

VII SST

Lesson-1

Ans. A 1- The ancient and medieval history of India differs in many ways. The changes were widespread social, cultural, administrative as well as political. Many languages, which we speak in different parts of India today, developed during this period. Some foods, we eat and during this period. So were many administrative reforms, which were better than what had gone before. Even some current religious beliefs can be traced back this age.

A 2- One of the important development of this period was Bhakti culture. The rise of Islam was another. We are familiar with these things because we have much more information on medieval India rather than on ancient India. This period is closer to us in time and the sources that have survived give a clear picture of the period.

A 3- Ziauddin Barani completed his chronicles in 1356 AD, but revised it two years later, possibly because he did not receive the expected favour of Firoz Shah Tughluq.

A 4- Archaeological Sources of medieval Period are - Buildings, palaces, forts and tombs of the medieval period through much light on the art, architecture and life styles of this period.

Ans B 1. Indus 2. Europe 3. Medieval 4. Rajput 5. 18th

Ans C 1. F 2. F 3. T 4. F 5. T

Ans D 1. b 2. a 3. b 4. d

Lesson - 2

Ans A1. Samantas were given land grants, in return, for which they have to pay taxes to the king or even maintain a small army, which the king could use in emergency. After the death of king these samantas used to declare themselves independent and become ruler.

A2 - Tripartite Struggle - The mutual conflicts and prolonged struggle over Kanauj among the Pratihara ruler Vatsaraja and Pala ruler Dharmapala and Rashtrakuta ruler Dhruva exhausted the resources of the three powers. This struggle was called Tripartite struggle for Kanauj.

A3 - Four Rajput clans - Paramara, Chauhan, Pratihara and Chalukya, were born from fire altars. They are therefore, known as Agnikulas.

A4 - The Chola administration was highly systematic and well organised. The vast empire was divided into six Provinces or Mandals, each governed by a viceroy. The Provinces were further divided into districts or Nadus. Each Nadu was sub-divided into Kottamas consisted of a number of villages. The King was the head of the whole administration.

Ans B 1. Mayurasharman 2. Pratihara 3. Kailash 4. Gopala 5. Prathviraj Chauhan.

Ans C 1. Samanta - Some senior officers were granted land in lieu of salary. In return they had to pay taxes to the king. They used to maintain army also which the king could use in emergency.

2. Mahmandale shwara - After the death of Harsha and due to the subsequent confusion, the samantas soon became quite powerful and adopted pompous titles such as maha samanta or maha-mandaleshwaras, which meant 'the great lord of a circle'.

C3 Prashastis- Writings which were written on behalf of a king by a learned man, and recorded on stone slabs, copper plates, walls of temples, etc.

C4 Dirham- It is Turkish Currency used in ancient time.

Ans D 1. b 2. c 3. c 4. b

Lesson-3

Ans A1. Ala-ud-din Khalji ascended the throne in 1296 AD after murdering his uncle Jalal-ud-din Khalji. He could not feel secure unless he had subdued his rivals.

Ans A2. The term 'Iqta' means the land or land revenue assigned to an individual on behalf of the ruler. The sultan divided the empire into a number of tracts called Iqta, which were assigned to the military leaders. The holder

of an Iqta was called Iqtadar. But he did not own the land. Out of land revenue collected by the Iqtadar, the cost of administration was met. He was allowed a part of income for his own use. He sent the balance, if any, to the state treasury.

A3 - Muhammad-bin-Tughluq was one of the most efficient rulers of his time. But he was hasty and impatient. Therefore many of his experiments failed. He has been named an 'ill-starred idealist' by historians. The most controversial step he undertook was the transfer of the capital from Delhi to Devagiri. It appears that the Sultan wanted to make Devagiri a second capital because he thought he would be able to keep an eye over south India better from there. But his decision was totally failure.

A4 - Delhi Sultans were autocrats and enjoyed enormous powers. The Sultan's words were regarded as law. He was also the chief executive, the highest judicial authority and the commander in chief of the army. He could appoint any person to any post and dismiss him according to his will. He governed with the help of some advisors and ministers. The Sultan was expected to follow the rules based on the Quran and Islamic traditions. The Qazi and Ulema had a great impact on the administration.

