. 1. The functions of the largest landowners in Northern India, called *grama bhojka*, were: (i) they maintained and employed *dasas* for working in the fields; (ii) they promoted crafts and trade; and (iii) they enabled landowners to pay taxes. Because of these function he was a very powerful person.

2. The crafts persons who would have been present both in villages and cities were: (i) Persons who made stones slabs, statues and other things for the pilgrims; (ii) persons such as blacksmith, potter, carpenter and weaver. They along with merchants had formed associations known as *shrenis*. (iii) These associations helped to organize trade, serve as banks where rich persons deposited their

money. This enabled them to live in cities as well.

3. Sangam Classics are the product of three sangams or assemblies held at Madurai, Kapatpuram and Madura. (i) The *Tolkappiyam*, a work on grammar of Tamil language, is the only available work of first two *sangams*; (ii) The two collections of lyrics, *Ettu-Thkai* or *Eight Anthologies* and *Pattu Pattu* or *Ten Idylls* are the main literature of third Sangam.

4. Jatakas transmitted orally in the beginning were written down in Pali around 300 BCE; (ii) These stories are like *Panchatantra* stories are full of many morals and most interesting for children; (iii) These stories like that of 'The Clever Poor Man' who gradually became rich throw light on the life of common people and their beliefs;

5. The traders of this time explored land-routes, like the famous Silk Route: Its importance: (i) It linked China with Rome via northern Indian Subcontinent and Central Asia; (ii) It was famous for many imports and exports; (iii) The network was in operation from 130 BCE to about 1453 CE when the Ottoman Empire closed the route.

IV. 1. Between 600 and 300 BCE Ganga Valley was heavily forested. (i) Some early iron tools such as sickle, tongs and axes were used for clearing forests. (ii) They helped the farmers in working tough soils. (iii) Later the iron ploughshare was used for turning the soil. (iv) The farmers used these in digging water channels both for collection of rain water and digging channel for taking water from rivers as a means of irrigation. Small irrigation works like wells, tanks and minor canals which did not require any cooperative effort or any major tools for digging work. (v) The tools of this time enabled the farmers to undertake transplantation of rice plant on large scale.

2. The villages were vital for thriving towns in following respects: (i) For supporting the urban population through agricultural surpluses and in many other ways; (ii) During the period of second urbanization between

600 BCE and 300 BCE towns and cities became good markets for artisans, weavers, merchants and others; (iii) In most villages there were crafts persons such as blacksmith, potter, carpenter and weaver. They visited towns and provided their skilled services; (iv) The villages were so vital that there was well defined division of labour based on agriculture work; and (v) Some of the important classes of people such as *Grama bhojaka*, the largest landowner in North India and *Vellalar* in South India also lived in towns and cities to maintain the links.

3. India had both land route and maritime contacts with Roman Empire. (i) Arikamedu (in Pondicherry) is storehouse of many archaeological finds such as Roman coins and tall double handed jars called amphorae made in Rome. These jars contained wine or olive oil, red-glazed pottery, known as Arrentine Ware, named after a city of this name in Italy. These and other such leads point to trade with Rome and Egypt. (ii) Strabo (64 BCE – CE 21), Greek historian and geographer, says that Romans dispatched large commercial fleets to India during this period between 2,200 and 1,900 years ago; (iii) The excavations at the site have revealed Roman lamps, glassware and gems as well as dyeing vats used to dye cloth.
4. The *Arthashastra* by Chanakya says about spinning and weaving: (i) There were rules for spinning and weaving which were meant for spinning and weaving workshops under the supervision of a special officer; (ii) They were meant to regulate the working conditions of workmen and women, maintain the quality and quantity of work, working hours of women, old and retired persons; (iii) These rules prescribe stringent punishments for anyone who does not complete the assigned work according the prescribed time frame or quality; (iv) The famous centres of cloth manufacture were at Varanasi in the north and Madurai in the south. Both men and women worked in these centres.

V. 1–(iv), 2–(i), 3–(iii), 4–(ii)

VI. 1. Canals were important means of irrigation

in Ganga Valley because of cooperation of communities and nearly flat terrain.

2. Agricultural expansion supported more people and there was growth of towns.
3. Towns and cities became good markets for farmers and artisans because of demand for agricultural and artisan goods in the second phase of urbanisation.
4. *Shrenis* served as banks because traders and crafts persons helped to organise organize trade.
5. The crafts persons made stones slabs, statues and other things for the pilgrims in order to cater to their needs.

VII. 1. Vellalar, 2. Dasas, 3. Uzhavar, 4. independent

VIII. 1. Drainage system in our locality is marked by underground pipes but in this lesson ring-wells in a city like Delhi were found.

2. Barter trade or goods for goods, prevailed in earlier times but today money is used as a means of exchange.
3. Bharuch was a famous port and Gandhara a famous religious centre but today both serve as centres of trade and commerce because of their location.
4. Wells supply underground water but ring-wells were toilets and meant for drainage in olden times.
5. Tolkappiyam, earliest text in Tamil belonging to Sangam Classics, was composed around 200 BCE and Tirukkural or *Kural* is a minor work associated with third Sangam.

HOTS

1. Adapt from Long Answer Questions IV (b).
2. Sangam Classics, dating to period between 200 BCE and 200 CE, are the early Tamil literature. They were composed and compiled in assemblies as meant by the word *sangam*. The assemblies were held at Madurai, Kapatpuram and Madura.

Activity Time

□ Map Activity

1. Show these cities in India mentioned in this chapter are Madurai, Kapatpuram (Near Madurai) and Madura, Sanchi, Amravati,

Bharut, Delhi, Bhaurch, Arikamedu (Pondicherry), Mathura and Varanasi.

2. Port towns - Bharuch, Sopara and Tamluk
3. Cities where Sangam Classics were compiled are Madurai, Kapatpuram (capital of Pandyas)

□ Picture Study

Wheeled Vehicle - Animal driven cart, Potters Wheel - Wheel thrown pottery as in Indus Valley Civilisation, Irrigation & Driven Plows - Iron tools and animal driven plough share

□ Surf the Net

This is a representative study, a thesis, of Ganga Valley sites in West Bengal and Bihar for understanding geographical distribution of ancient sites.

□ Imagine

In Barygaza as Greek and Romans called Bharuch in modern day Gujarat, I would see the mouth of Narmada where the river meets the sea (Arabian Sea)

10. Kings, Traders and the Pilgrims

Practice Time

I. 1-(ii), 2-(iii), 3-(iii), 4-(i), 5-(iii).

II. 1. The ordinary people were attracted to Bhakti because on the hand the saint poets created a new devotional poetry and on the other they had disregard for caste system advocated by Brahmans.

2. Kanishka was Kushana ruler who ruled most the north-western parts of the country between 200 BCE and CE 300.

3. The port of this time on West Coast was Muziris, modern Crangnore, which was controlled by the Cheras.

4. The Valmiki temple was in Champa, South-East Asia.

5. The early Bhakti movement originated in Tamil Nadu and early Bhakti saints are known as the Nayanmars, the devotees of Shiva and Alwars, the worshippers of Vishnu.

III. 1. Silk Route was profitable trade route linking China with Rome. (ii) During Kushanas rule in India it extended up to Taxila, near

modern Rawalpindi in Pakistan. (iii) The silk from China was shipped by maritime route westward to the Roman Empire.

2. The kinds of evidence the historians use to find out about trade and trade routes: (i) How people particularly traders had become very affluent through trade; (ii) Means of exchange used particularly gold coins as in the case Kushana rule as well as Southern kingdoms; (iii) Land and maritime trade gives information about trade routes such as silk, horses etc.

3. The main features of Bhakti: (i) The word bhakti comes from the Sanskrit term *bhaj* meaning 'to divide or share.' This feeling of sharing emphasizes loving devotion to god or *Bhagvat*; (ii) The saint-poets of Bhakti created a new devotional poetry, a great literary achievement; (iii) The Bhakti saints showed their disregard for caste-system and inspired best expressions in art, sculpture, poetry and architecture.

4. The ancient Vishnu Temple at Angkorvat tells us: (i) It is a testimony of the Indian influence in South-East Asia; (ii) The inscriptions shows many Brahmans settling in Cambodia and some marrying in Royal families; (iii) Many people followed Hindu religious customs.

5. **Nalanda University:** (i) An ancient centre of higher learning, it was established in CE 500. It boasted of 10,000 students and 3,000 teachers and continued to flourish until CE 1200; (ii) It was the centre of Buddhist studies and scholarships; (iii) Its library had a vast collection of ancient literary works though much has been destroyed during invasions; and (iv) Today it has been revived as an open university for distance learning. Nalanda Open University Act 1995 was promulgated by the Government of Bihar.

IV. 1. The reasons why the Chinese pilgrims came to India are: (i) During this time Nalanda in Patliputra (Patna) was the most famous Buddhist monastery and a unique centre of learning. (ii) Many foreign pilgrims used to visit India. Among them three best known Chinese Buddhist pilgrims, as stated in

Q. 3 below, came to India during this time. (iii) They came to India for Buddhist study and on pilgrimage. (iii) They like Xuan Zang were scholars who carried back books from India and spent the rest of his life translating the some manuscripts from Sanskrit into Chinese.

2. The main points to be considered in respect Indian influence and spread Buddhism in South East Asia are: (i) India is linked to this region via sea routes which played a key role in the spread of the Indian culture, religion and other traditions. (ii) The main islands in the region are Sumatra, Java, Cambodia, Bali, Borneo and Champa which Indians together called Suvaranadvipa or *the Island of Gold*. (iii) Sumatra, called 'Sri Vijaya' in ancient times, was ruled by a Hindu king. (iv) Java, called Yawadwip in Sanskrit was established by a Hindu prince during the reign of Chandragupta. The Buddhist stupa at Borobodur is the biggest stupa in the world. (v) Cambodia was home to many Indians and marrying in Royal families. Vishnu Temple at Angkorvat is another testimony of the Indian influence in South-East Asia. (vi) Many people in Bali still follow Hindu religious customs. (vii) Champa had a Hindu kingdom for a long time. The Valmiki temple and the Ramayana tradition found on the bas-relief are evidences of the Indian influence.
3. The three Chinese pilgrims who visited the subcontinent between 1600 and 1400 years ago were: (i) Fa Xian (Fa-Hsien or Fa Hien), Xuan Zang (Hsuan-tsang) and I-Qing (I Ching). (ii) During this time Nalanda in Patliputra (Patna) was the most famous Buddhist monastery and a unique centre of learning. Many foreign pilgrims used to visit India. (iii) Some like Xuan Zang, followed the Silk Route through the northwest and Central Asia. He carried back with him 20 horse-loads of statues of the Buddha made of gold, silver and sandalwood, and over 600 manuscripts but 50 of which were lost when the boat on which he was crossing the Indus capsised. The similar dangers were faced on the sea route. Yet the pilgrims continued their journey. (iv) These pilgrims gave

glorious accounts of Nalanda and greatness of ancient India. Xuan Zang, speaking about the greatness of the University says, "The gatekeeper asks new entrants difficult questions..... Seven or eight out of every ten are not able to answer."

4. (i) Between the period 181 BCE when Mauryan rule came to end CE 300 India was again ruled by small kingdoms. (ii) Pusyamitra Sunga and his successors ruled around north-western parts up to Ayodhya in east and Narmada River in the south. Their rule lasted from about 150 BCE to around 73 BCE. (iii) Shakas were of Central-Asian origin and belonged to two main families. They set up their kingdoms in the north-west, north and western India. Their rule lasted for about 500 years. (iv) Kushanas were most famous under Kanishka. They ruled most the north-western parts of the country between 200 BCE and CE 300. (v) Satavahanas ruled western and Central India between 50 BCE and CE 220. (vi) In South India Cholas ruled between 200 BCE and CE 400 and later in the 9th century some other dynasty of Cholas re-emerged. (vii) Cheras were centred around modern Kerala and are said to be the earliest rulers who probably ruled between 900 BCE and CE 198. (viii) Pandya's coastal kingdom founded in 600 BCE continued until CE 940 when Cholas had remerged and defeated them.
- V.
 1. Kanishka's had become very affluent through trade particularly with Rome.
 2. The Cheras, Pandyas and Cholas were centred around the western and eastern coasts.
 3. Kaveripattinam is referred to as *Poompuhar* in Sangam poem for its exquisite beauty where Kaveri River merges in ocean waters.
 4. During storms navigators, to save the ship from sinking, used to throw off their merchandise in the sea.
 5. A poem composed in Tamil by Appar, a devotee of Shiva, refers to a 'leper with rotting limbs' as the devotee of Siva whom Brahmans regard as 'scavenger'.

- VI. 1. They were ruling families between 300 BCE and CE 300 and are mentioned in Sangam literary collections.
2. During Kanishka's reign the fourth Buddhist council was held at Kundalvana in Kashmir.
3. The Indian religion and culture blended well with South-East Asian countries where many statues and temples were built.
4. Fa Xian threw away his meagre personal belongings, but not his books and the statues of the Buddha that he had collected as souvenirs from India to save the ship from sinking when it was caught in a storm.
5. The early Bhakti saints, the Nayanmars, the devotees of Shiva and Alwars, the worshippers of Vishnu originated in Tamil Nadu.

VII. 1-(v), 2-(iii), 3-(ii), 4-(i), 5-(iv)

- VIII. 1. The Sangam are literary collections of three assemblies Bhakti inspired new devotional poetry though not always religious it was essentially a religious movement.
2. Kushana ruled around CE 100 in the North-West, Shaka rule was founded around CE 78.
3. Arikamedu port was on East Coast whereas Muzris Port was on West Coast.
4. Trade with Rome was usually a business dealing whereas trade with South-East was as Indian colonies of the then Greater India.
5. Ancient Silk route was a land-route, later in part maritime as well, linking China with Rome. Maritime routes are ocean routes linking any nation having sea-coasts

HOTS

- ❖ During Kushana rule around CE 100, a branch of the famous Silk Route extended up to Taxila, near modern Rawalpindi in Pakistan where it was shipped to Rome as maritime trade is cheaper.

Activity Time

□ Map Activity

1. See maps on page 85 and 86
2. Refer to map on page 87

□ Picture Study

1. The pillar shows 'Word of God', one of the five basic beliefs of Jesus Christ

2. Similar principles of Buddhism are the Three Jewels – Buddha, Dhamma and Sangha

□ Surf the Net

The website shows how the archaeologists have to confront historical texts as the archaeologists can themselves be prejudiced but have to present indisputable facts. This study of Tamil and Kerala regions is no exception.

11. The Gupta Empire and After

Practice Time

- I. 1-(iii), 2-(i), 3-(iii), 4-(iii), 5-(i).
- II. 1. Three authors who wrote about Harshavardhana were the ruler himself, Banabhatta and Huein-Tsang;
2. The changes in the army of this time are many like for example chariots and elephants are no longer used for fighting, the soldiers are paid regularly without land revenue, the soldiers are maintained by the state nor are their any *samantas*.
3. Kalidasa was a great playwright of this time. His three immortal works are *Abhijnana Shakuntalam*, *Vikramorvasi* and *Malvikaagnimitra*.
4. Mahabalipuram is famous for the rock-cut Shore Temples built by Mahendravarman (CE 600-630).
5. It is inferred from the sentence that some administrative positions such as the *mahadanda-nayaka*, or chief judicial officer were hereditary although Harishsena was a great poet too.
- III. 1. The new administrative arrangements of the Gupta rulers were: (i) The provinces were divided into districts and several villages constituted a district. (ii) Some important persons like the *nagarashreshthi* or chief banker or merchant of the city and the *sarthavaha* or leader of the merchant caravans, the scribes and other were consulted in administrative matters. (iii) Some administrative positions particularly in respect of revenue collection became hereditary.
2. The means of exchange of between 1,700 and 1,400 years ago were: (i) Both northern and

southern rulers had their own coins. (ii) Gold and silver coins bore some distinctive symbols and were of standard weight. (iii) The coins were the main means of exchange and this helped both national and international trade.

3. (i) The rock-cut temples were cut out of solid rock found in Deccan Plateau; (ii) There are famous stone carvings like at 28 Ajanta Caves in addition to temples; (iii) The examples of such cave temples or three famous places are at Mahabalipuram, Kanchipuram and at Pattadakal.
 4. One famous work of Kalidasa is *Abhijnana Shakuntalam*; (ii) It portrays the reality of life though the story is taken from epic legend; (iii) The girl bore a child both are rejected by the king but hope their reunion in next life;
 5. The travelling Arab mercants were fascinated by: (i) the great literary works including the third century fables and folk tales from *Panchatantra*. (ii) They were also fascinated by the concept of zero developed in India; (iii) In medieval times besides Arab invasions that changed the history of India both the fables as well as the concept of zero became the basis of new fables and introduction of Arab numerals by the Europeans.
- IV. 1. The four types of rulers defeated by Samudragupta were: (i) Rulers of Aryavarta kingdoms were defeated by violent extermination; (ii) In the case of tribes it was done by slavery; (iii) The confederacy conquests by payment of tribute and obeying orders; and (iv) in the case of Dakshinapatha conquests it was subjugation and allow to rule on payment of tribute.
2. (i) Pulakeshin II (CE 609-642) was famous king of Chalukya dynasty who were based in Deccan. (ii) We know about him from a *prashasti*, composed by his court poet Ravikirti. (iii) It is said that the ruler of Bengal, Sasank, whom Harshavardhana had defeated earlier had negotiated with Pulakeshin not allow him to cross the river Narmada and he successfully checked his advance into Deccan. (iv) The *prashasti* says, "Harsha was no longer Harsha!". Ravikirti tells us about his ancestors and that Pulakeshin got the

kingdom from his uncle; (v) The Chalukya dynasty to which he belonged ruled between CE 600 and CE 1,200 and Pulakeshin had got the kingdom from his uncle.

3. The main features of administration during the Gupta period were: (i) It was an efficient system of administration that had enabled the Gupta emperors to undertake successful military campaigns and allowed them to rule in a different ways than their Mauryan predecessors; (ii) Faxian (Fa Hsien) and Xuan Zang (Huein-Tsang) give us a credible insight into the administrative system of both Gupta emperors and southern kingdoms; (iii) Princes and members of royal family like the Mauryas were appointed as governors of provinces; (iv) The provinces were further divided into districts and several villages constituted a district; (v) Some important persons like the *nagarashreshthi* or chief banker or merchant of the city and the *sarthavaha* or leader of the merchant caravans, the scribes and other were consulted in administrative matters.
 4. During 6th and 7th centuries Hinduism became deeply in the society in following ways: (i) The Vedic religion became the main religion in the north, Deccan and south; (ii) The Hindu epic writings of the *Ramayana* and *Mahabharata* were completed. They became very popular throughout India; (iii) Many Hindu temples and shrines were built; (iv) In the south worship of *Shiva* and *Vishnu* made considerable impact on society; (v) Even Buddhism and Jainism were patronised and many shrines built during this period which enabled Hinduism to prosper.
- v. 1. F; 2. F; 3. T; 4. F, 5. F, 6. T.
- vi. 1. The *prashastis* were in Sanskrit in Brahmi script which ordinary people did not know;
2. Pulakeshin II attacked Bengal in order to compel the ruler to accept his friendly diplomacy which was necessary for checking Harshavardhana's advances;
 3. The control of sea ports was seen necessary for easy international trade and with South-East Asia.