Ans B 1. Muhammad Gori 2. Nusrat Khan 3. Shahra-i-mandi 4. Devagiri 5. Siri

Ans C 1. (iv) 2. (v) 3. (i) 4. (ii) 5. (iii)

Ans D 1. c 2. b 3. a 4. c

Lesson - 4

Ans A 1. Akbar restructured the civil and military services on the Mansabdari system. The mansabdars were the holder of ranks in the emperor's service.

A2 - Navratnas of Akbar's court were 'the wine gems' - Abul Fazl, Faizi, Tansen, Todarmal, Mirza Aziz Koka, Abdul Rahim Khan-i-khana, Raja Bhagwan Das, Raja Man Singh and Birbal.

A3 - Aurangzeb's Conquests in the North

(i) Assam invasion - He invaded Assam and captured parts of it, but it proved failure due to floods and starvation.

(ii) Invasion of Arakan - He invaded Arakan in 1666 AD because its ruler was helping the Portuguese pirates.

(iii) Wars against the Afghans : Afghans of the North-West region were defeated and peace was restored.

(iv) Rebellions of the Jats and the Satnamis continued all through Aurangzeb's reign. Satnamis were defeated and killed.

(v) Sikhs Rebellion.

(vi) Wars with Rajputs

(vii) Troubles from Marathas.

A4 - Central Administration of the Mughal Dynasty - The emperor was the centre of administration. He was an autocrat and enjoyed unlimited powers. Akbar was an enlightened ruler. He had a number of ministers to assist him. The Vakil was the chief minister of Akbar's time. The Dewan was in charge of the department of finance and revenue. The Mir Bakshi was mainly concerned with recruitment, maintenance training and inspection of the army. The Khan-i-Saman was in charge of the royal household. The Sadar-us-sadur was to encourage Islamic learning.

Ans B 1. Genghis Khan 2. 1539 3. Sikandara 4. Mir Bakshi 5. Panchayat

Ans C 1. a 2. c 3. a 4. c

Lesson - 5

Ans A 1. Trabeate - In this style, roofs, doors, and windows were constructed by placing a horizontal beam across two vertical columns.

Arcuate - It is a pointed arch which is not supported by a beam but by a stone placed obliquely to form the point. The entire weight of the huge structure above the door and windows was borne by arches.

A 2. The art and architecture of the Mughal period represent a blend of Hindu and Muslim art tradition. Except Aurangzeb, the great Mughals were great builders. Shah Jahan built many Forts, imposing buildings, mosques,

palaces and gardens at Agra, Kabul, Kashmir, Delhi, Lahore and Kandahar. Some of the finest monuments of our country were built during his reign. He established a new city, Shahjahanabad as his capital.

A3 - The development of architecture should not be seen in isolation. Worship places were not simply because of religious beliefs but also to showcase the power, prestige and wealth of the patrons. It was common practice of rulers to earn the respect of their subjects by showing religious favour.

Ans A4 - Mughal architecture reached at its peak during the reign of Shah Jahan, Some of the finest monument of our country were built during his reign - the Taj Mahal, the Red Fort, the Jama Masjid and the Moti Masjid. (all in Delhi) and the Masumman Burz in Agra Fort. These all shows that "Shah Jahan was a great builder."

Ans B 1. Kutub Minar 2. Trabeate 3. Shah Jahan 4. Tomb

Ans C 1. F 2. T 3. T 4. F

Ans D 1. c 2. a 3. b 4. a

Lesson - 6

Ans A 1. The rulers resided in court towns. The kings held their Darbars in that town. Mostly, it was also capital. These towns were centres of administration as well as trade, temples, markets and crafts. Many court towns emerged during the medieval period.

A 2 - The production of cash crops and growth of rural grain markets led to the rise of small township or pusbans. The rising demand of all types of luxury goods by the affluent people led to the expansion of handicrafts and growth of towns during the Mughal period.

A 3 - Temples have always played a crucial role in the Hindu society. They were not only places of worship, but also commercial, administrative and academic centres. They became centres of social, political and economic activities because the devotees generously donated to temples.