4. Family tree helps to know: (i) Connections with other kingdoms; (ii) Descent of the ruler; (iii) The pursuits of the emperor; (iv) importance of the rulers; and many other things.
5. Garuda banner was the legendary symbol of power of Samudragupta.

VII. 1–(iv), 2–(i), 3–(v), 4–(iii), 5–(ii).

- VIII. 1. Samudragupta territories: Aryavarta, ruled by the kingdoms in the Ganga Valley and Dakshinapatha, ruled by the kingdoms in Central India;
2. Prashasti is a Sanskrit word, meaning ‘in praise of’ some person or occurrence in the form of an inscription. Genealogy means the family lineage or the family tree.
 3. Both were Chinese pilgrims but Huein-Tsang or Xuan Zang wrote *Si-Yu-Hi* (Buddhist Records of the Western World). Fa Hsien or Faxian gives us a credible insight into the administrative system of both Gupta emperors and southern kingdoms.
 4. Pulakeshin II (CE 609-642) was famous king of Chalukya dynasty who checked the advance of Harshavardhana, ruler of northern India.
 5. The officials of Gupta Emperors Nagarashreshthi was the chief banker. The *sarthavaha* was the leader of the merchant caravans.

HOTS

1. Samudragupta did not annex the kingdoms of twelve rulers of Deccan because *Dharma-Vijaya* was performed. The kings after being defeated were allowed to rule again as was done after performing *Ashvamedha Yanja* (horse sacrifice) in order to gain their subjugation.
2. The period between 4th and 7th centuries is known as Golden Age of India for three main reasons (i) In the Classical Period, as it is also called, there was revival of arts, literature, science as well Indian civilisation; (ii) There was shift in political atmosphere from small to large kingdoms and empires both in the northern and southern parts of India; and (iii) For the first time the south Indian kingdoms which had

appeared on the scene much later than in the north had matured quickly and consolidated their administration, society and culture

Activity Time

□ Map Activity

Refer to and combine maps on page 94 and 97.

□ Picture Study

Muslims settlements on Malabar Coast was certainly the forerunner of future events to come though most Islamic invasions in medieval period were from the North-West

□ Surf the Net

This ppt presentation Mauryan Empire, a pre-classical empire, and Gupta empire, a classical empire gives insights into many conflicts that had emerged in classical period. Example Buddha's efforts to balance Kautliyas methods of gaining and keeping power or later Samdurgupta's methods described Long Answer Question 1.

□ Life Skills

The wars affect the lives of ordinary people today in more worst forms than before because of more lethal weapons, huge human population, nuclear and chemical warfare as well as through quick means of transport –road, air and water.

□ Critical Thinking

Modify the nature of Samudragupta's conquesta given on page 95.

12. Books, Art and Architecture

Practice Time

- I. 1–(ii), 2–(i), 3–(iii), 4–(i), 5–(iii).
- II. 1. The secondary scriptures are: (i) The *Dharma Shastras*, *Nibhandas*, *Purans*, the Epics (*Ramayana* and *Mahabharata*), *Agamas*, *Up Veda* and the *Darshanas*. (ii) The *Bhagavad Gita* is a part of the *Mahabharata*, the secondary Vedic scripture; (iii) These scriptures are derived from the Vedas.
2. The stories of *Mahabharata* and *Ramayana* are based on historical traditions because: (i) The *Mahabharata* by Rishi Vyasa, includes *Bhagvadgita* spoken by Lord Kishna, is about a war fought between the cousins - Kauravas and Pandavas; (ii) *Ramayana* by

Rishi Valmiki is about Rama, a prince of Kosala, who was sent into exile. He had to fight war with Ravana, the king of Lanka, to free his abducted wife Sita. Both are historical episodes though with some deviations.

3. The Jataka tales are folk literature, the secular literature because: (i) Though vehicles of Buddhist ethical teaching, they are like Panchantantra tales; (ii) Both are a great way of learning about Indian culture; (iii) For example one such story called “The Story of the Monkey King,” is shown on a piece of sculpture at a *stupa* at Bharhut in central India. The king gave alms, performed good deeds and ruled the kingdom righteously and became destined to heaven.
 4. **Ayurveda:** (i) Atharvaveda is the first Indian text to throw light on medicine. It prescribes some herbs for treatment of some illnesses. It later became the basis of *Ayurveda*, now an alternative branch of medicine not only in India but many other countries of the world. (ii) Charakha and Sushruta throw light on eight branches of Ayurvedic medicine. Sushruta in his book *Sushruta Samhita*, mentions about 120 surgical instruments. (iii) Apart from medicine these books and many others recommend treating diseases at their roots and prescribe certain healthy cooking methods.
- III. 1. **Scriptures:** (i) These are sacred text books. Indian sacred text books are the worlds first such books; (ii) The primary scriptures are the Vedas – *Rig Veda*, *Yajur Veda*, *Sama Veda* and *Atharva Veda* and the secondary scriptures are the *Dharma Shastras*, *Nibhandas*, *Purans*, the Epics, *Agamas*, *Up Veda* and the *Darshanas*. *EPICS* (iii) These are long poems, the *Ramayana* and *Mahabharata*. (iv) The *Bhagavad Gita* is a part of the *Mahabharata*; (iv) The Vedas are termed as *Shruti* or the ‘ones which were meant to be heard’; (v) The *Smriti* are the ones which are remembered. These scriptures are derived from the Vedas. They include the *Dharma Shastras*, *Nibhandas*, *Puranas*, *Ramayana* and *Mahabharata*, *Agamas* or *Tantras*, *Darshanas* and *Vedangas* (*Upa Vedas*).
2. The Iron Pillar tells us about the scientific knowledge and technology India possessed because: (i) Iron occurs as iron-ore and undergoes several stages before any useful tools and implements could be made; (ii) The crude iron can be worked by heating called carbonization; (iii) The stage of carbonization reached when people had settled in Ganga valley; (iv) During the Gupta period around CE 300 forging of wrought iron through the process of melting was reached; (v) The forging was possible with advanced scientific knowledge of melting the metal at above 1,000°C temperature; (vii) Further, under the prevailing conditions of Monsoon Climate in India, the pillar has not rusted in all these 1,700 years; (viii) The 7.2 m high pillar at Mehrauli in New Delhi weighs around three tonnes and is testimony of this scientific knowledge.
 3. Mathematics is central to astronomy as shown by the following: (i) Astronomy, the branch of science that deals with celestial objects involves scientific calculations; (ii) The greatest mathematician and astronomer Aryabhatta in CE 490 developed a system of numerals later known as the Arabic numerals, in which ‘zero’ (0) is the main placeholder; (iii) Based on the scientific calculations, the Indian astronomers believed that earth is round and rotates on its axis while the European and others of this time believed that earth is flat; (iv) When the knowledge of Arabic numerals spread to Europe they too believed the same about the earth. Today Arabic numerals are in use throughout the world; and (v) Among other discoveries Aryabhatta is known for developing a formula for finding the area of the triangle, accurately predicting the lunar and solar eclipses. The *Romaka Siddhanta* by Varahamihira and *Aryabhatiyam* by Aryabhatta are two most influential works on astronomy of ancient India.
 4. Students are advised to use internet for making process today.
- IV. 1. The five Tamil epics *Silappatikaram*, *Manimegalai*, *Civaka Cintamani*, *Kundalakesi* and *Valayapathi*. were not known to modern

scholars until about a hundred years ago. They came to our knowledge only when their manuscripts were rediscovered. This shows that the historical facts are based on the sources of information.

2. Based on the stages of use of iron discussed in Long Answer Question 2 above, it can be said that scientific knowledge was quite an evolving process in ancient India. In the later years the same tempo could not be maintained because of Islamic invasions in medieval period and then colonisation during early modern period in India.
3. From the analysis of the contribution made by Aryabhata in CE 490 discussed in Long Answer Question 3 above, it can be said that ancient India produced great scientists, astronomers, mathematicians but also the

same progress could not be maintained in another 1,200 years after CE 700 about which you will read in next two classes.

4. The analysis in questions 2 and 3 above equally applies to the art of painting in ancient India. From early cave paintings like that at Bhimbetka caves in Madhya Pradesh the art went on evolving till it found its place in caves and temples built during Gupta period. For example, the Ajanta cave paintings known as *murals* are more elaborately done and have vivid colours. The colours used in these paintings were made of plants, minerals and other natural materials. Two main features of the analysis of this ancient art are: (i) absence of portraiture; (ii) absence of any idols. Such a realistic and expressive art is characteristic of advanced cultures of ancient India.

V. Stupas and Temples

Grounds	Differences	Similarities
Places of worship	Temples: Hindus Stupas: Buddhists	Common
Images of deities	Temples: Such as Vishnu, Shiva, and Durga Stupas: Remains of Buddhs placed in a box	Common
Rituals	Temples: Devotees go around and worship images of deities Stupas: Devotees go around	Contemplation and yagnas Similar to attaining of wisdom
Places in India	Temples: All over India Stupas: Lumbini, Bodhgaya, Sarnath, Sanchi and Kushinagar	Common structural construction
Scriptures	Hindus: Vedas and secondary scriptures Buddhists: Sutras or discourses of Buddha	Based on Dharma similar to Buddha's discourses

- VI. 1. Aryabhata, 2. Scriptures, 3. Rishi Valmiki, 4. Silappatikaram, Manimegalai
- VII. 1-(ii), 2-(iv), 3-(iv), 4-(i), 5-(iii)
- VIII. 1. Religious literature like Mahabharata has religious themes and contains stories of gods and goddesses. The secular literature such as Panchatantra tales are a great way of learning about language, science, culture etc.
2. Mahabharata and Ramayana are both secondary vedas. The former about the battle between Kaurvas and Pandvas. Ramayana about the 14 year exile of Rama and the war with demon king Ravana.
3. Both are Tamil epics, Manimegalai is by poet

Sathanar and unfolds against geographical background of South India. Silappatikaram or The Ankle Bracelet by Ilango Adigal is a secular literature.

4. Vesara is the hybrid of Nagara and Dravida styles temple architecture found in Deccan, e.g. the temples built by Chalukyas and later by Hoysalas. Nagara is north Indian style and had originally no pillars and *shikhara/vimana*. The 'Dasavatara Temple' at Deograh of Gupta period is best example of Nagara style
5. Both are great astronomers of ancient India, Aryabhata is author of *Aryabhatiyam* and Varahamihira is author of *Romaka Siddhanta*.

HOTS

1. The significance of studying culture, science, arts and architecture of the ancient past gives us a sense of our proud heritage. It affords an opportunity of studying changes taking place around us is present time that shapes the future of our children.
2. The historical importance of Kalidasa's 'Meghaduta' lies in the fact that though it is an imaginary story the monsoon clouds present a realistic description of natural scenery and affords us an opportunity to know the climate, landmarks, cities etc. of that time. The book also tells us many things like natural diversity of India, happenings as well as thinkers like the author himself of that time.

Activity Time

□ Map Activity

For cultural and other similar maps contact: National Atlas & Thematic Mapping Organisation, Government of India, Deptt. of Science & Technology, New Delhi.

□ Project Work

The person in the picture is Albert Einstein who once said that curiosity has not been strangled by modern methods. The four main areas of focus in this project are learning, creativity, positive thinking and ethics and society. Students to prepare this project in the light what Einstein has said.

□ Surf the Net

This is a report of a workshop on conservation of manuscripts which in the light of this chapter is of great essence. Find out more....

□ Imagine

A mandapa of a temple is the place where devotees sit facing the garbagriha. They bajhans and pray to god. Describe the scene by visiting a temple in the morning.

GEOGRAPHY

1. The Earth in the Solar System

Practice Time

- I. 1-(i), 2-(i), 3-(ii), 4-(iii), 5-(i).
- II. 1. The solar system is the system of the Sun and includes the Sun and all its family members

- planets, their satellites, the asteroids and the meteoroids including the dust and gas particles in the interplanetary space.

2. The third planet according to distance from the sun is earth (150m km. away).
 3. The one most important function of the atmospheric blanket around the Earth is protection from bombardment of space debris which burns at the upper-most layer of atmosphere.
 4. The Moon is not habitable because there is no atmosphere around it.
 5. The Solar System belongs to the Milky Way Galaxy around which it also revolves.
- III. 1. The planets according to their mean distance from the Sun are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.
2. Venus is called the Earth's twin because in size, composition and mass it is almost similar to our planet. It is also called as the *morning* and *evening star* because one can see the planet from Earth 1 to 2 hours before sunrise or sunset.
 3. The Earth is called a unique planet for following reasons: (i) The atmospheric blanket around Earth makes water available on its surface that makes life possible; (ii) Its rotation on its tilted axis cause changes from day to night and make seasons on earth; and (iii) The Earth's surface is divided into continents and oceans.
 4. The International Astronomical Union (IAU) defines a Dwarf Planet as the one that is in "*orbit around the Sun, has sufficient mass for its self-gravity, is nearly round shape but has not cleared the neighbourhood around its orbit.*"
 5. Only one side of the moon is visible to us on the Earth because while revolving round the Earth in about 27 days, it spins on it axis in about same time.
- IV. 1. (i) The International Astronomical Union (IAU) classifies a celestial body as planet if it "*is in orbit around the Sun; has sufficient mass for its self-gravity and has cleared the neighbourhood around its orbit*". (ii) In terms of this definition only the eight planets have

these characteristics, like (a) The orbit of all planets around the Sun is elliptical though at varying degrees; (b) With the exception of Venus and Uranus, they move around the Sun and rotate on their axis in anti-clockwise direction (west to east); and (c) The planets reflect heat and light of the Sun. (iii) Pluto did not meet this criteria because it has not cleared its neighbourhood as in its orbit around the sun it crossed the path of Neptune.

2. The Small Solar System bodies in accordance with the classification of IAU are: (i) The Asteroids, Meteoroids, Comets and all other small bodies in the Solar System except satellites or moons. (ii) Asteroids are located mostly in the Asteroid Belt between the orbits of Mars and Jupiter, they orbit the sun in the same direction as the planets. (iii) A *meteor* is the flash of light that we sometimes see in the night sky. Also called a *shooting star*, it happens when the space debris, called *meteoroid*, burns up while coming into friction with the Earth's atmosphere. When a part or parts of the meteoroid survive the Earth's atmosphere, it may fall to ground. It is known as *meteorite*. (iv) Comets are the asteroid-like objects in the sky covered with methane, ammonia and other chemical compounds. While moving around the sun and when coming close to the sun, they develop a shining tail, though with no light of their own. When such objects face the solar winds, the dust and gas are blown away causing to form comet's tail. Comets often break up after sometime and disappear.
3. **The Milky Way Galaxy:** (i) It is a star group of billions of stars to which Solar System belongs and revolves around it. (ii) The Solar System completes one round of its centre in about 220 million years. (iii) It was known to ancient Indian astronomers and was named *Akash Ganga*, a river of light. (iv) This galaxy is spiral shaped and the Solar System is a small dot in its outer spiral arm. (v) Its nearest neighbour is the *Andromeda Galaxy* also spiral shaped and can be seen from the Earth on a clear night. (vi) The galaxy has great astrological importance particularly in respect of the twelve Zodaic Signs.

4. **Universe:** (i) The Universe is the bigger home of all celestial bodies. (ii) It is very vast and scientists even today don't know its size or limits. (iii) The Universe is comprised of billions of billions galaxies and all other celestial bodies. (iv) All these bodies attract each other with a force that is directly proportional to the product of their masses as explained by the great scientist Sir Isaac Newton in his law of gravitation.

- v. 1. A star is a gaseous celestial body having its own light and heat or is self-luminous. A planet may be gaseous or rocky celestial body that goes round its star, like the Sun, and reflect its (sun's) heat and light.
2. The Universe is the bigger home of all celestial bodies. The Solar System is a minute part of the Universe.
3. Rocky or terrestrial planets are inner planets of the Solar System viz. Mercury, Venus, Earth and Mars and are closer to the Sun. The Gaseous Planets are outer planets or Jovian Planets of the Solar System. The planets Jupiter, Saturn Uranus and Neptune are gaseous planets.
4. Asteroids are made up of metals and rocky materials and are located mostly in the Asteroid Belt between the orbits of Mars and Jupiter. They orbit the sun in the same direction as the planets. The Comets are asteroid-like but long elongated icy objects covered with methane, ammonia and other chemical compounds. They develop a shining tail when coming closer to the sun, though with no light of their own.
5. Earth is the third planet of the Solar System in terms of its distance from and goes round the sun. The Moon is the Earth's satellite that goes round it and with it round the sun.

HOTS

1. Despite billions of billions shining stars the Universe is dark and cold for two main reasons: (i) Light from a star travels in straight lines and shines only when it faces some obstacle like a planet in its path. (ii) The Universe is expanding and much of the light is lost.
2. The exoplanets are planets outside the solar

system. In fact they really exist and out of more than 114 exo-planets discovered so far, about a dozen are earth-like planets.

Activity Time

Activity

Let us travel from the centre to outer circumference of the circle: (i) Earth, (ii) Solar System, (iii) Milky Way Galaxy, (iv) Universe

2. Globe, Latitudes and Longitudes

Practice Time

I. 1–(ii), 2–(i), 3–(i), 4–(ii), 5–(i), 6–(ii), 7–(ii).

II. 1. The Earth, though spherical in shape, is slightly flattened at the North Pole and the South Pole and bulges at the middle.

2. A globe is a representation of the spherical shape of the Earth. It is true three-dimensional model of the Earth in miniature form and can be rotated on its tilted axis.

3. The latitudinal value of the Tropic of Cancer is 23.5° N.

4. The Parallels of Latitude are so called because they are parallel to each other which never meet.

5. The Standard Meridian of India is $82\frac{1}{2}^{\circ}$ E.

III. 1. A globe is true representation of the Earth's spherical shape that is slightly flattened at the North Pole and the South Pole and bulges at the middle. It is true three-dimensional model of the Earth in miniature form and can be rotated on its tilted axis. Being three dimensional, oceans, continents and countries are shown in their correct size in miniature form. Earlier made of wood, there are today globes like balloons which can be carried easily and inflated as and when needed.