A 4 - Hampi - Hampi (Karnataka) was the centre of political activity when the sultans of Delhi extended in the southern direction it became centre of conflict between Bahamani Sultanate and Vijaynager Kingdom. Many foreign travellers visited and accounts they have mentioned about the grandeur of the city of Vijaynagar.

Ans B 1. Phoenicians 2. Muhammad-bin-Tughluk 3. Indian Sea 4. Chotties 5. Ilutmish.

Ans C 1. Mandapa - The central hall of a temple is called Mandapa. The Chola rulers were known to hold their courts in the Mandapas of the temple of Rajarajeshwara.

C 2 - Firoz Shah Tughluq divided his karkhanas into 36 sections. They were controlled by leading noble men. During Mughal rule, Karkhanas were also called Buyutat.

C 3 - Temple Towns - Towns risen around the temples during the medieval period were known as temple towns.

C 4 - Chettis - In the south India, the Chittis formed the trading community.

Ans D 1. c 2. b 3. b 4. a

Lesson - 7

Ans A1. Tribal people had their own rules and regulations. Their society was not divided into different classes based on birth or profession. They had their own language, art, craft, religious beliefs etc. There were very much dependent on natural resources. Whereas other Indian society follow the customary rules of Brahmins.

A2 In the countryside, there emerged a class of village elders and headman called Mahattaraj who were supposed to be informed of land transfers. Later, they were also classified into a caste.

A3 During the vedic period, the society was divided into four classes - Brahmins, Kshatriyas, vaishyas and Shudras. The Brahmins commanded great respect in the society. The kshatriyas provided the rulers and soldiers. Only they were took part in the warfare. They held high position and status in the society.

Ans B 1. vanshvali 2. mansabdar 3. Gujrat

Ans C 1. F 2. F 3. T

Ans D 1. a 2. b 3. c

Lesson - 8

Ans A1. Sufis were Muslim mystics. The sufis had come to India from Parsia much before the islamic rule.

A2 The five Ks related to Sikhism were -

Kesha (hair), Kangha (comb), Kara (iron bracelet), Kirpan (dagger) and Kachcha (underwear).

A3 Guru Nanak Dev was a great saint from Punjab. He believed in one God and greatness of living a pious life. He did not believe in caste system. He laid stress on equality of all man. He insisted that his followers must eat in a common kitchen, langar, where anyone could take a meal without caste consideration.

A4 The Bhakti movement was not only a religious movement, it also influenced social life. It created an atmosphere of tolerance in society. It created a spirit of love and affection among the masses.

Ans B 1. Sagments 2. Saints 3. Bhakti 4. Multan 5. Lord Krishna

Ans C 1. d 2. b 3. a 4. e 5. c

Ans D 1. a 2. a 3. c 4. b

Lesson 9

Ans A1. The different spoken language that development in the medieval period are called Apabhramshas. These languages, which florished in different parts of India during the medieval period are the base of all languages found in modern India.

A2. The Ajanta paintings cover a variety of themes. Some depiet the pomp and splendour of the royal courts, romance, feasting, singing and dancing and even luxurious products, buildings, textiles and jewellery. Other wall paintings depict the world of nature-vegetation, flowers, animals and birds.

A3. Miniature paintings are small sized generally done in water colour on cloth or paper. The Jain monks of western India and the Buddhist monks of Nepal and Eastern India were specially fond of illustrating their manuscripts with miniature paintings.

A4. Folk paintings include the Madhubani painting in Bihar, the Worli School of Maharashtra, and Pata of Odisha. Floor paintings such as Rangoli in Maharashtra, Rangavalli in Karnataka, kollam in Tamil Nadu, Mandana in Madhya Pradesh, Alapana in West Bengal are quite beautiful.

Ans B 1. Bhakti 2. Kashmir 3. Ragamala 4. Bharat 5. Manipur

Ans C 1. Ratha Yatra - In Ratha Yatra, the wooden image of diety is made by local people, which suggests that the diety was originally a local god, who was later identified with Vishnu.