2. A grid is a network of parallels and meridians that cross each other to form a series of squares or rectangles. (ii) The grid helps us to exactly show the location of a place or feature on the surface of earth with the help of geographic coordinates. (iii) It is also helpful in determining both the local time and the standard time of any place on earth.

3. This question is a repeat of Q. 2 in slightly modified form.

4. The values of meridians have been specified in relation to time based on the fact that: (i) The Earth completes one rotation on its axis in 24 hours. This means that the Sun covers 15° longitudes in one hour (360° circumference in 24 hours). This works out to 4 minutes for every 1° longitude. (ii) Thus the Sun is overhead at each meridian after every 4 minutes. (iii) Further, the angle that these lines including the parallels of latitude make is analogous to the division of hours into minutes and seconds of time. Therefore, the division of degree also follows the same units of measurement.

5. The local time of a place is the time based on overhead sun. For example when the Sun is overhead or at highest point in the sky at a particular meridian, it is mid-day at all the places on that meridian. The time before mid-day till mid-night is expressed as A.M. (Ante Meridiem in Latin) and time after mid-day till midnight is called P.M. (Post Meridiem in Latin). (ii) In other words it means for every 1° longitude local time will be 4 minutes ahead towards east and 4 minutes backward towards west from the Prime Meridian.

IV. 1. The three heat zones are the three broad temperature zones or climate zones of the spherical Earth. (ii) These are the Torrid or Tropical Zone between the Tropic of Cancer (23.5° N) and the Tropic of Capricorn (23.5° S), Temperate Zones between Tropic of Cancer (23.5° N) and the Arctic Circle (66.5° N) and another in the Southern Hemisphere between the Tropic of Cancer (23.5° S) and Antarctic Circle (66.5° S) and Frigid/Polar Zones between Arctic Circle (66.5° N) and North Pole (90° N) and another between Antarctic Circle (66.5° S) and South Pole (90° S). (iii) Tropical Zone is hot because this region gets vertical rays of the sun throughout the year as sunrays travel a short distance. The temperate regions are neither too hot nor too cold. In both the mid-day Sun never shines vertically overhead and experience slanting rays of the Sun throughout the year.

In the two regions of the Frigid Zone, the Sun does not rise much above the horizon. The regions get most oblique rays of the Sun. They experience frigid or very cold conditions. Indeed, they are coldest regions on the Earth.

2. The Geographic Coordinates are the intersecting horizontal and vertical lines drawn all over on the globe representing the Parallels of Latitude and the Meridians of Longitude respectively; (ii) These intersecting reference lines drawn on the globe or on plain surface like paper and form a series of squares or rectangles known as grid; (iii) The grid helps us in locating places or other features on Earth's surface; (iv) Devised from the coordinate system in geometry, generally only positive values segment is taken into account to show the features mentioned above;
 3. The Greenwich Mean Time (GMT) was established in 1884 at the International Meridian Conference. (ii) It was established for resolving the problem of the sharp time difference based on local time between two or more adjacent places in the same country; (iii) Originally it was called mean solar time at the Royal Observatory at Greenwich, London for tracking time based on the rotation of the Earth; (iv) It was later named as GMT and today it is also sometimes referred to as Coordinated Universal Time (UTC). However, UTC should not be confused as any separate time zone or an alternative to GMT but is only used for scientific purposes where accurate time is required; (iv) Based on every 15th meridian proceeding from the Prime Meridian up to 180° longitude line, the world has been divided into 24 Standard Time Zones. The 180° longitude line is called the International Date Line.
- V. 1. On the globe or paper the horizontal lines are called Lines of Latitude. They are full circles parallel to each other and measure 0° to 90° each towards north or south. The Meridians of Longitude are vertical lines that intersect the lines of latitude at right angles and meet at the Poles. They are semi-circles and measure 0° to 180° on either side of Prime Meridian.

2. Both are lines of longitude directly opposite to each other, the Prime Meridian measures 0° whereas its opposite International Date Line measures 180°.
 3. The local time is based on overhead Sun or is at highest point in the sky at a particular meridian or it is mid-day at all the places on that meridian. The Standard Time of a region or a country is uniform for all places in that region or country and generally based on every 15th meridian proceeding from the Prime Meridian up to 180° longitude line.
 4. Both types of Great Circles measure 360° each or the circumference of the circle. The ones made by opposite-to-each other meridians stand vertically. At 1° longitudinal interval there are 180 Great Circles. The Equatorial Great Circle stands horizontally and is only one in centre of the earth.
- VI. 1. Torrid Zone receives vertical sunrays which cover a short distance,
2. All Great Circles pass through and merge at the two poles;
3. The Earth completes one rotation on its axis in 24 hours;
4. Assam (92° E), in fact all North Eastern States experience sharp time difference, particularly in respect of sunrise and sun-set, from the rest of the country

VII. 1. 23.5° N, 2. 82.5° E, 3. Prime Meridian.

HOTS

- ❖ The ten mistakes and corrections in the para are: Instead of the figure/word shown in () read the one shown outside: 7.30 p.m. (9 p.m.), east (west), 5 hours (6 hours), GMT (IMT), 2 P.M. (1 p.m.), nine (eleven), standard (local), one hour (two hour), one hour (two-hour), 15° (150° longitude).

Activity Time

For students to do

3. Maps and their Components

Practice Time

- i. 1-(i), 2-(i), 3-(ii), 4-(ii), 5-(iii).
- ii. 1. The three essential components of a map are the distance, directions, and conventional

symbols. The scale is also an essential component.

2. The four cardinal directions clock-wise are the North, East, South and West.
 3. The Small Scale Maps on the basis of their scale provide detailed information.
 4. One example of maps based on theme is Physical Map showing topography of an area.
 5. An example of the Statement Scale is that of a map containing a statement at the bottom saying 1 cm = 1 km. It means one centimeter on map equals one km on ground.
- III. 1. The term 'scale of the map' refers to the *the ratio between two points of the map and actual distance between these points on the ground.* (ii) It does not matter whether the distance is shown by curved or straight line. (iii) The curved line distance can be measured by placing a thread on the curved line between the points and then measured.
2. The symbols help in reading the map in following three ways: (i) The symbols or signs on maps used universally by convention are called conventional symbols. They make map making and reading very easy; (ii) The representation of actual feature like a building, railway line, roads, bridges etc. on the map may be difficult but very easy with the help of symbols; and (iii) A list of both standardised and non-standardised symbols together with components of the map is given under the heading legend or key to the map explaining these symbols.
 3. The distance on a map is interconnected with scale of the map. The same is shown in three different ways: (i) **Statement:** A map may contain statement at the bottom saying 1 cm = 1 km. It means one centimeter on map equals one km on ground; (ii) **Representative Fraction (RF):** This type of expression at the bottom of a map may read 1:25,000 or 1:50,000 or even 1:1,000,000. It means one unit on the map equals 25,000, or 50,000 or 1,000,000 units on ground; and (iii) **Graphic Scale:** It is simple and most followed method internationally. A scale bar at the bottom of a map representing both inches on one side and

metric system on the other side which can be converted into actual distance on ground as required.

4. When 'North' is on the top of a map we need to face a map, North is towards our top or head. West is to our left; South towards bottom or our feet and East to our right.
 5. The conventional symbols and colours are so called because they are used universally by convention; (ii) Colours are used to show such physical and cultural features as water bodies like rivers and oceans; agricultural land; natural vegetation etc. that like conventional symbols are of great significance; (iii) Their purpose is to make map making and reading very easy especially for tourists of all kinds. Even illiterate persons conversant with maps may benefit.
- IV. 1. A map legend is the language of the map having following features: (i) It contains a short list of both standardised and non-standardised symbols for both earth's features and colours, components of the map that explain the symbols, distances and colours; (ii) The purpose of using conventional symbols is to make map making and reading very easy; (iii) They also avoid congestion on the map and make it more meaningful; (iv) For example conventional colours blue shows water bodies - oceans, lakes, rivers; green shows wooded and forested are, cultivated land is shown by yellow colour. Using the symbols and colours makes the map a systematic source of information and meaningful.
2. The components of a map are also known as its elements. The four essential elements are the *scale, distance, directions, and conventional symbols.* (i) **Scale:** The scale is *the ratio between two points of the map and actual distance between these points on the ground* represented by a straight or curved line. Maps are drawn on different scales shown on the maps in three different ways - a Statement, Representative Fraction and Graphic Scale; (ii) **Distance:** Maps are made to present accurate information to measure the particular areas correctly. There are curved and straight line distances on maps.

Both are drawn on scale; (iii) **Directions:** *The course or the path on which something moves is called the direction.* On the map directions actually show angular distance. These directions are the North (N), South (S), East (E) and West (W). In between the cardinal directions there are four intermediate directions - North-East (NE), South-East (SE), South-West (SW) and North-West (NW); and (iv) **Conventional symbols:** Map makers also make use of colours to show such physical and cultural features as water bodies like rivers and oceans; agricultural land; natural vegetation etc.

3. Two main categories of maps based on their function are: (i) **Physical Maps:** These types of maps show topography of an area like mountains, valleys, plains, plateaus, rivers, oceans etc. called relief. Sometimes they are also called relief maps. In addition, geological, weather, climate, vegetation etc. are also physical maps; and (ii) **Cultural Maps:** These types of maps show man-made or cultural features. They may give special information on matters like distribution of population, religious groups, social groups, agricultural products, roads and other transport lines. They are also known as *thematic maps* as they have a particular theme.

- V. 1. A globe is a model of the on miniature but three dimensional scale. A map is two dimensional and drawn on plain surface to scale. It shows major details like roads, settlements with the help of symbols and colours.
2. Cardinal Directions are original four directions viz. North, South, East and West. The intermediate directions are between cardinal directions viz. North-East (NE), South-East (SE), South-West (SW) and North-West (NW);
3. Representative Fraction is a type of expression at the bottom of a map may read 1:25,000 or 1:50,000 or even 1:1,000,000. It means one unit or cm on the map equals 25,000, or 50,000 or 1,000,000 units or cms. on ground. Graphic Scale shows scale distance in reduced form of what is represented on the map can be converted into actual distance on ground;

4. Physical maps are relief maps and show topography of an area like mountains, valleys, plains, plateaus, etc. Cultural map show man-made features like distribution of population, religious groups, social groups, agricultural products, roads and other transport lines.
5. A map is best defined as a representation or a drawing of the Earth's surface or a part of it on a two dimensional plane surface. A plan is a detailed drawing of a building or any engineering project..

HOTS

1. We have different types of small scale maps because on this scale most atlas maps for special and general use can be prepared. The small scale is key to standard maps of all kinds
2. An atlas is a useful reference book or it is a reference book giving many kinds of information such as the location of a particular feature or a country. There are different kinds of maps in this book of maps.

4. Earth's Rotation and Revolution

Practice Time

- I. 1-(ii), 2-(ii), 3-(ii), 4-(iii), 5-(iii).
- II. 1. The Earth's axis is tilted or inclined at angle of $23\frac{1}{2}^{\circ}$ to its orbital plane.
2. The direction of rotation of the earth is west to east.
3. A leap year is normally any year divisible by 4 but the years that are divisible by 4 but not 400 are not leap years such as 1700, 1800, 1900, 2100 and 2300.
4. The plane of ecliptic is the plane through which the Earth revolves around the Sun.
5. The equinox is the time when days and nights are of equal duration each year. This happens on March 21 and September 23 throughout the world.
- III. 1. The Summer Solstices are the sun's positions on June 21 in the Northern Hemisphere and December 22 in the Southern Hemisphere over the tropics. (ii) On these two days sun's rays fall vertically and large portions in hemispheres have longer days and shorter nights on respective dates mentioned above.

- (iii) The Southern Hemisphere experiences summer and winter solstice in different times than the Northern Hemisphere because every six months sun crosses the equator to be in either of the hemisphere and either South Pole or North Pole remains tilted towards the sun.
2. The poles experience about six months day and six months night alternately because: (i) Beyond the Equator the tilting of North or South Poles towards or away from the sun is experienced sharply by means of daylight hours and seasons; (ii) The farthest one goes from Equator, the daylight changes from 18 to 24 hours towards the North Pole or South Pole in summer. The Circle of Illumination does not pass through the poles. (iii) As a result of positions in (i) and (ii) one of the poles has 24 hour daylight while the other pole has 24 hour night for six months.
 3. As explained in Q.2 above, the North and South Poles experience six months day and six months night respectively because: (i) The Circle of Illumination does not pass through the poles and they receive most slanted sunrays; (ii) With sun remaining just above the horizon one of poles experiences longer daylight hours during June and July. In winter it is 24 hours darkness in that region. (iii) In other words the lengths of the days and nights go on increasing or decreasing as we move away from the Equator towards the Poles.
 4. The circle that divides the day from night is called the circle of illumination. (ii) On account of inclination, the lengths of day and nights vary from the Equator to the Poles in both hemispheres. In the Northern Hemisphere, when the North Pole is inclined towards the Sun, the days are longer and the nights shorter. The reverse of it happens when the South Pole is inclined towards the Sun and the North Pole is inclined away from the Sun. (iii) The tilting of North or South Poles towards or away from the sun is experienced sharply by means of daylight hours and seasons. The axis of the earth in space being constantly pointed at the Polaris or North Star the circle of illumination does not pass through the poles.
5. The seasons or divisions of the year with a particular temperature, weather pattern and daylight hours are caused by same factors as explained in Q.4 above. They are: (i) The earth's changing positions in the revolution on inclined axis with regard to the sun; (ii) In its orbit the altitude at which the sun appears directly overhead also changes creating imbalances in heating of the Earth from Equator to Poles; (iii) There occur four distinct seasons, spring, summer, autumn and winter of varying intensity in these Temperature Zones; and (iv) The seasons in the Northern Hemisphere are the opposite of those in the Southern Hemisphere. It happens because the sun crosses the celestial Equator on or about March 20 to be in the Northern Hemisphere until it again crosses the celestial Equator on September 22 to be in the Southern Hemisphere.
- IV.**
1. The four effects of the earth's inclined axis are: a (i) It results in causing day and night because the portion facing the earth experiences day while the other half is dark and experiences night varying in duration from equator to poles; (ii) The Earth's axis will be inclined at angle of $23\frac{1}{2}^{\circ}$ on its Orbital Plane while the axis remains pointed towards the North Star resulting in causing seasons on the Earth; (iii) When the North Pole is inclined towards the Sun, the days are longer and the nights shorter in the Northern Hemisphere. The reverse of it happens when the South Pole is inclined towards the Sun; and (iv) The Circle of Illumination does not passing through the poles, as studied above, the poles experience about six months day and six months night.
 2. Summer Solstices together with Winter Solstice in both hemispheres are actually two of the four positions in annual orbit of the Earth around the Sun; (ii) The Solstices are the sun's positions on June 21 in the Northern Hemisphere and December 22 in the Southern Hemisphere over the tropics; (iii) On these days the sun is directly overhead

over one of the tropics resulting in maximum heating of the tropics; and (iv) On these two days sun's rays fall vertically over the tropics and large portions in hemispheres have longer days and shorter nights on respective dates mentioned above.

3. The phenomenon of Midnight Sun is on account of factors explained in Short Answer Question 2 above. (ii) Near the Equator besides days and nights being almost of equal duration throughout the year, the areas also experience little seasonal variations; (iii) Beyond the Equator the tilting of North or South Poles towards or away from the sun is experienced sharply by means of daylight hours and seasons. The daylight changes from 18 to 24 hours towards the North Pole in summer; and (iv) Norway is called the Land of Midnight Sun because the sun remains just above the horizon as it experiences longer daylight hours during June and July. In winter it is 24 hours darkness in this region.

- V. 1. The Summer Solstices are positions of the sun on June 21 in the Northern Hemisphere and December 22 in the Southern Hemisphere over the tropics. Reverse of this happens when on December 22 it is Winter Solstice in Northern Hemisphere and on June 21 it is winter in Southern Hemisphere;
2. The Equinoxes are the sun's positions on March 21 and September 23 when days and nights are of equal duration each year throughout the world. On March 21 sun is in Northern Hemisphere and on September 23 sun is in the Southern Hemisphere. These two dates are termed as Spring Equinoxes. In the Northern Hemisphere on September 23 and in the Southern Hemisphere on March 21 it is autumn. These two days are termed as Autumnal Equinoxes.
3. The Earth Year is the duration of the Earth's Revolution around the Sun or $365\frac{1}{4}$ days. The calendar year, that we follow, has only 365 days. The extra period of $\frac{1}{4}$ days is added every 4 years to the month of February which has normally 28 days but during the leap years it has 29 days.

- ❖ The diagram explains the imbalances in heating of the Earth from Equator to Poles on account of vertical and slanting sunrays. The result is creation of broad Temperature Zones and other phenomena like duration of day and night, seasons etc.

Activity Time

Activity

See the diagram on page 138 and do the needful

Life Skills

The Equinox (March 21 and September 22);, Summer Solstice (June 21); and Winter Solstice (December 21) happen on the dates given for whole of Northern Hemisphere but time of sunrise and sunset differ from place to place depending the longitude of the place

5. Four Domains of the Earth

Practice Time

- I. 1-(i), 2-(i), 3-(iii), 4-(ii), 5-(iii).
- II. 1. The four domains of the Earth are the Lithosphere, Atmosphere, Hydrosphere and Biosphere;
2. The seven continents of the earth in decreasing order of their size are Asia, Africa, North America, South America, Antarctica, Europe and Australia;
3. The five layers of atmosphere from bottom to top are the Troposphere, Stratosphere, Mesosphere, Thermosphere and Exosphere.
4. South America is the least inhabited continent because one of the factors inhibiting settlement of people is the rough terrain as most of the land in the east is comprised of highlands and plateaus.
- III. 1. The earth is called blue planet because in space earth looks blue as it happens when on earth the sky looks blue to us. It is because when sunlight hits the atmosphere, blue light (one of the seven colours of the light) is scattered by the air. Otherwise it is total dark and cold in outer space;
2. Northern Hemisphere is called land hemisphere because: (i) The greater part of Northern Hemisphere is land; (ii) There are four continents in the Eastern Hemisphere

and only two in the Western Hemisphere; and (iii) More area of the Southern Hemisphere is water in oceans;

3. The Biosphere is important for living organisms because: (i) This biological component of the earth system is the result of the interaction of three spheres of the earth, namely lithosphere, atmosphere and hydrosphere; (ii) Indeed life exists only in biosphere and other three spheres support it in one way or the other; (iii) Compared to other spheres, biosphere is very narrow zone. It extends from the deepest point in oceans, the Mariana Trench (11,000 m), up to the top of Mount Everest (8.8 km). All organisms varying in size from bacteria to huge animals including man are found in this narrow zone.
4. The continents are unevenly distributed because: (i) These landmasses taper towards the south; (ii) The greater part of Northern Hemisphere is land and that of Southern Hemisphere is water in oceans; (iii) There are four continents in the Eastern Hemisphere and only two in the Western Hemisphere; and (iv) Of about 7 billion people in the world, less than 1 billion people or about 14% live in the Western Hemisphere.
5. *Southern Ocean*: (i) It is also known as Antarctic Ocean and was recognised by the International Hydrographic Organisation in year 2000; (ii) Its location is between the Coast of Antarctica and 60°S latitude; (iii) In size its total area is about 32,249,000 sq. km and mean depth is 3,730 m, more than the Atlantic and Arctic Oceans; and (iv) It is the fourth largest ocean in the world receives waters from the Pacific, Atlantic and Indian oceans.