C2. Apabhramshas - The different spoken languages that developed in the medieval period are called Apabhramshas.

C3. Kathak - The Kathakas were a group of story-tellers in the temples of North India. Gradually, it was started to perform in the court of King and developed into a distinctine style of danes. Subsequently, it developed into two gharanas - Jaipur and Lucknow.

C4. Gharana - A clan is called Gharana, which was very famous in it pride.

Ans D 1. c 2. c 3. a 4. b

Lesson - 10

Ans A1. The famous rulers of Bengal in the medieval period _ Murshid Quli Khan, Shuja-ud-Daula, and Alivardi Khan.

Ans A2. The Third Battle of Panipat was fought between Marathas and Afghans in 1761. The Marathas were badly defeated and were fareed to retreat to the Decean for some time.

A3. The state of Hyderabad was founded by Chin Qilich Khan in 1724 AD. He was the Wazir of the Mughal King Muhammad Shah and was given the title of 'Nizam-ul-Mulk'. He started the Asaf Jadi Dynasty, which lasted for over two anturies. His successors were known as the Nizams.

A4. Administration of Shivaji

Central Administration - Chhatrapati Shivaji was the head of the administration. He enjoyed unlimited powers. The main aim of his administration was the welfare of his subjects. Shivaji appointed eight council of ministers to assist him in administration. They were called Asht Pradhan. The Prime Minister was called the Peshwa. His main duty was to work for the welfare of the public and to look after them. He represented the king in his absence. Other ministers were - Senapati, Amatya, Nyayadhisht, Sumant, Waqia Naris, Surnavis and Panditrao.

Ans B 1. Peacock Throne - This Throne was made by Shah Jahan. When Nadir Shah, the ruler of Persia (Iran) invaded India in 1739 AD. He ordered a general massacre. He also took away the famous Kohinoor diamond and the jewel studded Peacock Throne.

C2. Subedar - Subedar was the chief (head) of a Suba (region). He was to look after the administration and worked under the direction of ruler.

C3. Chauth - It was a tax that was collected from the subjects during Shivaji rule.

C4. Ryotwari System - To save the peasants from a persecution of the Zamindars, the Zamindari System was abolished. Instead, Ryotwari System was established. This formed a direct link between the farmer and the government. The land revenue to be collected by the government was fixed at 40 percent. The farmers were given the choice of paying in cash or kind.

Ans D 1. b 2. c 3. a 4. b

Lesson - 11

Ans A 1. Physical environment includes abiotic factors like mountains, plains, soils, climate, sunshine, rainfall, thunderstorms, earthquakes etc.

A2. Evolution is a gradual development, diversification and proliferation process that results in heritable changes in a population spread over many generations.

A3. The atmosphere performs the following functions :

(i) It protects life on earth from space debris and certain harmful rays from the sun. This includes protection from bombardment by other types of radiation, such as gamma rays.

(ii) It moderates heat and cold on earth.

(iii) It is responsible for causing precipitation.

(iv) It enables us to hear sounds, because air also acts as a medium.

(v) The movement of air is called atmospheric circulation. A large percentage of all weather and climatic conditions on earth can be traced to this.

A4. Features of Biodiversity

A great variety of plants, animals and other living things on the earth interact and depend on each other for food, shelter, oxygen and soil enrichment. This biological diversity is described as biodiversity.

Ans B 1. environment 2. natural 3. Lithosphere 4. air 5. Biosphere

Ans C 1. T 2. F 3. T 4. F 5. T

Ans D 1. c 2. a 3. c 4. a

Lesson - 1

Ans A 1. Stratified Rocks - These rocks are formed in layers or strata and are therefore also called stratified rocks. i.e. sedimentary rocks.

A2. Sometimes, the remains of dead animals and plants, which get trapped in the layers of sedimentary rocks are called fossils. Coal, oil and natural gas are fossil fuels obtained from these types of rocks.

A3. Extrusive Igneous Rocks - The molten matter known as magma during its movement enters rock crevices and comes out on Earth's surface. It is then known as lava. The lava rapidly cools down and becomes solid. Rocks formed in such a way are known as extrusive igneous rocks.