- IV. 1. The land masses and water bodies are unevenly distributed over earth as is evident from the following: (i) The uneven distribution of continents, the largest landmasses, has been explained in Short Answer Question 4 above; (ii) About 71 per cent of earth's surface is covered with water in oceans and their thickness ranges from 10 to 20 km. All of them except the Arctic Ocean are in most part located in Southern Hemisphere, the Antarctic Ocean being in

Southern Hemisphere wholly; (iii) In terms of area the Pacific Ocean covers 28% of the earth's surface. Its area is greater than the areas of Indian, Arctic and the Southern Ocean taken together; and (iv) The ratio of water bodies and land masses is of the order of 71:29 per cent which is highly uneven.

2. The continent of South America is essentially in Southern Hemisphere because: (i) The Equator that separates the Northern Hemisphere from Southern Hemisphere passes through the countries of southern Colombia and northern part of Brazil placing major part of the continent in Southern Hemisphere; (ii) When we consider the comparative size of continents only a small northern part of the continent is in Northern Hemisphere; (iii) The Isthmus of Panama that separates it from North America is very near to Equator placing the continent mostly in Southern Hemisphere.
 3. The importance of the four domains of the earth is seen from the following: (i) These domains support plants and animals including human population which was around 2.5 billion in 1950 and has reached more than 7 billion in early 2014; (ii) The oceans are reservoirs of large quantities of water which through hydrological cycle is made available on land that flows in rivers, streams and is stored in lakes, supporting terrestrial life of all types; (iii) Oceans are major source of food like fish and many minerals and salts; (iv) Atmosphere acts as a protective shield around earth as well as absorbs and emits heat. It does not permit the harmful ultraviolet rays of the sun reach the surface of the earth; (v) The lithosphere where all terrestrial animals and human beings live makes available food, shelter and soils on which all plants grow.
- V. 1. White patches are seen around the earth in pictures taken from space which show the enormous amount of salt in the earth's oceans;
2. Australia is called the 'island continent' because like an island it is surrounded by oceans on all sides.

3. Small quantity of carbon dioxide (CO₂) in atmosphere is required for photosynthesis by plants and as heat-absorber radiated by the earth that helps to keep the earth warm especially at night.
4. Emissions from the earth's surface cause damage to present structure of atmosphere because it was formed by outgassing of compounds from the earth's crust.
5. The aquatic or water ecosystems being rich in nutrients support great variety of life.

VI. One word: 1. Continents, 2. Oxygen, 3. Ecology, 4. Emissions,

VII. 1. Mariana Trench, 2. Indian, 3. Eurasia, 4. Terrestrial life, 5. Fourth.

VIII. 1. (a), 2. (a), 3. (a), 4. (), 5. (a)

HOTS

1. The organisms in biosphere are broadly divided into plant kingdoms and animal kingdoms. Humans belong to the animal kingdom. A most important characteristic of all living organisms including fungi is the individual species to which they belong. There are varying estimates of animal and plant species found in this narrow zone but recorded species number only 1.6 million. They vary in size from microbes and bacteria to huge animals. Irrespective of mode of reproduction, they pass on their hereditary material to their offspring through this process. It is essential for ecological balance as the organisms remain relatively stable through this process.
2. The human impact on natural environment is felt greatest near or on the surface of the earth for following reasons: (i) Earth's surface is the major constituent of all its interacting domains; (ii) Being in constant motion and continual change, they are discontinuous both near the surface of earth or in their structure. For example more than half of the total air in atmosphere is found in lower layers of about 8 km from the surface of the earth; and (iii) Similarly, the misuse of ocean waters by humans like oil-slicks caused by ocean-going ships, dumping of wastes in rivers by industries, sewage plants as well as automobiles which ultimately reach the oceans. The damage they cause is most visible near the surface.

Activity Time

□ Map Activity

1. See map of the world on page 143.
2. Modify the diagram on page 146.

□ Comparison, Similarity and Difference

Draw and design a bar diagram of comparative size of continents and explain using the phrase 'I am taller than him.'

6. Major Landforms of the Earth

Practice Time

- I. 1-(i), 2-(i), 3-(iii), 4-(iii), 5-(ii), 6-(ii), 7-(iii), 8-(i).
- II.
 1. The major landforms of the earth are the mountains, plateaus and plains.
 2. The mode of formation of plains is more diverse being the result of both tectonic (internal) and external forces of denudation and gradation.
 3. The plains are formed by river deposition of sediments and ocean currents and waves, uplift of continental crust or tectonic forces, and wind-blown dust.
 4. A river valleys are extended parts land between mountain, hills or their ranges drained by a river.
 5. One misuse of landforms by man is levelling of land under forests for cultivating crops or other uses like roads.
- III.
 1. A mountain differs from a plateau in three respects: (i) Mountains are uplifted parts of land and may be as high as Mount Everest (8.8 km). Plateau is an area of fairly high ground around which there are steep slopes rising abruptly from the surroundings but is not as high as a mountain. (ii) A mountain has steep slopes, forested or unforested, but the uplifted tableland may be flat, rolling or even hilly. (iii) Many mountains are found in ranges and between these ranges there may be plateaus called the intermontane plateau.
 2. The three main types of mountains are: (i) The Young Fold Mountains that have been built relatively in recent times (between 25 million and 50 million years ago) like Himalayas in Asia, Alps in Europe, Rockies in North

America and Andes in South America. (ii) The Block Mountains, better known as Fault-Block Mountains are the uplifted blocks with flat peaks that are called horsts and the lowered blocks that are known as graben. (iii) Volcanic Mountains are formed when the hot magma erupts on the earth's surface it cool down, it is known as lava. In the course of a series of such eruptions over time several layers of lava are piled up and a volcanic mountain is formed.

3. The mountains are useful to man in many ways: (i) Many mountains are covered with forests. The trees in forests are lungs of the globe by providing oxygen in air through the processes of photosynthesis. (ii) Glaciers are found on some mountains which are reservoirs of fresh water and many rivers such as Ganga and Yamuna emanate from these glaciers. (iii) Mountains provide timber, wood, and many useful forest products and herbs for use by people. (iv) High mountains such as Himalayas, and Andes act as climate barriers. The Himalayas does not allow polar cold and dry winds enter Indian Subcontinent which otherwise would be a cold desert like Gobi. It also redirects the monsoon winds and cause rainfall in Indian Subcontinent.
4. The continental plateaus are formed by: (i) The collision of the two tectonic plates causes the land away from the collision site to be uplifted. This uplifted part does not crumple and wrinkle creating instead a wide expanse of tableland known as plateau. (ii) If this platea is found along continental slopes near the continent-ocean interface it is called continental plateau. (iii) They rise abruptly at least 200 metres above the surrounding seafloor and are overlain by marine sediments.
5. **The Northern Plains of India:** (i) It is the largest plain in India formed by three main rivers – Indus, Ganga and Brahmaputra and their tributaries. (ii) It is formed of the materials deposited by rivers, called the sediments, consisting of sand, silt and stones in their valleys. (iii) The land is very fertile suiting agriculture and human habitation.

IV. 1. Mountains are thinly populated for following

reasons: (i) The steep slope inhibits human population as the soils are blown or washed away down-hill. (ii) Because of thin soils and lack of fertility, growing of crops is not possible. (iii) There is lack of water and even underground water is difficult. (iv) Many mountains are forested and they prevent human habitation. (v) Extreme weather conditions on mountains, absence of roads etc. also does not allow human habitation.

2. **Types of plateaus and their formation:** (i) Plateaus like mountains are sculpted by by internal and external processes. Internal processes are Tectonic Processes and volcanic eruptions. When two lithospheric plates moving in opposite directions collide with each other. One of the plates overrides the other. In this process mountains, plateaus and hills are raised on the earth's surface over centuries. The uplifted land may be tableland and flat, rolling or even hilly. (ii) The three main types of plateaus are intermontane plateaus, continental plateaus and lava plateaus. (iii) **Intermontane Plateaus:** In the course of collision this uplifted part may not crumple and wrinkle creating instead a wide expanse of tableland in between mountain ranges such as the Tibetan Plateau. (iv) **Continental Plateaus:** Refer to Short Answer Question 4. (v) **Lava Plateaus:** The repeated lava flows may spill out from cracks in the ground and spread over hundreds of square kilometres and built up massive plateaus. They too are of many kinds depending on their location. The Deccan Plateau in western-central India, the Columbia Plateau in the Unites States and the North Island Volcanic Plateau in New Zealand are outstanding examples.
3. Five examples of misuse of landforms are: (i) On many mountains forest trees have been cut triggering landslides and avalanches and leaving many forest animals homeless. (ii) Many hills have been raised down and land used for human habitation creating many environmental imbalances. (iii) The alluvial plains such as the Norther Plains of India are heavily populated and rivers and lakes are heavily polluted. Some rivers like Yamuna

are today like city's drains. (iv) In other plains like that in Mexico the heavy human population has subjected it to subsidence. (v) Many landforms like the Deccan Plateau of India, on account of mining and building of roads etc. have been turned into deserts.

- V. 1. A mountain is of high elevation and a hill of low elevation.
2. The hot molten material still inside the earth is known as magma. When magma is given out on the surface of the earth it is known as lava.
3. A plateau is an elevated table land. A plain is level land not much above the sea level.
4. Lava plateaus are formed by repeated lava flows spilling out from cracks in the ground and spread over hundreds of square kilometres. The intermontane plateaus are plateaus formed by tectonic processes in between two mountains or their ranges.
5. Alluvial plain is formed of sediments of river deposition and loess plain by wind blown sediments.
- VI. 1. The internal forces built landforms on the surface of the earth through collusion of Lithospheric Plates and lava given out by volcanoes. Both these two internal processes work on the surface of the earth to build landforms.
2. Glaciers move and follow slope of the land as a result of which they are called rivers of ice.
3. River Narmada flows through the graben between the Vindhya and Satpura horsts.
4. Tibetan Plateau is known as the 'roof of the world' because it is the highest and biggest (1.4 million sq. km) in the world.
- VII. 1. Plain, 2. Fold, 3. Plateaus, 4. China, 5. America

HOTS

1. Himalays in the north of India is the highest mountain in the world. It is a young-fold mountain and was formed when a very old landmass now Peninsular India collided with Eurasian Plate. The Northern Plains was later formed of river sediments when rivers changed their course. The Peninsular India, a volcanic plateau in origin, is bounded in the east and

west by the two hill ranges known as Eastern and Western Ghats respectively. Today Indian landmass is bounded by two seas, the Bay of Bengal and the Arabian Sea. There are groups of Islands in these seas. So India has many and varied landforms.

2. The Northern Plains is drained by Indus and its tributaries in the west. Ganga joined by many tributaries flows west to east. The Brahmaputra together with many tributaries flows in India east to west and then turns south.

Activity Time

Map Activity

Do map labelling with the help of maps on pages 153, 155 and 156.

Comparison and Contrast

From left to right :

Top: Grassland on a mountain mostly used for grazing of animals, bushes on Deccan Plateau, Northern Plains – wheat grown in a field. *Bottom:* Himalayan mountain pass, Sea shore – tourist attraction and Hill bottom – agricultural use.

7. Our Country India

Practice Time

- I. 1–(ii), 2–(ii), 3–(iii), 4–(ii), 5–(ii), 6–(ii), 7–(iii).
- II. 1. The two land-locked neighbouring countries of India are Nepal and Bhutan.
2. The Indian Ocean is probably so named because India is at the head of the Indian Ocean and occupies the central position.
3. The narrow stretch of water linking Bay of Bengal to Indian Ocean is called Pak Strait.
4. India has been politically divided into 29 states and 7 union territories comprising the mainland and two groups of islands.
5. In terms of area the largest state of India is Rajasthan.
- III. 1. The seven countries with whom India shares its land boundaries are Afghanistan and Pakistan in North-West, China, Nepal and Bhutan in the North and Bangladesh and Myanmar in the East.
2. There are 29 states and 7 Union Territories in India. Chandigarh is the common capital

of Punjab and Haryana and Hyderabad is the common capital of the states of Andhra Pradesh and newly carved out state of Telengana.

3. The neighbouring countries of Pakistan, Afghanistan, China have boundaries with the state of Jammu and Kashmir.
4. If I were to go to London by an ocean route via the Mediterranean Sea, I will be using Suez Canal. The advantages of using this route are: (i) The Suez Canal route across the Arabian Sea will save me lot of time, distance and expenses. (ii) I will be able to visit some countries in West Asia and Europe. (iii) On my way back from the same route I will also visit Pakistan and then come back to Delhi via the Waga border.

- IV. 1. India's locational setting and its advantages:** (i) India is located in the Northern Hemisphere and extends between $8^{\circ}4'N$ and $37^{\circ}6'N$ latitudes and between $68^{\circ}7'E$ and $97^{\circ}25'E$ longitudes. (ii) The Tropic of Cancer ($23^{\circ}30'N$) passes almost halfway through the country placing Peninsular India in Tropical region and northern India in sub-tropical region. (iii) The Indian landmass as a whole has peninsular shape tapering towards the Indian Ocean in the south. In the west is the Arabian Sea, Bay of Bengal in the east and the towering Himalayan Mountain ranges are in the north-west, north and north-east. *Advantages:* (iv) Being at the head of the Indian Ocean and occupies the central position. (v) It contributes to a great variety of landforms, climatic and biodiversity which in turn influence the cultures, religious beliefs, dress, festivals and life styles of people. (vi) The advantages of the wide latitudinal extent are seen in many other respects such as long coastline that helps India in being a leading maritime nation, varied seasons, and monsoon rains all over India and many more.
2. **Importance of the long coastline of India:** (i) The 7,500 km long coastline links India with the rest of the world through ocean routes; (ii) There are many ports and harbours along this coastline; (iii) It has contributed to India' trading and cultural relation with

countries like Rome and South East Asia as well as Sri Lanka since ancient times. (iv) The coastline has helped in close contacts with the people of two groups of islands, the Andaman and Nicobar Islands in the Bay of Bengal and Lakshadweep in the Arabian Sea and contribute to great diversity of landforms and in other ways. (v) Along the long coastline are located 9 states of Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Odissa and West Bengal. The Union Territories located on the coastline are Diu and Daman, Dadra and Nagar Haveli and Puducherry. This besides climatic diversity adds to cultural and commercial diversity.

3. (i) Refer to Short Answer Question 1 above. (ii) Land boundary refers to the external boundary of India from Kachch in Gujarat to southernmost point of Mizoram via the north. (iii) These countries are linked to India via the land route, some even by railways. (iv) With some of the countries referred to in SAQ 1 India has border disputes. (v) With all these countries India shares close cultural and commercial contacts and until Independence in 1947 some like Pakistan and Bangladesh were parts of India.
- V. 1.** A continent is a large land mass not broken by seas or oceans with a great variety of physical features. The earth's landmass is divided into seven continents. An island is a small landmass surrounded by water on all sides. There are large number of islands in the oceans of the world.
2. A peninsula is a triangular piece of land jutting out into the sea or ocean surrounded by water on three sides. An island is a small landmass surrounded by water on all sides.
 3. Maritime countries have access to oceans and landlocked countries have only land borders with other countries.
- VI. 1.** 3.28 million sq. km.
2. Rajasthan,
3. Tropic of Cancer ($23^{\circ}30'N$).
4. $68\frac{1}{2}^{\circ}E$, 5. Same as in Question 3 of this section.

HOTS

1. India is called Indian Subcontinent because (i) India has continent like physical features such as mountains, their passes, plateau of Peninsular India, groups of islands etc. (ii) In terms land area it is seventh largest country in the world; (iii) Large variety of landforms such as mountains, hills, plateaus, plains, islands etc.
2. The newly created state of Telengana is the 29th state of India. Hyderabad is temporarily its capital. Till its establishment in 2014 it was a part of the state of Andhra Pradesh.

Activity Time

□ Activity

Label India's neighbouring countries on the compass rose in clock-wise direction: *North-West (NW)* - Pakistan, Afghanistan, *North (N)* - China, Nepal, Bhutan, *East (E)* - Bangladesh, Myanmar, Bay of Bengal (Andaman and Nicobar Islands), *South (S)*: Sri Lanka and Maldives and *West (W)*: Arabian Sea (Lakshadweep Islands)

□ Life Skills

Left to right: Strait, Peninsula and Island.
Enquiries: Students to do

8. Physical Features of India

Practice Time

- I. 1–(i), 2–(ii), 3–(i), 4–(iii), 5–(ii), 6–(i), 7–(iii).
- II. 1. The delta formed by the Ganga-Brahmaputra-Meghna rivers is called Sunderbans Delta.
2. A large number of people live in the Northern Plains because of plain and fertile land made by rivers and their tributaries.
3. The Vindhya hills are located south of Malwa Plateau in Madhya Pradesh.
4. The 'ghats' are like steep banks of a river. There are several such natural landforms in India such as Piplighat situated in Mount Abu in Gujarat, but the most outstanding are the Western and Eastern Ghats on west and east of Peninsular India.
- III. 1. The Lakshadweep Islands are known as 'coral' islands because they are built of the organic material and skeletons of the marine animals known as corals. Corals are found in tropical waters and the soils at many places are snow-white.
2. The two major rivers, Narmada and Tapi, flow west into the Arabian Sea; (ii) They pass through graben, a lowered part of fault block mountain.
3. *The locational significance of the physical divisions of India:* (i) India stands as a sentinel in the north of Indian Ocean in South Asia surrounded by the lofty Himalayan mountain ranges in the north extending from north-west, north to north-east. (ii) It is guarded by low hill ranges both on the west and east by Western and Eastern Ghats respectively; and (iii) The young and old diverse landmasses were unified into a single landmass that is India.
4. (i) The Brahmaputra River originates in Tibet, near Kailash Range where it is known as Tsangpo and flows east. (ii) It takes southwards turn and enters India through a deep gorge in Arunachal Pradesh where it is joined by two other rivers to form the mighty Brahmaputra River traversing 2,900 km from its source to its mouth. (iii) It enters Bangladesh where it is called Jamuna and joins Ganga and then flows into the Bay of Bengal.
5. If I were to go to the Arabian Sea Coast, two major milestones I will come across are: (i) The Western Ghats along this coast running for about 1,600 km. (ii) The western coastal strip is known for number of lagoons and backwaters like Vembanad Lake.
- IV. 1. The five major physical divisions are: (i) Northern Mountains spread over about 500,000 sq km in area and constituting about 16.5% of the total land area of the country. They run in east-west direction and their width varies from 150 km to 400 km. (ii) The Northern Plains are about 600,000 sq km in area or 18% of the total land area. It is drained by three main rivers and their tributaries. The main rivers are Indus in the west, Ganga in central part and Brahmaputra in the east. (iii) The Indian Desert occupies about 200,000 sq km area or 6% of the total land area. (iv) The

Peninsular Plateau occupies about 1,600,000 sq km area or 49% of the total land area. It is the most stable part of the landmass of India. It is bounded in the west by the faulted edges of the upraised plateau or the Western Ghat and the east by the Eastern Ghat. (v) The Coastal Plains and the two groups of islands known as Lakshadweep Island in the Arabian Sea and Andaman and Nicobar Islands in the Bay of Bengal..