Intrusive Igneous Rocks - Being internal in origin, solidification may take place in the interior of earth as

well. Rocks so formed are called intrusive igneous rocks.

A4. Sedimentary Rocks - Large masses of rocks break down into boulders, pebbles, sand or clay and are carried away by running water, moving ice or wind. The broken rock material is deposited either on the sea bed or on the land. The deposits are mostly in the form of layers. The lower layers of the sediments are compressed by the upper layers and get hardened. The rocks thus formed are known as sedimentary rocks.

Economic Importance

(i) They are the main sources of coal and mineral oils.

(ii) Clay, cement, glass and sand are made from these rocks.

(iii) Limestone is used for building purpose.

(iv) Many chemicals and fertilizers are obtained from these rocks.

Ans B 1. Sima 2. Mantle 3. Moho discontinuity 4. Granite 5. Metamorphic

Ans C 1. F 2. F 3. F 4. F 5. F

Ans D 1. c 2. b 3. b 4. c

Lesson - 13

Ans A1. The surface of the earth is divided into six large and several small plates. Several changes take place on the earth's surface because of the movement of these plates. The movement of these plates is called tectonic activity.

A2. The earth is very dynamic in nature. It has been undergoing changes since the time it came into being. On account of internal and external processes, many changes take place on the earth, which operate continuously in the form of an endless cycle. The internal forces are known as endogenic forces and the external forces at work on the surface are called exogenic forces.

A3. The place of origin of the earthquake is called the focus. whereas,

The point which is vertically above the focus on the earth's surface is called the epicentre of the earthquake.

Ans B 1. Mt. Everest 2. Richter Scale 3. Weathering

Ans C 1. (iv) 2. (iii) 3. (i) 4. (ii)

Ans D 1. c 2. c 3. b

Lesson - 14

Ans A1 Global Warming - Pollutants in the atmosphere create heat sinks and raise the average mean temperature of the earth. This is known as Global warming.

A2. Difference between Weather and Climate

Weather

1. State of atmosphere over a small given area and over a short period of time.
2. Its elements are temp. pressure, rainfall, humidity and precipitation.
3. A small change in any of the elements may change the weather.
4. Weather may be cold, hot, sunny or rainy during a particular season.

Climate

1. State of atmosphere over a large area, often a region, and over a long period of time.
2. Its elements are the same but include only aggregate conditions over a longer period of time.
3. Small changes over short periods don't affect climate.
4. The world is divided into several climate zones.

A3. Importance of Stratosphere

Being free from turbulence or adverse weather conditions, this layer would have been ideal for large, high flying jet aircraft.

Ozone layer exists in stratosphere. The ozone layer absorbs much of the harmful ultraviolet radiation of the sun. It, therefore, protects the earth's surface and living things from these harmful solar rays.

Ans B 1. Pollutants 2. Insolation 3. Altitude

Ans C 1. T 2. F 3. F
 Ans D 1. a 2. b 3. a

Lesson 15

Ans A1. The water Budget is like a financial budget-income and expenditure plus balances must tally. Hence evaporation plus transpiration is the expenditure, while water received on the earth in the form of precipitation is the income. Through the process of evaporation, condensation and precipitation, water maintains a state of equilibrium. Any disturbance in this equilibrium unbalances the water Budget.

A2. Waves are formed in the open sea due to the pushing action of the wind-the faster the wind, the higher the waves. The surface water rises and falls and comes to the same position after each wave. The highest part of the wave is called the crest, the lowest, the trough. The distance from crest to crest or trough to trough is called the length of the wave or wavelength.

A3. Ocean currents are driven by wind and differences in temperature of ocean water.

Influence of Ocean Currents

(i) It affects the temperatures of coastal area.

(ii) Wind blowing over warm currents pickup moisture. When it condenses, it causes heavy rains.

(iii) Thick fog is formed when a warm and a cold currents bring down ice masses from polar regions, while warm currents melt them.

A4. The pacific Ocean - It is the largest of the oceans. It separates Asia and Australia from North America. It covers about one-third of the earth's surface and exceeds the total land area of the world in size. It is also the deepest of all the oceans. Mariana Trench in the Pacific Ocean is the deepest place in the world.