2. (i) The rivers of the Northern Plains flowing from the Himalayas are perennial or that flow throughout the year. The rivers of the Plateau region are seasonal or that flow during part of the year and then go dry. (ii) The principal Himalayan rivers are the Ganga, Indus and Brahmaputra and their tributaries. (iii) The tributaries of Indus are such as Ravi, Beas and Satluj. (iv) The tributaries of Ganga are Yamuna, Gomti, Ghagra, Gandak and Kosi. The rivers coming from the Central Highlands such as Chambal, Betwa, Ken, and Son also drain the Northern Plains. (v) Other peninsular rivers are Narmada and Tapi that flow west to fall in the Arabian Sea. Rivers such as Mahanadi, Godavari, Krishna and Kaveri flow east to follow the slope of the peninsular plateau and fall into Bay of Bengal.
3. **Western and Eastern Ghats:** (i) They are faulted edges of the upraised plateau and their history goes back to the time when the earth was formed. (ii) They run in north-south direction and the Western Ghats along the Arabian Sea Coast runs for about 1,600 km and the Eastern Ghats in the east along the Bay of Bengal for about 1,700 km. (iii) There are several gaps in the Western Ghat leading to the Arabian Sea Coast. The Eastern Ghats are very discontinuous. (iv) Both the Ghats converge in Nilgiri hills. Doda Betta (2,637 m) in Nilgiri, the Anai Mudi (2,695 m) in Kerala is the highest peak.
4. (i) The Union Territories of the Andaman and Nicobar Islands are situated between 6° and 14° Latitude and 92° and 94° Longitude and that of Lakshadweep between latitudes 8° 15' N and 11° 45' N and longitudes 72°

E and 74° E. (ii) While A & N islands are a group of 572 islands in the Bay of Bengal, Lakshadweep is a group of 36 coral islands of which only 10 are inhabited; (iii) A & N Islands are the mountain peaks emerging from the sea, their soils are built of marine sediments and clay. Lakshadweep are built of organic materials and skeletons of tiny marine animals called corals.

- v. 1. Himadri, 2. Arabian, 3. Source. 4. Sunderbans, 5. Submerged.

vii. 1-(iii), 2-(iv), 3-(i), 4-(ii), 5-(v)

viii. Three examples:

1. Mountain, Plateau and Plain,
2. Rivers flow west to east; Discontinuous Eastern Ghats and Aerial view of west-east slope;
3. Karakoram, Zaskar and Ladakh ranges;
4. Number of ports and harbours, International Shipping routes and Moderation of climate;
5. Tsunami, Volcanic eruptions and lack of fresh water.

HOTS

1. Narmada river flows through a graben of the fault block mountain of the Vindya ranges. It is lowered part of the ranges sloping towards the Arabian Sea. Most other peninsular rivers follow the slope of the plateau region which is towards the Bay of Bengal.
2. In the Sunderbans Delta region both fresh water of rivers and ocean water from the tides, currents and waves in the Bay of Bengal meet. As a result both fresh water and marine life are found. Further the Delta is a swampy area giving rise to great variety of plant and animal life including birds.

9. Climate of India

Practice Time

- i. 1-(iii), 2-(i), 3-(i), 4-(ii), 5-(i).
- ii. 1. The coastal area receive more rainfall because winds coming from the sea are moisture laden.
2. It snows in Kashmir in winter.
3. The retreating monsoon is so called because in the months of October and November

monsoons begin receding marking the end of monsoon season.

4. The various forms of precipitation are rainfall, snowfall, dew, hail and frost.
- III. 1. South-West Monsoon winds cause rainfall in India. They are important because: (i) They are responsible for 90% of annual rainfall in the Indian Subcontinent; (ii) There is seasonal reversal in the direction of winds during a year which happens on account of pressure conditions over the sub-continent, a very rare phenomenon; and (iii) The whole life, dress, culture etc. of the people in the Indian Subcontinent moves around the monsoons.
2. The different seasons in India are: (i) The Cold Weather season generally known as Winter Season, begins around the middle of November and continues till the end of February. (ii) The Hot Weather Season (Summer) begins in March and lasts until May. (iii) The South-West Monsoon Season (Rainy Season) begins towards end of June and lasts until October; and (iv) The Retreating Monsoon Season (October-November). It marks the end of monsoon season and many places particularly in receive rainfall during this season.
 3. Relief influences rainfall in India in following manner: (i) Relief generally refers to difference in highest and lowest elevation; (ii) The windward side of a mountain gets more rainfall than the opposite side, called leeward side; and (iii) The south facing slope of a mountain gets more sunshine than the leeward side. India has diverse relief conditions ranging from high Himalayas to low coastal areas as well as in the direction of these mountains and hills.
- IV. 1. **Importance of monsoons:** (i) India gets 90% of its annual rainfall during monsoon season. It is this rainfall on which all agricultural activity and availability of water depends. (ii) The rainwater fills the rivers and streams as well goes underground. (iii) It is water that fills the dams generating hydroelectricity. (iv) When these winds strike the mountain barriers, rainfall occurs in decreasing order from areas on the windward side of the mountain to leeward side area.
2. The factors affecting climate of India are: (i) *Latitude:* The Tropic of Cancer divides India into the Tropical and Sub-tropical Zones. (ii) *Altitude:* The pressure and temperature decrease with altitude. It is cooler at the top of a mountain than at the base or in the plains. (iii) *Distance from the Sea:* The places near the sea or the ocean have little difference in day and night temperature. The oceans also moderate the temperature of nearby places. (iv) *Pressure and Winds:* The low pressure in the Northern Plains in summer attracts monsoon winds blowing over the oceans. Reverse of this happens in winter. (v) *Ocean currents:* The warm ocean currents warm the coastal areas and cold currents cool them. (vi) *Relief:* The windward side of a mountain gets more rainfall than the opposite side, called leeward side.
 3. The different seasons in India happen year after year and are termed as the Cycle of Seasons. The factors responsible are: (i) *The Cold Weather Season or Winter Season (November - February):* During the winter season the sunrays do not fall directly in the northern parts of India. The temperature is quite low between 10°C and 15°C and high pressure prevails. Winds move from high pressure over the oceans to low pressure over land. There is small rainfall in Northern Plains and coastal areas and snowfall in Kashmir, Himachal Pradesh and other mountainous areas. (ii) *The Hot Weather Season or Summer Season (March - May):* Temperature is high and varies between 32°C and 42°C in majority of places in the interior of the Northern Plains. (iii) *The South-West Monsoon Season or Rainy Season (June - September):* Due to high temperature, pressure is low attracting moisture laden winds from oceans which cause rainfall throughout the country. (iv) *The Retreating Monsoon Season (October - November):* The retreat is very gradual and rainfall too begins decreasing and winds begin moving back from the mainland to the Bay of Bengal.
- V. 1. Weather states the condition of atmosphere over a short period of time like parts of a day or of season. Climate is the condition of

atmosphere over a long period of time say 30 years.

2. The distance from the sea influences temperature and rainfall. Places near the sea or the ocean have little difference in day and night temperature and get more rains than places away from the sea. Relief relates to the windward and leeward sides of a mountain. Windward side gets more rainfall than the leeward side.
3. The cold weather season is generally known as winter season and begins around the middle of November and continues till the end of February. The summer season begins in March and lasts until May.
4. Southwest Monsoon Season or the Rainy Season is heralded when moisture laden winds coming from the oceans cause widespread rainfall over the mainland. Retreating Monsoon Season begins when monsoons begin gradually retreating and rainfall too decreases.

VI. 1. Loo, 2. Retreating Monsoon Season, 3. More, 4. Tropical, 5. Precipitation.

VII. 1. Winds in winter move from land to sea because over the land atmospheric pressure is high than over the oceans.

2. Mumbai is near the Arabian Sea as against Pune which is on the side of hills.

3. Southwest Monsoon rainfall decreases from Patna to Delhi because these winds are redirected by the Himalayas from east to west.

4. Tropical Cyclones cause great devastation because they cause very sudden and heavy rainfall and winds move very fast.

HOTS

1. Monsoons are special to India for three reasons: (i) India is located in dry trade wind belt. It would have been a desert like the Rajasthan desert. (ii) Monsoon winds when striking Himalayas are redirected from east to west and do not leave India otherwise dry cold Siberian winds would have turned landmass a Gobi like Cold Desert. (iii) Monsoons are marked by reversal of seasonal winds like in the Northern Plains otherwise they would have escaped Indian landmass.

2. Three types of natural disasters associated with monsoons are: (i) Floods occur on account of excess rainfall during monsoon season. (ii) Drought or prolonged dry period occurs when monsoons fail to cause rainfall over an area. There is shortage of water and crops fail to grow; (iii) Tropical Cyclones marked by a system of winds rotating at a speed between 30 and 50 km an hour about a centre of low atmospheric pressure. They occur in Bay of Bengal and cause considerable damage to life and property of people on account of fast winds, heavy rainfall and great floods.

Activity Time

Life Skills

Analysis of 'Today's Weather'

10. Natural Vegetation and Wildlife

Practice Time

- I. 1–(i), 2–(iii), 3–(i), 4–(iii), 5–(ii), 6–(i), 7–(iii).
- II. 1. The natural vegetation is the plant life, grasses, shrubs and trees as a whole, growing naturally in a region.
2. The trees of tropical rain forests remain green throughout the year and do of course shed their leaves in a particular season. So they are evergreen forests.
3. We can find Sundari tree in Sunderbans in West Bengal and Bangladesh.
4. We can find tidal forests in India along the coastline where tides occur such as in Sunderbans in West Bengal and A & N Islands.
5. The two aquatic animals are fish and India's National Aquatic Animal Dolphin.
- III. 1. The natural vegetation of India can broadly be divided into five main categories: (i) Tropical Evergreen Rainforests found in Western Ghats, Andaman and Nicobar Islands and to some extent in some NE states and West Bengal; (ii) Tropical Deciduous Forests, India's main vegetation type, found in M.P., U. P., Bihar, Jharkhand, Chhattisgarh and Orissa; (iii) Thorn Forests found in Rajasthan, Punjab, Haryana, Chhattisgarh, Gujarat and Maharashtra; (iv) Tidal forests in the Sunderbans of West Bengal, in the deltas

of Mahanadi, Godavari and Krishna rivers on the East Coast and in the Andaman and Nicobar Islands. (v) Montane or *Mountain Vegetation* on the slopes of Himalayas.

2. The three characteristics of the Tropical Rainforest Vegetation are: (i) The trees of these forests remain green throughout the year; (ii) There is great variety in tree species, such as trees with broad leaves grow in humid climate areas of above 200 cm rainfall and those with needle-shaped leaves, called coniferous trees, grow in areas where it snows including high mountains and more; and (iii) The trees in these forests grow very dense and in order to catch sunlight they grow very tall and have layering arrangement and throw a canopy overhead. So there undergrowth of shrubs and other similar plants including climbers in these areas;
3. **Importance of forests and wildlife:** (i) They are important for our survival as plants release *oxygen* that we breathe and absorb *carbon dioxide*; (ii) The roots of the plants bind the soil; thus, they control soil erosion and forest animals provide manure etc; and (iii) We get many forest products such as herbs, medicinal plants and even insects like bees provide us honey, help in pollination of flowers and have an important role to play as decomposers in the ecosystem. Forests are of many types so there are many varieties of animals.
4. Many people engage in poaching because: (i) For commercial gains through illegally selling animal parts like bones, skin, meat, blood, tusks, horns and other parts. (ii) For many people it is their occupation and livelihood; and (iii) Other do it for entertainment and for sport.
5. (i) Endangered species are the species whose numbers are so small that the species is at the risk of extinction; (ii) In India many animals such as *Snow Leopard*, *Asiatic Lion*, *Royal Bengal Tiger* and many other animals are today endangered; (iii) Some of the animals that are facing similar threat include *elephants* in Kerala and Karnataka and *one-horned rhinoceroses* that roam in the forests of Assam.

- IV. 1. **Conservation:** The steps taken by India for the conservation of the wildlife are: (i) *National Insignias:* Tiger - national animal, Peacock - national bird and the River Dolphin - National Aquatic Animal. (ii) *Reserves:* 551 Wildlife Sanctuaries, 96 National Parks, 25 Wetlands and 15 Biosphere Reserves, 33 Botanical Gardens, 275 Zoological Parks, Deer Parks, Safari Parks, and Aquaria etc. Special Projects; (iii) *Special Projects:* Project Tiger, Project Elephant and Project Rhinoceros to protect these animals; (iv) *Other Measures:* Wildlife Week - first week of October; protection of routes of the migratory birds coming to India in the winter season every year, etc.
2. **Deciduous forests:** The deciduous tree shed their leaves annually in a particular season. *Chief characteristics:* (i) They are sun-loving, broad-leaved and grow apart and are also called monsoon forests; (ii) They are the main vegetation type and found throughout the country in both moist and dry areas receiving between 200 cm and 75 cm rainfall annually respectively; (iii) Important tree species of these forests are sal, sandalwood, teak, kusum, peepal, bamboo, khair, neem, arjun, shisham, mahua, jamun and mulberry; and (iv) These forests have been subjected to great deforestation for various purposes like cultivation of agricultural crops, human habitation, establishment of industries, dams and other purposes.
3. **Conservation - short note:** The protection and preservation of plants, animals and natural resources like water and fresh air is called conservation. It is the most important issue at global levels. The forests are home to wildlife. It is the environment in which they live. This is known as habitat. Humans cause great harm to plants and animals by destroying their natural habitats through many of their actions. Four important steps to conservation which are complementary to each other and go in a cyclic order are four A's (Advance, Activate, Adhere and Advocate). We must take actions in advance before any damage; Activate all possible conservation actions, Adhere to certain principles and Advocate the

cause of conservation and create awareness.

- V. 1. Evergreen forest trees do not shed their leaves in any particular season whereas deciduous forest trees do so;
2. Aquatic animals live in water particularly oceans and terrestrial animals live on land;
3. Thorn forests are found mostly in areas receiving little or no rainfall and trees are stunted. Tidal forests grow in swamps or in areas of both fresh and salt water from oceans and are tall.
- VI. 1. Himalayan vegetation varies with altitude because temperature reduces with altitude,
2. Rain forest trees in order to catch sunlight grow very tall and have layering arrangement and on account of dense growth of trees throw a canopy overhead.
3. Lack of rainfall and thickness of soils in arid areas does not promote tree growth.
4. Tidal forests are protected by the UN Convention because they are biologically diverse of all ecosystems.
5. Trees help in control of soil erosion as their roots bind the soils and their fallen leaves and parts called plant detritus act as manures.
6. Swachh Bharat Abhyaan was launched in 2014 to cleanse the water bodies and city streets and promote plant growth.
- VII. 1. Gir, Asiatic Lion, 2. Sunderbans, 3. Deciduous forests, 4. Diverse, 5. Conservation.
- VIII. 1-(iv), 2-(ii), 3-(v), 4-(i), 5-(iii)

HOTS

1. There is need for conservation because human population has grown to more than 7 billion in early 2015. No other species of plants and animals have increased their populations so fast in so short a time. On the contrary their numbers are dwindling and many have become extinct. We need to have plant and animal resources for our future generations.
2. The diversity of vegetation and wildlife There is great variety of natural vegetation and animals and birds found on the planet earth. This is because there is great variety of climates, landforms and soils though along with vegetation

and wildlife all go on reducing from Equator to Poles.

Activity Time

Life Skills

1. The majestic animal in picture is lion. Its natural habitat is Gir forest in Gujarat and man-made protected areas such as biosphere reserves and zoo.
2. (i) The migratory birds coming to India are those that escape harsh winter conditions in Siberia. (ii) They live in special ecosystems like in Kachchh in Gujarat and around lakes and then go back with the beginning of Spring season. (iii) Special steps have been taken for protecting the routes and habitats. (iv) Some of these birds are like *Pelican*, *Siberian Crane*, *Stork*, *Flamingo*, *Pintail Duck* and *Curlew*.

SOCIAL AND POLITICAL LIFE

1. Understanding Diversity

Practice Time

- I. 1-(ii), 2-(iii), 3-(i), 4-(i), 5-(iii).
- II. 1. Living in India with its rich heritage of diversity adds to life an expression of the ways of living developed by people over time. It has enabled us to preserve our natural environment despite many pressures from 7.2 billion people of India.
2. Diversity has become a source of strength for the people of India by celebrating cooperation between diverse groups of people.
3. The climatic unity of India refers to the monsoon climate experienced by the whole of the Indian Subcontinent.
4. Ladakh is called the 'Little Tibet' because its geographical diversity is similar to Tibet.
5. The word 'cheen' for China has probably come to us from Kerala who used Chinese fishing nets and called them *cheenawala* and even frying utensils which are called *cheenachatti*.
- III. 1. Many local festivals are celebrated by people of different communities in common. At the

national level religious festivals Eid, Diwali, Holi and Christmas are shared and celebrated by people of different communities together. These and other local festivals are celebrated together in different ways.

2. 'Unity in diversity' was even mentioned by Prime Minister Narendra Modi recently in April 2015, 68 years after Independence. It is certainly an appropriate term to describe India for following reasons: (i) It sums up the geographical unity of the Indian Subcontinent as one homogenous landmass despite many nations sharing this landmass; (ii) It reflects certain historical facts and apparent diversities of races of mankind, the religions, language, culture and customs etc. (iii) At the time Nehru quoted it in his speech, people from different social, cultural, religious, linguistic and regional backgrounds came together to oppose the colonial rule that had shaped the freedom movement, (iv) Unity in diversity is like a living culture characterising the population of India that now exceeds 120 crores; and (v) It reflects the present need for national unity and integrity.
3. Diversity adds to richness of our lives in some of the following ways: (i) The people of India speak different languages (more than 200) and more than 1,500 dialects. Even the Constitution of India recognizes 22 official languages. Despite these differences people have common identity; (ii) Having been exposed to so many languages and dialects for centuries the people of India never allow anyone speaking a different language to feel an alien; (iii) On a similar front caste-system prevailing in Indian society since ancient times is an indicator of social inequality. Still then people feel proud in having a common identity.
4. Let us see how the two contrasting geographic regions have common history: (i) Kerala and Ladakh are two diverse geographic regions. In ancient India people in both regions had similar historical backgrounds; (ii) Ladakh is surrounded by Himalayan mountain ranges. Kerala is surrounded by Western Ghats in the east, ocean in the west yet both were subjected to similar external influences; and (iii) Buddhism and Islam spread in Ladakh and Christianity as well as Islam spread in Kerala but people take pride in being called Indians.

- IV. 1. **Types of diversity that make living in India very interesting:** (i) Geographic diversity is best characterised by the Indian landmass being of continental dimensions, has a variety of landforms like mountains, plateaus and plains. The people of India are settled in varying degrees in each of these divisions having equally diverse climate and vegetation. (ii) Social diversity is manifest in people of almost every religion of the world living in India. There are Hindus, Buddhists, Sikhs, Jains, Muslims, Christians, Jews and many tribal beliefs. They pray in different ways, have different sacred books and places. The names of gods and goddesses are also different. (iii) Cultural diversity pertains to different cultural influences that different regions of India have had for major parts of our history. Despite these influences we have each have a sense of belonging to one nation that is India; (iv) Economic diversity has enabled India to be in the forefront today. Indians in many fields like information technology, managerial personnel, engineering, medical and other fields have made outstanding contributions worldwide. There are, however, many gaps like poverty and hunger still to be filled.
2. **Diversity as a source of strength:** (i) In freedom movement, people from different social, cultural, religious, linguistic and regional backgrounds came together to oppose the colonial rule (ii) The climatic unity of India has shaped social-cultural-religious festivals of people of India which revolve round the monsoon climate. (iii) Despite geographical features of different regions being different, there is similarity in many historical influences, occupations and dress of the people which is our main strength.
3. **Universal Declaration on Cultural Diversity of the United Nations:** (i) In November 2001, the UNESCO adopted Universal Declaration on Cultural Diversity. Its preamble says, "All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood." (ii) "Such a comprehensive standard-setting instrument, elevating cultural diversity to the rank of 'common heritage of humanity - as necessary for the human race as bio-diversity in

the natural realm' (iii) It makes equality amid diversity to play particularly an important role in multi-ethnic society of India.

4. **Unity in diversity:** *Ladakh vs Kerala:* (i) Ladakh is a cold desert Kerala has evergreen forests and backwaters. (ii) In Ladakh people herd animals like sheep for pashmina wool, goats, cows, dzos (yak cows) and carry trade through mountain passes and depend on tourism. In Kerala people grow spices like pepper, cloves, cardamoms that made India attractive to traders. It is linked to the world through sea routes (iii) In Ladakh Buddhism spread about 2,200 years ago. Islam reached 400 years ago. Apostle of Christ, St. Thomas, came to Kerala about 2,000 years ago to preach Christianity. Later Arab traders settled here and spread Islam. (iv) Despite these diversities both regions are parts of India and are symbols of unity.

V. 1. F, 2. T, 3. T, 4. F.

- VI. 1. Geography of the region became a contributory factor to dispersion of diversity because our food, clothes, festivals, dance, drama, music, multiplicity of languages and dialects and even religion are directly related to this geographical diversity.
2. People of India show great religious tolerance because of common history.
3. Diversity is norm to eliminate inequality of many types because it has become a slogan for celebrating cooperation between diverse groups of people.

VII. 1–(iv), 2–(iii), 3–(v), 4–(i), 5–(ii)

- VIII. 1. Inequality represents economic and social differences whereas diversity represents variety which can be natural as well as man-made.
2. Social diversity relates to features of human society whereas cultural diversity relates to beliefs, customs, arts and other human manifestations.

HOTS

1. India is a land of great social and cultural diversity because in its long history, in ancient times travellers and pilgrims who came to India were charmed by its great variety and diversity and settled here. There were invaders too who brought their own culture, religion and other beliefs with them and decided to settle here. In this way social and cultural diversity was

enhanced.

2. The social, cultural and economic diversity are closely interrelated to equality. For example, in India, especially children, girls and many social groups do not have the opportunity to attend school. This is inequality and not diversity. Today equality amid diversity has become a new norm to eliminate discrimination of any kind. It in this respect that the Universal Declaration of Human Rights has been made by the UNO.

2. Diversity And Discrimination

Practice Time

I. 1–(ii), 2–(i), 3–(i), 4–(iii), 5–(i).

- II. 1. Stereotype casting shows an oversimplified conception, image or opinion of a person(s).
2. Reform movements in the state of Kerala have helped Muslim families, even in rural areas, send their girls to attend school.
3. Dr. Bhimrao Ambedkar (1891-1956) was the Chairman of the Constitution Drafting Committee. He and other leaders set out this vision and goals in the Constitution to ensure that all the people of India were considered equal.

III. 1. Stereotype casting like 'the girls are a burden on their parents' affects life of a daughter in five following ways: (i) A daughter in her own house becomes the victim of unfair treatment and discrimination. (ii) It does produce diversity of different kind that is neither advantageous nor of anyone's liking; (iii) It may eventually affect her right to education; (iv) It leads to inequality between men and women specially in respect right to work outside the home; (v) Eventually it leads to inequality in respect of such matters like inheritance of parental property.

2. With regard to equality, the Constitution of India says: (i) Along with *Justice, Liberty, and Fraternity*, we need secure equality for all citizens of India; (ii) Right to Equality is one of the six Fundamental Rights; and (iii) It is often considered fundamental to civilization and pillars of society and culture as do other Fundamental Rights.

3. Social discrimination means: (i) Distinctions based on religion, caste, class and gender or living in particular region; (ii) It also means denial of 'social inclusion' that refers to the society where all law abiding people feel

valued, their differences are respected and their needs are met so that they can live in dignity. (iii) It includes discrimination against persons with special needs which is condemnable in a civilised society.

4. Three examples of prejudice are: (i) The discrimination that daughters face in their own home is an unfair feeling of dislike that is prejudice; (ii) Another example from history relates to apartheid practiced in South Africa sometime back. Under the policy of apartheid, the native people of South Africa were not even allowed to vote and denied many basic rights as against the white skinned people of European origin; and (iii) Same is the case of our treatment of Dalits despite government policy of equality. It reflects our prejudice].
5. The necessity of ending inequality of all kinds is for following reasons: (i) It alongwith discrimination and prejudice is a negative attitude which make people or things look different and cannot be termed as diversity. (ii) The discrimination and inequality are not the same but both pose the same challenge. (iii) Inequalities around us are of many types like economic inequalities of rich and poor, caste inequalities like that between a *Brahman* and a *Shudra*, all are disadvantageous to society.

- IV. 1. **Types of social discrimination:** (i) The social discrimination includes distinctions based on religion, caste, class, gender or living in a particular region as well as discrimination against persons with special needs; (ii) There is sometimes a stereotype image of people of a particular religion such as Muslims about whom a common stereotype image is of not sending their girl-child to school; (iii) The society in ancient times was divided into three, later four, castes on the basis of work one does. But the Brahmins, for their own self-interest, turned this work-based division into social hierarchy based division. (iv) There exists sharp division of society into rich and poor. The people who do not have the resources or the money fit into certain stereotype image. (v) Women not only are discriminated but live in constant fear of gender stereotypes and girls of young age today are faced with other kinds of gender stereotypes and fear to go out alone

2. **Persons with special needs:** (i) The persons

with special needs are the most common stereotype images of people with disabilities such as blind, deaf, orthopaedics, mentally retarded etc. (ii) Their disability is not like being sick or lacking any courage or quality of life but with respect to some part or organ of body not being functional normally. (iii) The fact is that given the special training and care people with disability can do most of what able bodied people can do; and (iv) They account for about 2.7 crore people out of 120 crore people living in India.

3. **Dr. Bhimrao Ambedkar (1891-1956):** (i) Dr. Ambedkar and his brothers as young boys were made to wait for hours at the railways station and discriminated simply because they belonged to Mahar community of Dalits; (ii) In India these people today constitute about 17% of total population and number nearly 17 crore of people. At one time they were termed as 'untouchables.' (iii) During British rule, Dr. Ambedkar fought for their rights but joined hands with other nationalists to throw off the British and free India of colonial rule. (iv) In recognition of his services, Dr. Ambedkar was made the Chairman of the Constitution Drafting Committee which made 'untouchability' an offence; (v) Today though referred to as Scheduled Castes (SC), we must strive to give place to a new society based on principles of equality and social justice to realise the dream of Dr. Ambedkar.

V. 1-(iii), 2-(iv), 3-(i), 4-(ii).

- VI. 1. Diversity refers to the fact that we are all different but inequality is a negative attitude like discrimination and prejudice make people or things look different but cannot be termed as diversity.
2. The stereotype is an oversimplified conception, image or opinion of a person. Prejudice is an unfair feeling of dislike for a person because of colour of skin, sex, religion etc. Both judge a person negatively.
 3. A positive attitude is one of approaching life with confidence and helping create a successful outlook on life and appreciate the good things around. Negative attitude creates any stereotype image of either of self or of others.

HOTS

1. The examples of the negative attitudes of prejudice and discrimination in our everyday

life may be like: (i) In our own home some one may call the daily milk vendor as *gaonwala* or a villager; an example both prejudice and discrimination; (ii) A daughter in our own home may not be allowed to meet some mentor whom she respects like her dad. This shows how we are prejudiced against a female member of the household and how we discriminate on the basis of gender. So on...

Activity Time

Picture Study

See HOTS question example (ii)

3. Government and Governance

Practice Time

- I. 1–(i), 2–(iii), 3–(iii), 4–(i), 5–(ii).
- II. 1. The very word ‘government’ means ‘govern’ which in early 14th century was considered the function of the sovereign, king or monarch and now of the state as well.
 2. Two essential functions of a democratic government are: (i) To govern the people who gave it the power of governance; and (ii) To take decisions in terms of laws set out in the Constitution.
 3. The head of district administration in India is the Deputy Commissioner;
 4. The terms ‘*universal*’ means ‘all citizens’, *adult* means ‘18 or above age’ and *franchise* means ‘to vote’. Thus, it means all citizens above the age of 18 years have the right to vote.
- III. 1. Government needs to make rules for everyone in the form of laws in order to take decisions and follow the fundamental principle of justice for everyone. The laws are treated as enacted and framed by a representative Constituent Assembly as it is the people who give the government the power to enact laws.
 2. It is important for people to abide by laws because: (i) The government makes decisions in terms of laws set out in the Constitution of India. (ii) The basic idea of such rules, regulations and laws is to ensure orderly and disciplined life of the citizens. (iii) The people too have choice to participate in making and enactment of laws as they exercised their franchise under the *Universal Adult Franchise*.
 3. Success of the Suffragette Movement refers to

women’s activists who were demanding the right to vote for all women. (ii) The word was first used by a columnist in a British newspaper in 1906. (iii) This was the beginning of the end of unfair image of women as *stereotypes*, as subsequently governments almost all over the world including the British granted women the right to vote at par with men.

- IV. 1. **Government:** (i) The word ‘government’ has come from the word ‘govern’ which in early 14th century was considered the function of the sovereign, king or monarch, of the state. In modern times it is the group of people who control and make decisions for a country or a state. Five ways in which it affects our daily life are: (i) Decisions such as building roads, opening schools, holding examinations etc. (ii) Giving relief to victims of natural disasters such as floods, earthquakes; (iii) Issue of driving licenses; (iv) Protection of our environment and (v) Laws prohibiting killing of wild animals.
 2. (i) The word ‘suffrage’ here refers to the word ‘*suffragette*’ from which it is actually derived. It refers to women’s activists demanding the right to vote for all women. (ii) It was during the First World War (1914-19) that many women in England began organizing and managing relief camps for soldiers, medical work for the injured and wounded and so on. (iii) In February 1918 the British government granted women above age of 30 who owned property the right to vote. (iv) The British government later removed this discrimination between men and women in 1928. Switzerland, the home of first democracy of the world, granted women the right to vote only in 1973 and the United States of America, the champion of equal rights, gave this right to women in 1920. (v) In India women were treated at par with men in terms of the Constitution of 1950 and *Universal Adult Franchise* equally applies to women.
 3. **Organisation of the government in terms of the Constitution:** (i) India has parliamentary system of government and power sharing is the main feature of a democratic government. (ii) There is separation of powers between the three branches or organs of the government – the *executive*, the *legislature* and the *judiciary*. (iii) The Indian democratic system is *federal* in nature and the powers are shared by the

union and the states in terms of subjects in three lists called *Union List*, *State List* and *Concurrent List*. This means that the Government in India functions at two main levels – the *Union Level* and the *State Level*. (iv) At the Central or the Union level, the three branches or organs of the government are the President of India (*executive*), the Parliament of India (*legislature*) and the Supreme Court of India (*judiciary*). The judiciary is independent of the control of the executive in order to preserve this federal nature of the Indian Union and that its decisions are not influenced. (v) Under the federal nature of the Constitution of India, the 29 States and 7 Union Territories have similar political set up as prevailing at the Centre with some minor changes. However most of the Union Territories are governed by the Lt. Governors appointed by the Union Government and only two have their own legislatures.

- V. 1. F - In a monarchy the country's citizens are not allowed to elect whomsoever they want.
 2. F - In a democracy there is no a king and no one has absolute powers to rule the country.
 3. F - In a monarchy people cannot raise questions about the decisions the monarch takes.
- VI. 1. It is important for people to be involved in decisions that affect them because in a democracy it is the people who give the power of governance to their representatives.
 2. Government must have legitimacy to rule because the government does not come from above but because people selected or elected the rulers to form the government.
 3. Dictatorship is worst form of government because a dictator is an authoritarian ruler and people are not free either to elect their leader or have any say in the decision-making process.
 4. The constitution of India is rigid because it is written constitution which cannot be changed or amended easily.
- VII. 1. Monarchy is a country ruled by a king or queen. Democracy is a country where people elect their government on the basis of Universal Adult Franchise.
 2. Democracy is ruled by elected representatives of people. Dictatorship is a country or a state

ruled by one person or a group of persons.

3. Suffrage describes not only the legal right to vote but to stand for elections in order to get elected to the parliament or the legislature. Franchise only means 'right to vote'.
4. In a unitary form of government there is one government for the whole country. Under the federal system powers are shared by the union and the states in terms of subjects on which laws are made.

HOTS

1. Gandhiji rightly and strongly believed that every adult in India should have right to vote. I support this view because: (i) Illiteracy should not be a ground for discrimination; (ii) It is not right to say that illiterate are mostly poor. So how can it be a ground for discrimination; (iii) The government is a political system and in a democracy it has to work for people's welfare; (iv) As said earlier the government does not come from above, how can the poor and illiterate be excluded; and (v) In a democracy powers are placed in the legislature called the Parliament, representing the people. It cannot be a representative body when the poor and illiterate are excluded.
2. Judiciary is independent of the executive means it can take decision without any interference in the matters of its working by the executive. This is what is meant by 'the checks and balances' which act like brakes and safeguards that have helped to protect and preserve democracy. Secondly, no branch or organ of the government can exceed its powers or usurp the power of the other.

4. Democracy in Action

Practice Time

- I. 1-(ii), 2-(iii), 3-(ii), 4-(iii), 5-(iii).
- II. 1. The Cauvery water dispute between Karnataka and Tamil Nadu has been hanging fire since 1974
 2. By focusing on local issues government can bring about a change that enables people belonging to different sections to actually be able to participate in decision making.
 3. In the Democratic Republic of South Africa today the native people who constitute the majority of the population have right to vote that was not there under Apartheid.
- III. 1. In Dr. Ambedkar's story the practice of untouchability did not support the idea that

people are equal because: (i) Dr Ambedkar had to struggle for equal treatment of the untouchables. (ii) Despite the untouchability having been banned by law, social injustice and many types of inequalities against the *dalits* continue even today. (iii) It is for this reason the government now has put into practice the enabling process, called empowerment, to address to some economic inequalities for the greatest benefit of the least advantaged.

2. People participate in the process of government making in at least three ways: (i) Through the process of working together of the government and people to resolve differences and conflicts. (ii) By criticising the government at appropriate forums as and when required. (iii) Reflecting the people's opinion by opinion makers and make even the strongest of the strongest governments to bow before the people's opinions.
3. Peaceful resolution of conflict is necessary because: (i) In a conflict situation like in South Africa during the days of Apartheid, it may be difficult for the people to have one opinion or interests. (ii) It makes us aware of these conflicts and agree on collective action. (iii) This is possible by initiating new means of negotiating different and conflicting opinions. It may mean creating change and finding other ways of participation in finding the solution

- IV. 1. We need the government to find solutions to many disputes or conflicts because: (i) The key element of having a government centres around governance. The governance is about the relationship between the people and the state. (ii) The two broader areas of the democratising process are the concepts of *working together* and *focusing on local issues*. There is a tendency among people, even not connected with any political system or party, to express their views on issue that they face. So the government is needed. (iii) The government may engage the parties in dispute in dialogue, deliberations, arbitrations or seek the court interference. (iv) Conflicts occur when people of different backgrounds do not get well along with each other. Democracy provides a way of solving these conflicts through dialogue, though a time-consuming process, it is worth trying and the government can find way and means. (v) Where this may

not succeed it may embark on bringing about social change.

2. The government takes actions to ensure that all people are treated equally such as: (i) The state tries resolve the differences in order to keep up lofty ideals of democracy. (ii) The government ensures that social justice is exercised within a society to treat the various social classes with equity or fairness in the way people are treated. (iii) Despite the untouchability having been banned by law, social injustice and many types of inequalities against the *dalits* continue. So the government takes actions that all people are treated equally. (iv) For a long time now the government has put into practice the enabling process, called empowerment, to address to some economic inequalities for the greatest benefit of the least advantaged. (v) Although charity as a concept is not that demeaning, the government has made special provisions that can enable families to care for girls like for example waiving or lowering school fees for girls in government aided educational institutions.
3. From the life and times of Madiba, we learn: (i) Nelson Mandela (1918-2013) after his death was called 'Madiba' by Bill Clinton, former US President, who revealed to the world his family name. Our first learning-lesson is how two friends remain united even after death of one. (ii) We learn about Apartheid, which in Afrikaans language means '*separateness*'. (iii) We learn about Mahatma Gandhi's '*non-violence*'. Madiba who single-handedly fought against Apartheid, was Mahatma Gandhi's great admirer. (iv) Apartheid was the official policy as well as well law from 1948 until early 1994 in the then so called Democratic Republic of South Africa. Despite this it was uprooted because Madiba was so resolute and firm in his belief. (v) We learn about how the message of protest became the message of peace. Madiba, then a leader of the ANC (African National Council), served nearly 27 years in jail (1964–1990) for leading the protests. His anti-Apartheid message gained world-wide support and ultimately South Africa became a free nation in 1994.
4. The Cauvery water dispute between Karnataka and Tamil Nadu has been hanging fire since 1974. Even the Supreme of India

washed its hands off the contentious issue. The only solution lies in identifying the potential problem and the government ought to involve local representatives of concerned communities to meet and try to arrive at a solution. The Cauvery River Authority (CRA) whose orders too have been defied earlier, must engage in dialogue, deliberations and try about bringing social change. It is also important to be aware how the differences have manifested before embarking on this path of social change.

- V. 1. People's participation is necessary to check the misuse of powers of the government. People's actions collectively can better ensure people's participation.
2. Dialogue is though a time-consuming process of resolving conflicts it is necessary to ensure peace. Deliberation is better process of dialogue through thinking, careful consideration and arriving at a solution.
3. Equality involves treating everyone equal or giving equal consideration to all issues. Empowerment is giving someone the power to be equal to others through such means as education, legislation etc.
4. Working together means involving people in the participatory process in the working of the government. Social change is a democratising means of solving disputes in which the broader concerns, claims and issues of the society at large are taken into account.

HOTS

Madiba's place in history as equivalent to that of Mahatma Gandhi can be justified by the fact that both fought against racial prejudice of the British. Both believed in 'non-violence' in building a nation based on inclusive process. Both have same popular image of 'Bapu' in the case of Mahatma Gandhi and Madiba in case of Mandella.

Activity Time

Picture Study

Three features of social change are: (i) It impacts society through education; (ii) It can be resourceful thought through which so many complicated social issues can be solved and (iii) Social change keeps pace with changing times.

5. Panchayati Raj

Practice Time

- I. 1-(iii), 2-(ii), 3-(i), 4-(iii), 5-(ii).

- II. 1. The Gram Sabha is the general body of the Gram Panchayat.
2. Block Samiti is a self-governing institution at the intermediate level or block of several villages in a district.
3. The panchayats benefit through democratic decentralisation and are gaining recognition of good governance worldwide.
4. Gram Sabha is vital for finalisation of the list of people below the poverty line (BPL) means that it takes development initiatives on many issues concerning the village in order to about social change.
- III. 1. **Importance of Gram Sabha:** (i) As General Body of the Gram Panchayat it has the power to elect members to it; (ii) Holds meetings at least twice a year; (iii) It reviews the annual accounts and considers the budget of the Gram Panchayat.
2. **Work done by Panchayat:** (i) It may take up any task for the benefit of the villagers; (ii) The money comes from taxes on houses and shops and other built up property; rent collected from Barat Ghar and property of the panchayat; fees from registration, sale-purchase deeds; a certain percentage of land revenue collected by the state government; donations by villagers and grant-in-aid provided by the state government (iii) A committee may have been constituted to oversee the work of the panchayat.
3. (i) The panchayati courts are variously called Nyaya Panchayat, Panchayat Adalat, Gram Kachheri etc. in different states and function in some states only. (ii) Different states have different jurisdictions of these courts. There may also only one Nyaya Panchayat for a cluster of Gram Panchayats. (iii) There powers and functions are to decide petty civil and criminal cases; any dispute of local nature; they can only impose fines and appeals from these lowest courts can be made to higher courts of state
- IV. 1. **Problems of villagers:** (i) Villagers are mostly agricultural communities and face problems concerned with agriculture and land improvement; (ii) Most pressing problem is watershed development that involves providing a drainage basin or a catchment area of the streams in the cluster of villages; (iii) Though these village communities have better understanding of geographic issues

such as conservation of natural resources like water, forests, watershed development, grazing fields, pastures etc. Yet they are facing threats from contractors and outsiders.

(iv) Steps to be taken to solve these problems:
(a) Concerned village communities should be involved in matters such as health care, education, improvements in geography of the area including grazing fields etc. (b) Grants, national and international aid should be directly given to these local institutions and panchayati raj institutions should ensure supervision; (c) Strengthen democracy at the grassroots levels and bring them closer to people through training of future leaders especially representing rural areas.

2. **Functions of Panchayati Samiti:** The Panchayati Samiti at block or intermediate levels are known by different names in different states and functions also vary. Functions under the supervision of experts are generally: (i) Watershed development that involves providing a drainage basin or a catchment area of the streams in the cluster of villages; (ii) Agriculture and land improvement in the area; (iii) Provision of better seeds, fertilizer, pesticides to the farmers in the area; (iv) Social and farm forestry; (v) The arrangements for technical and vocational education; (vi) Implementation of schemes such as those for health care and family welfare directly funded by the Central or the state government.

V. 1. F, 2. F, 3. T, 4. T.

- VI. 1. Gram Sabha is the general body consisting of adult residents of the village. Gram Panchayat is the executive body of local self-government unit at village level consisting of elected and some nominated members.
2. Panchayati Samiti is the intermediate level panchayati raj institution. Zila Parishad is the district level panchayat and is at the apex of the Panchayati Raj institutions in the district.
3. Primary functions of a Gram Panchayat are of primary importance such holding of meetings, maintenance of roads, wells, sanitation etc. Secondary are like maintenance of hospitals, dispensaries, planting of trees, setting up parks, playgrounds etc.
4. Pradhan also called Sarpanch, heads the Gram Panchayat and is usually elected by the elected members of the Gram Panchayat

among themselves. Block Pramukh is the chief presiding officer of the Panchayat Samiti.

5. Geographic importance of Panchayati Raj institutions concerned with geographic area of which local residents have better understanding and is concerned with issues such as conservation of natural resources like water, forests, watershed development, grazing fields, pastures etc. The political importance concerns the strengthening of democracy at grassroots levels and are closer to people. They contribute to training of future leaders especially representing rural areas.

HOTS

1. (i) Bhagvan was beaten by a group of seven men belonging to upper caste according to FIR lodged by him. They told him that the tanker water was not meant for the lower castes like him so tanker could not be emptied into the storage tanks which he wanted them to do.
- (ii) This is certainly a case of discrimination because on the one hand Bhagvan was bodily beaten by upper caste men and on the other storage tank in which he insisted that the tanker should be emptied was of common use by all villagers.

Activity Time

Picture Study

The geographic importance of the watershed development is proper water distribution especially where there are shortages, greening of the landscape, availability of drinking water especially for animals who cannot exploit underground water etc.

Life Skills

I need to be sure that I will be allowed to contest before I draw a plan because I simply belong to lower caste. Officially I need to be only 21 years of age but there is caste discrimination prevailing in many villages.

6. Local Self-Government in Urban Areas

Practice Time

- I. 1-(ii), 2-(ii), 3-(ii), 4-(iii), 5-(i).
- II. 1. A Municipal Councillor is a member of the Municipal Corporation.

2. The Municipal Corporation earns money to perform its multifarious activities through grants from state and central government, taxes on property, vehicles, entertainment, taxes on hoardings and outdoor advertising, registration and licensing fees, octroi and terminal taxes on goods coming in moving out of the city and other services and rents etc.
 3. The three R's of scientific waste management are Reduce; Reuse and Recycling. These are also the essential principles of new ecological civilisation.
 4. The State Election Commission conducts the elections to all urban local bodies which shall be held every 5 years on regular basis and in fair manner.
 5. One ceremonial function of the Municipal Corporation is organisation of reception functions for visiting dignitaries to the city.
- III. 1. The four ways in which the work of the Municipal Corporation affects the life of a city dwellers are: (i) Through opening and maintaining hospitals, dispensaries in matters of health, sanitation and hygiene; (ii) Through public works such as construction and maintenance of roads, buildings, bridges, demolition of old buildings and similar other services; (iii) Through providing essential services such as electricity, safe drinking water, sewage' drainage etc. (iv) Through education and training, registration of births and deaths, provision of cremation and burial grounds etc.
2. Mayor, the ceremonial head of the Municipal Corporation is called the 'first citizen.' The main functions or the mandatory functions of a Municipal Corporation are shown in Short Answer Question 1 above.
 3. The Constitution (Seventy-Fourth Amendment) Act 1992 brought about significant changes in the structure and functioning of urban local government bodies. (i) Among other things the law stated that the elections to these bodies shall be held every 5 years by the State Election Commission on regular basis and in fair manner. (ii) It recommended constitution of the State Finance Commission once every 5 years to review their financial position. (iii) It also recommended constitution of the District Planning Committee at the district level and the Metropolitan Planning Committee in big cities for preparation and consolidation of development plans. (iv) The reservation of seats shall be in same manner as in the case of Panchayati Raj institutions: Women – one-third (1/3) including offices of chairpersons at all; SC/ST – in proportion to their population including offices of chairpersons at all levels; Other Backward Classes (OBCs) – as required by the State legislature concerned.
 4. The Nagar Panchayats are panchayati raj institutions in habitation areas that are in the process of change from a large village or a cluster of villages to an urban area with more than 30,000 but less than 100,000 inhabitants. Powers and Functions: (i) Sanitation and drinking water supply; (ii) Provision and maintenance of public utility services; (iii) Setting up and maintaining fire services; (iv) Health services such as setting up of dispensaries and hospitals; (v) Registration of births and deaths.
- IV. 1. T, 2. T, 3. F, 4. T.
- V. 1. Dengue is an infectious disease,
2. Mayor performs mostly ceremonial functions so is known as 'first citizen.'
3. A plague scare in 1994 had thrown the entire life of the city out of gear.
- VI. 1. Municipal Council is urban self-government body for large towns and cities with a population not above 3 lakh. Those cities with population of above 3 lakh may have a Municipal Corporation.
2. Mayor is an elected ceremonial head of a Municipal Corporation. Municipal Commissioner is administrative head appointed by the State government.
3. Civic functions of a municipal body are obligatory or main functions like health and sanitation. Ceremonial functions are not obligatory or are discretionary functions such as presiding over award ceremonies, reception functions for visiting dignitaries etc.
4. Same as in Q. 3 of this section above.

HOTS

1. A State government may ignore local issues but local self-government bodies by focusing on local issues, can bring about a change that enables people belonging to different sections to

actually be able to participate in decision making at the state level as well.

2. The goal of safe disposal of wastes can be achieved by: (i) By involving local communities like in the case of tree plantation and preserving local ecology; (ii) By following in principle and practice the Chinese example of Reduce; Reuse and Recycling (3Rs). (iii) We too need to put our relation with nature in a new perspective.

Activity Time

Picture Study

1. The picture shows providing safe means to the persons disposing garbage.
2. In the picture at left collecting garbage and disposing it off presents many dangers both to the persons engaged in this work as well as the passers by and the people around. It is like the harmful practice of manual scavenging.
3. Availability of resources have often been cited as reasons for not following scientific ways for disposal of wastes by local self-government bodies. But this argument cannot be accepted and secondly accumulation of wastes is mostly due to our careless and negligent attitude.

Life Skills

'An excuse for poverty' is simply an excuse for a criminal act in the matter of disposing of garbage in the manner shown in the picture. It is a criminal act because many people and animals too may be victims of infectious diseases as has happened at many places in India such as Surat and then again at Pune decades back.

7. District Administration

Practice Time

- I. 1-(i), 2-(iii), 3-(i), 4-(ii), 5-(iii).
- II. 1. The most important work of the police is maintenance of the law and order.
2. A tehsildar is in charge of a tehsil, a subdivision of a district, for the purpose of efficient revenue collection and administration.
3. The Deputy Superintendent of Police is in charge of all the police stations in a district.
4. The District Education Officers and Employment Officers coordinate the education and employment in a district respectively.
5. Lok Adalat is court like voluntary agencies

and another forum for providing low cost speedy justice to people.

- III. 1. Two things that the work of a patwari includes are: (i) A Patwari maintains land records such as measurement of land, its ownership, crops grown; and (ii) Changes in land ownership that occur from time to time.
2. The work of a Patwari and a Panchayat are related to each other in important ways: (i) The Constitutional laws that set up the Panchayats and urban local government recognised the role of the Deputy Commissioner under whom the revenue department to which a patwari belongs is also placed; and (ii) Their work is also related through rural development including coordinating with and supervising various agencies like irrigation department, planning department etc.
3. Women benefit under the Hindu Succession (Amendment) Act 2005 in three most important ways: (i) They benefit directly in that the new law passed that year removed gender discriminatory provisions existing before the new law came into force. (ii) The law made it possible for women, whether married or unmarried, to inherit parental property in the same manner as the male heirs; and (iii) The law gave other rights to women and they can even ask for partition in respect of the dwelling house of their deceased parents.
4. The work of the Public Works Department is three-fold: (i) It works under the overall charge of an Executive Engineer, a trained and experienced officer with sound technical expertise; (ii) The department is responsible for construction, maintenance of roads and buildings including Dak Banglows and other rest houses; and (iii) The Department conducts periodic checks of these buildings to ensure public safety.
5. The Judicial Magistrate is the lowest court of the District Courts on criminal side. The Judicial Magistrate hears criminal cases and can award 5 years of imprisonment.
- IV. 1. **Duties and responsibilities of the District Collector:** (i) He/She is the principal representative of the State government for administration at district level; (ii) Acts as the head of land revenue administration which collects land revenue from villages and

towns in the district; (iii) While performing judicial functions, he or she is known as the District Magistrate. (iv) Being from the Indian Administrative Service (IAS), he/she is a trained person in all matters of administration; and (v) He/she is assisted by many other heads of departments including the Deputy Superintendent of Police, who heads the police department in the district. It shows their enormous duties and responsibilities.

2. **Functioning of the district judiciary:** (i) The organisation of the district courts in India is the responsibility of the High Court of the State. (ii) The highest court in each district is that of the District and Sessions Judge and the lowest court is that of the Nyaya Panchayat in a village; (iii) The village courts try petty cases while the appeals go to higher courts at the district headquarters. (iv) This means that the decisions of all the junior courts are subject to the appellate jurisdiction of the High Court of the state. (v) The Sessions Court is the principal court of civil jurisdiction. On criminal side the lowest court is that of the Judicial Magistrate.

3. **Steps taken to remove gender discrimination:** (i) A significant step was taken in the matter of removing gender discriminatory provisions when the Hindu Succession (Amendment) Act 2005 was passed; (ii) The law made it possible for women, whether married or unmarried, to inherit parental property in the same manner as the male heirs; (iii) Women can even ask for partition in respect of the dwelling house of their deceased parents in the same manner as the male heirs; (iv) By giving property rights to women, they are placed in a favourable position to demand parity in other respects.

- V. 1. Deputy Commissioner is a powerful officer in that they combine in themselves several official positions like the District Collector, the District Magistrate and is assisted by the respective heads of departments.
2. A police station checks its jurisdiction before registering an FIR in order that the authority of one police station may not overlap that of the other.
3. A district is divided into tehsils for the purpose of decentralisation of administrative work.

4. The crisis management is among the primary responsibilities of the Deputy Commissioner in order to provide relief to victims of natural or man-made disasters like fire, floods, earthquake and tsunami including traffic accidents.
5. Legal aid is provided to people of poorer sections because of social justice as they lack necessary resources to pursue the case.

VI. 1-(v), 2-(iii), 3-(iv), 4-(i), 5-(ii)

VII. 1. FIR refers to the First Information report filed at a police station regarding commission of an offence/crime. Writ Petition refers to the written request made in a High Court to grant immediate relief to suffering party to the dispute.

2. Revenue administration of the state is concerned with matters relating to land including collection of land revenue. Emergency relief may be organised by the government, individuals or their association to provide relief to victims of emergencies such as natural disasters, traffic accidents etc.
3. The District and Sessions Judge presides over the highest court in district while the Judicial Magistrate presides over the lowest court in the district on criminal side.
4. PIL stands for Public Interest Litigation by which a request to grant immediate relief by any court including the Supreme Court is made if the matter is in public interest. Legal Aid is the aid sought by a person from the Legal Aid Committee of the High Court/Supreme Court of India when a person genuinely suffers from lack of financial resources and even the victims of natural and man-made calamity are eligible.

HOTS

1. The Deputy Commissioner of the district is known by different names while performing different duties because after independence, the district collector became the principal representative of the State government for administration at district level and came to be known as the Deputy Commissioner while continuing to be District Collector in the capacity of the head of the revenue department. Later while performing judicial functions, he or she is known as the District Magistrate. These different names are in keeping with the functions performed.

Activity Time

Picture Study

The scale of justice conveys (i) moral force in judicial system, (ii) justice must be evenly balanced and (iii) suspended scale refers to the strength of the case.

Imagine

The poem is about the dowry and women's inheritance of parental property which they were denied before the Hindu Succession (Amendment) Act 2005.

8. Rural Livelihoods

Practice Time

I. 1–(ii), 2–(i), 3–(iii), 4–(i), 5–(ii).

II. 1. The primary activity of the rural people in India is agriculture.

2. Three main issues in rural livelihoods are the capacity and skill building, gender and equity and meeting the challenges of poverty;

3. Baskets are made from a variety of vegetable fibers so lack of knowledge and skills of rural people are the main problems.

4. Gender inequality is impacting livelihood issues because women working outside their homes only tend to increase the work-load and they do not benefit much by way of increase in income.

5. The term NRLM stands for the National Rural Livelihood Mission and NERLP for the North East Rural Livelihoods Project.

III. 1. **Bank loan:** I would say that fishing is key to livelihood of many people living in the coastal areas. The livelihood projects are given loans under the National Rural Livelihood Mission. The purchase of an engine for my boat will almost double the fish catch and save me time as well provide safety at the sea. I will repay the loan in time in easy instalments over two years. So please consider the case favourably.

2. Capacity and skill building has three main features: (i) Most people in rural areas lack both the capacity to access the services provided by the government or other many agencies and also don't possess necessary skills for jobs like using engine-driven boats for fishing or basket weaving; (ii) Many agencies including the government focus on reaching the people for capacity and skill building. (iii) It has great impact on the

sustainable livelihood development as a key to human development.

3. **Sustainable livelihood development:** (i) It involves methods that can be sustained or used for a long time without either becoming obsolete or destroying the natural resources of an area; (ii) For example fishing and basket weaving which both depend on natural resources which be renewed. Many trees that provide raw materials for basket weaving can be planted. Similarly ponds for fishing can be constructed near coastal areas. (iii) An example of livelihood management can be found in Swati Ramalingam, a daily wage worker who not only paid back the loan but constructed a hut.

4. Poverty is felt greatest in interpersonal relationships and family life. (i) It strains both these relationships and reduces any flexibility in dealing with other problems including hunger; (ii) The impact is also felt in gender inequalities and as a result the poor people have inequitable access to productive resources such as improved sanitation, improved agricultural inputs such as seeds and so on; and (iii) Above all poverty prevents poor people from even claiming their Fundamental Rights.

IV. 1. F, 2. T, 3. T, 4. F, 5. T.

V. 1. Poverty is result of gender inequality because women working outside their homes only tend to increase the work-load and they do not benefit much by way of increase in income.

2. The promotion of local self-governance in rural livelihoods places villagers at the centre of development. It is so because the State and the Central governments focus on their own schemes of promoting employment which are no answer to better governance in rural area.

3. Landless labourers fall in the rural indebtedness trap because they fail to repay the loans on one account or another.

4. Terrace farming is practised in Nagaland because of hilly slopes in which the sides of each plot are raised in order to retain soil and water.

VI. 1. Capacity building concerns improving the capacity to access the services provided by the government or other agencies. Skill development is like training an individual or their in the handling or making an article or product.

2. Economic development relates to improving income levels and standard of living. Social development pertains to transformation of rigid social structures into dynamic or flexible ones in order to improve the capacity of a society.
3. Landlords are big land-owners and landless labourers work in other's fields and have no land of their own.
4. Shifting cultivation is practised in hilly and forested areas in the North-East. In a plot of land vegetation like grasses, bushes and trees are burnt and agricultural crops are grown. After 2-3 years it is abandoned in favour of new forest land. Terrace farming too is done on hilly slopes of land like in Nagaland. Land is made flat in a series of steps. The sides of each plot are raised in order to retain soil and water.

HOTS

1. Social development is as essential as economic development in matters of livelihood earning because social obstacles often hinder economic development. For example it is necessary for women's employment to get support from their men and men need to share household responsibilities.
2. There are several government schemes, both central and state, for strengthening livelihoods in rural areas such as the National Rural Livelihood Mission (NRLM) and the North East Rural Livelihoods Project (NERLP), to mention a few. These schemes launched by the Government of India are aimed as national poverty reduction strategies. The NERLP scheme covers four north-eastern states of Mizoram, Nagaland, Sikkim and Tripura. These four states are home to tribal people chiefly dependent on agriculture. Among the projects include piggery, poultry, dairy, fishery etc. that have been a key to their livelihoods from time immemorial. These and other schemes have some novel features like village market development and IT (Information Technology) based projects. The schemes like the NRLM are not restrictive to any particular area

Activity Time

Picture Study

"I celebrate my poverty" is a slogan meaning 'talk poverty, walk for poverty... laugh for poverty... to banish it.'

9. Urban Livelihoods

Practice Time

- I. 1–(iii), 2–(i), 3–(ii), 4–(ii), 5–(i).
- II.
 1. One familiar example of urban livelihoods is that of street vendors offering goods and services like vegetables, fruits garments, toys and eatables and selling their wares on wooden boards mounted on wheels often of bicycles.
 2. Street vending, as aforesaid, means selling goods by some persons on wooden boards mounted on wheels often of bicycles.
 3. Metro has proved a boon to rickshaws and autos as the commuters while going home buy vegetables and other needs in the nearby market and hire rickshaws and autos.
 4. A porter is a person who carries luggage and other loads usually seen at railway stations. A puller usually pulls a cart or a trolley at the railway stations.
- III.
 1. A permanent and a regular job is different from a casual job in following manner: (i) A permanent worker gets regular salary every month on fixed days whereas a casual worker is paid casually according to rates fixed and work done; (ii) A permanent workers enjoys many benefits like holidays, leave, old age benefits such as provident fund. A casual worker is not entitled any of these benefits and far from that even when sick his/her salary is deducted. (iii) A permanent worker is protected by the laws of the government whereas casual workers have no such protection and sometimes even their name is not shown in company books.
 2. Examples of urban exploitation are: (i) Companies such as garment factories, biscuit makers, dyeing factories and many others employing large number of casual workers without any benefits; (ii) Sales persons and others employed by these companies have to trudge long distances often on foot and at the end of the day are not sure if their salary will be paid and their job will continue; (iii) Workers are not paid anything when there is no work and even the permanent employees are harassed and sometimes even asked to work on Sundays and holidays without any incentive or extra-payment.
 3. **Call centres and BPOs:** (i) A Call Centre involves handling telephone calls on behalf

of another organisation located overseas. The Business Processes Overseas (BPO) organisation performs various types of processes like manufacturing goods for another organisation located elsewhere particularly in developed countries like the U. K. and the USA to save labour costs etc. (ii) Both have prospered after instant communication on computers via the internet became possible but their work is different. The formers employing non-technical persons like telephone-operators and the later a large number technical and highly qualified persons. (iii) Most call centres are even in the interior of the city whereas most BPO are located on or near the sea coasts or in business parks to avail government facilities.

IV. Journalist Aman Sethi discusses about Labour Chowk: (i) The labour chowk in a city is where several roads crisscross and where one sees an assemblage of daily wage labourers offering services of many kinds. These services range from whitewashing, plastering, painting, masonry, carpentry, load-lifting, digging work and many others required at construction sites of roads, bridges and buildings; (ii) The workers come from both far-flung corners of the country as well as nearby villages. The Municipal Corporation provides night shelters for many of these worker. (iii) The chowk as well as the shelters are characterised by lack of security and even basic hygiene. (iv) To compensate for the lack of security, local tea and cigarette shops function as banks, moneylenders and safety lockers fleeing the workers. The contractors or their agents can be seen in cars and scooters negotiating the wages with these casual or daily wage workers, skilled and unskilled. (v) They are even given loans at exorbitant rates of interest and fleeced further.

V. 1. T, 2. F, 3. T.

VI. 1. The railway trains and buses in the mornings and evenings are often crowded because most workers come from different parts of the city and some even from outside the city.
2. Many categories of workers in urban areas feel exploited and discriminated because they are casual workers and have to trudge several kms from their homes to workplace. Nor are they sure if their job will continue throughout the year. Whereas their permanent counterparts enjoy many benefits.
3. Many BPO and Call Centres have branched

out in rural areas because of lower labour costs and land prices.

HOTS

- The peculiarities of urban livelihoods:** (i) The diversities and peculiarities of many kinds in urban livelihoods which make the presence of urban people felt more although they number much less than the rural population. (ii) These peculiarities in respect of livelihoods not only pertain to the work but also domestic relations. The young to old women can be seen working with their counterparts yet gender inequalities persist. (iii) The working conditions and long working hours often on Sundays as well yet the workers compete for the jobs. (iv) People in search of their livelihoods even do certain menial jobs yet they have same social status but still caste-system prevails. (v)
- State government and rickshaw pullers:** (i) The street vendors were earlier considered a nuisance and traffic hazard as they often blocked smooth working of traffic. (ii) With greater urbanization and village-to-city migrations, the government has now relaxed rules and allowed registered street vendors to work in certain zones of the city; (iii) The rules have been relaxed because street vending is the only source of livelihood to most of these people and their families. Further, street vending is now the occupation of more than 1 crore people; (iv) There are also some political pressures as most of them are registered voters.

Activity Time

Picture Study

The peculiarities seen in the picture are: (i) Environmental peculiarities are in respect of emissions such as through burning of fossil fuels – coal, diesel or petrol - in this mode of transport. Pulling such a heavy load must, however, cause many worries. (ii) The rickshaw pullers often become a traffic hazard when going on the main roads because of their slow speed and expanded load. (iii) Hard labour is of course involved but more pathetic tale is about their meagre earnings; (iv) The animal drawn rickshaw could be better option of earning a livelihood.

Life Skills

Skill-based livelihoods in urban areas range from carpenters, smiths to those working at highly skilled jobs in BPOs and engineering firms, in medical fields etc. However, training, expenses but above all dedication is involved. Skill based

jobs are in demand and better paying and satisfying jobs.

Practice Time

1. (a)–(ii), (b)–(ii), (c)–(iii), (d)–(ii), (e)–(ii).
 2. (a) Time is closely related to longitudes as these reference lines were given values based on the time taken by earth to make one complete rotation on its axis in approx 24 hours as well as time taken by earth to make one complete revolution around the sun.
 - (b) Seasons are made in the course of the revolution of the earth around the sun because the earth's changing positions in the revolution on inclined axis are with regard to the sun creating imbalances in heating of the earth from Equator to Poles.
 - (c) Early man was familiar with the use of fire as is suggested by the traces of ash dating to about a million years ago that have been discovered at Wonderwerk Cave in South Africa, near Kalahari Desert.
 - (d) Domestication of plants and animals involved a series of steps because only plants not prone to diseases had to be domesticated and relatively gentle animals had to be tamed. They needed to stay at one place to observe the growth of seeds or young plants.
 - (e) Diversity adds richness to our lives because it can be of many types such as climatic, diversity of landforms, cultural and political diversity or even diversity of clothes we wear.
 3. (a) When it is Summer Solstice in Northern Hemisphere, the position in the Southern Hemisphere is reverse of or Winter Solstice. It is so because every six months sun crosses the equator to be in either of the hemisphere and either South Pole or North Pole remains tilted towards the sun.
 - (b) The stars form groups because all these bodies attract each other with a force that is directly proportional to the product of their masses as explained by the great scientist Sir Isaac Newton in his law of gravitation. The position of the solar system in the Milky Way Galaxy is in one of its arms and completes one round of its centre in about 220 million years.
 - (c) The lives of farmers and herders were almost similar in different parts of the world because: (i) The transformation of man from Palaeolithic hunter-gatherers to the Neolithic farmers and herders first took roots around 12,000 years ago. (ii) Though it did not happen simultaneously but it did occur in different parts of the world around this period; (iii) This meant that the hunter-gatherers had to give up their lifestyles of going from place to place; and (iv) They could not have solely depended on the growth of these plants and needed to continue their hunting-and-gathering activity even though they had to stay at one place.
 - (d) Refer to *Long Answer Question 3 of History – Lesson 6* in this Answer Key.
 - (e) (i) The suffrage movement had made its impact felt in pre-independence period in India where freedom movement was in progress. (ii) In 1906 Mahatma Gandhi visiting London praised the the English suffragette movement and later the American and Irish movements. (iii) In the Constitution of India that was framed subsequently and came into force in 1950 women were treated at par with their male counterparts in the matter of Universal Adult Franchise.
4. (a) Latitudes at 1° interval number 180 in both Northern and Southern Hemispheres and are so called because they are parallel to each other which never meet. Longitude at same interval number 360 in both Western and Eastern Hemispheres and at both poles.
 - (b) The Solstices are the sun's positions on June 21 in the Northern Hemisphere and December 22 in the Southern Hemisphere over the tropics. On June 21 it is summer solstice in Northern Hemisphere when it is Winter Solstice in Southern Hemisphere and vice versa.
 - (c) The Palaeolithic or the Old Stone Age that lasted from two million years ago until 12,000 years ago. Neolithic Age or the New Stone Age stage lasted from around 12,000 years ago until 10,000 years ago.
 - (d) Plants and animals living in forests naturally are wild animals. Tamed plants and animals by man are called domesticated plants and animals.
 - (e) Empowerment is the enabling process that gives someone the power to be equal to others through such means as education, legislation etc. Equality involves treating everyone equal or giving equal consideration to all issues.

5. (a) ISRO, (b) landforms, (c) 10,000, (d) Son, (e) lofty.
6. (a)–(iii), (b)–(iv), (c)–(v), (d)–(i), (e)–(ii).

Practice Time

- (a)–(i), (b)–(ii), (c)–(iii), (d)–(ii), (e)–(ii).
- (a) High mountains such as Himalayas act as climate barriers as it neither allows monsoon winds leave the Indian Subcontinent nor allows polar cold and dry winds enter Indian Subcontinent. Otherwise it would have been a cold desert like Gobi. It, on the other hand, redirects the monsoon winds and cause rainfall over whole of the Indian Subcontinent.

(b) There is great variety of natural vegetation found on the planet earth. This is because there is great variety of climates, landforms and soils that are home to this vegetation. Further, types and density of vegetation go on reducing from Equator to Poles because climate also varies in this order.

(c) The technological developments since the time of invention of potters wheel have been many but wheel has found applications in most of the inventions – from new types of potters wheel to space vehicles and rockets.

(d) The statues and pillars continue to be erected even today and many such villages and thriving towns exist even today as when civilisation spread to Ganga valley. The shows the importance of crafts persons and penchant of our rulers be they the kings/queens or democratic rulers elected by people.

(e) The goal of safe disposal of wastes can be achieved by: (i) By involving local communities like in the case of tree plantation and preserving local ecology; (ii) By following in principle and practice the Chinese example of Reduce; Reuse and Recycling (3Rs). (iii) We too need to put our relation with nature in a new perspective by not dumping wastes in water bodies like rivers and oceans.
- (a) Refer to *Long Answer Question 2 of Geography section – Lesson 6* in this Answer Key.

(b) The seven countries with whom India shares its land boundaries are Afghanistan and Pakistan in North-West, China, Nepal and Bhutan in the North and Bangladesh and Myanmar in the East. The states of India sharing land boundaries with the

above countries are Jammu and Kashmir, Punjab, Himachal Pradesh, Uttar Pradesh, Uttarkhand, Bihar, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur and Mizoram

- (c) In 600 BCE three major religions of Hinduism, Buddhism and Jainism spread widely. Buddhism spread in the countries of South-East Asia, China and Japan. The factors that gave rise to new religions around 600 BCE were: (i) Rise of Upanishadic thinkers led to spread of Hinduism. (ii) The rigidity in society, (iii) The many rituals, (iv) The evils in society like cravings and desires, (v) The rebellion in society against these norms; (vi) the Sanskrit language was no longer the language of the common people; and (vii) the exclusion of women and *shudras* had alienated a large section of the population. These gave rise to other religions.

(d) Aryabhatta in CE 490 developed a system of numerals later known as the Arabic numerals, in which 'zero' (0) is the main place holder. He also believed that earth is round. Among other discoveries Aryabhatta is known for for developing a formula for finding the area of a triangle and accurately predicting the lunar and solar eclipses. The *Romaka Siddhanta* by Varahamihira and *Aryabhatiyam* by Aryabhatta are two most influential works on astronomy of ancient India. If these great mathematicians-scientists-astronomers were born in the 21st century, they could have placed India in forefront of science and technology and also space research. India would have since placed man on the Mars. They could even have made many discoveries and even about the limits of the Universe, about which scientists today know very little.

(e) Refer to *Short Answer Question 1 of Social and Political Science section – Lesson 9* in this Answer Key.
- (a) Alluvial plain is formed of sediments of river deposition and coastal plain of sediments by ocean currents and waves as well as rivers.

(b) Terrestrial animals are found on land like man, cow, horse, many wild animals. Aquatic animals live and breathe in water such as fish, dolphin etc.

(c) Tax is a kind of duty charged on property, vehicles, entertainment, taxes on hoardings and outdoor advertising, registration etc.

paid in cash or kind. Tribute is a kind of payment made by a ruler to another ruler of another territory or region which are allowed to be administered by local ruler in acknowledgement of submission and payment for providing protection.

(d) Megalithic iron tools were early iron tools such as sickle, tongs and axes for clearing forests as well as making graves for the dead. The Gupta period iron tools were forged iron tools such as the iron ploughshare for turning the soil, knives and axes which made the spread of agricultural settlements in the Ganga valley possible.

(e) Mayor is an elected ceremonial head of a Municipal Corporation. Municipal Commissioner is administrative head appointed by the State government.

5. (a) Block Mountains, (b) $8^{\circ}4'N-37^{\circ}6'N$ and $68^{\circ}7'E-97^{\circ}25'E$. (c) Patliputra, Taxila. (d) *Mahabharata, Ramayana*

6. (a) Sahara. (b) Alpine treeline. (c) Parshvanathji. (d) Jatakas.

Activity Time

2. On the clay model of the earth done above label the information shown by you in the table below:

Heat Zone	Latitude degree	Types of Sunrays
Torrid Zone	$23.5^{\circ} N - 23.5^{\circ} N$	Vertical
Temperate Zones	1. $23.5^{\circ} N - 66.5^{\circ} N$ 2. $23.5^{\circ} S - 66.5^{\circ} S$	Oblique/Slanted
Frigid Zone	1. $66.5^{\circ} N - 90^{\circ} N$ 2. $66.5^{\circ} S - 90^{\circ} S$	Highly Oblique/Slanted

Activity Time

□ Template Creation

1. Create a a short template on the earth's revolution around the sun. One is done for your guidance.

(i) Shape of the path: Elliptical

(ii) Inclined axis: Pointed towards North Star

(iii) Changing positions: Equinoxes – Vernal and Spring Solstice: Summer and Winter

(iv) Seasons: Winter, Spring, Summer, Autumn – Opposite of these in Southern Hemisphere

Activity Time

□ Rubric

4. Students are advised to first learn about creating a rubric, a scoring tool. They need to visit:

http://teachingcommons.depaul.edu/Feedback_Grading/rubrics.html

Sangam people engaged both in barter trade as well as monetary exchange and means of transport animals and animal drawn carts and boats/ships for export.

Activity Time

□ Practice Evaluation

(ii) The ancient Silk Route certainly influenced the construction of the present day Karakoram Highway. Karakoram which in Turkish means crumbling rock, the highway has almost similar locations enroute linking Abbottabad in Pakistan to Kashgar in China.

□ Quiz

3. The Satavahana rulers in Central India in the time of Harshavardhana were called 'Lords of Dakshinapatha' because firstly, they ruled in the west and secondly, they controlled the routes to Northern and Southern kingdoms. In some records Harshavardhana is described as 'Lord of Uttarapatha' but did not succeed in his ambition to annex the south.

□ Higher Order Thinking Skills

The impact of skill-based livelihoods in urban areas is truly great. With advances in science and technology many Indians today are working overseas but unlike in the past no brain drain is felt. Because the skilled based livelihoods are vast and expanding.