Ans B 1. Saline 2. Wind 3. Atlantic 4. Moisture 5. Crest.

Ans C 1. F 2. F 3. F 4. T 5. T

Ans D 1. a 2. b 3. a 4. a

Lesson - 16

Ans A1. All the plant life growing naturally, without any human interference is called natural vegetation.

Ans A2. In the mountain regions, the temperature decreases with increase in height. The climatic change occurring in the higher altitudes are responsible for variation in the types of vegetation in the highlands. One can find a succession of the vegetation from the tropical to the alpine types in mountains.

A3. Tropical Deciduous Forest

These forests are located in the monsoon region of the Asia, parts of central America, Brazil and northern Australia. These forests are known as monsoon forests. The trees shed their leaves during a particular season. Sal, teak, palm sandalwood, sheesham, bamboo, etc are some trees found in these forests.

Coniferous Forests

These forests are also called taiga and are found in broad belt between 50 N to 70 N latitudes. These are found in high altitudes. the trees are tall, straight, evergreen and narrow needle like leaves. Most of the trees have soft wood and are light in weight.

A4. Wildlife is an important part of our environment without which many human activities are not possible. There is a close relation ship between the animal life and vegetation. The forests act as natural habitat for wild life. Different types of animals, birds, insects and reptiles live in forests. Many animals live on trees, many animals live in rivers and swamps.

Ans B 1. habitate 2. Temperater evergreen 3. coniferous 4. Tundra region
 5. cold desert

Ans C 1. (iii) 2. (iv) 3. (v) 4. (ii) 5. (i)

Ans D 1. b 2. c 3. a 4. b

Lesson - 17

Ans A1. The following factors played significant role in the development of settlement-

(i) Introduction of farming and invention of tools.

(ii) Surface feature of land.

(iii) Availability of resources for living, such as water, air and food.

(iv) Development of culture and surplus, agricultural produce led to quest for higher standard of living.

(v) Marriage, kinship and security of family and tribe.

(vi) They began to use the river as natural pathway for their movement.

(v) Climatic changes forced people to move to better locations.

A2. Agriculture influenced human settlement that is why rural settlement existed. Man stayed at one place with his family and tribe due to look after his crops.

A3. Inland trade is done through inland water ways. The navigation canals, deep lakes and deep navigable rivers constitute the inland water ways. Boats and steamers are used for transporting cargo and passengers.

A4. The various means of communication are used for carrying the messages and ideas. These include personal communication and Mass Communication.

Latest advancements like mobile phones, SMS, video, cable television, e-mail, satellite phone etc form a part of the above means in one form or another.

Ans B 1. Settlement 2. Dry 3. canal 4. London 5. Internet

Ans C 1. T 2. T 3. F 4. T 5. T

Ans D 1. b 2. b 3. b 4. a

Lesson - 18

Ans A1. The human beings always interact with the environment in which they live. They modify the environment to fulfill their needs. They also adjust their own activities and customs according to the physical and cultural environment. So, there is a great impact of environment on the life of people.

A2. The Amazon basin lies mostly in the equatorial region, it experiences a uniformly high temperature almost throughout the year, and the average annual temperature is about 27°C. The nights are also warm. The rainfall is wavy and well distributed almost throughout the year. The general climatic conditions are hot and humid and there is no dry season. Even when the nights are cool, the humidity is high.

A3. The hot and humid climate helps in the growth of dense vegetation. Such as tall trees, creepers, bushes, ferns and orchids. The shade resistant epiphytic plants also grow there. The forest has the largest number of plant species.

A4. The Ganga-Brahmaputra Basin is formed by the rivers Ganga and Brahmaputra and their numerous tributaries.

The Brahmaputra river originates from the Mansarovar lake in Tibet and there it is called Tsangpo. It flows eastwards and enters India after taking a sharp turn. In Arunachal Pradesh, it is known as Dihang river. After flowing through Assam, it enters Bangladesh and joins the Ganga river. The Ganga and Brahmaputra rivers together form the largest Delta (Sunderbans) in the world. Ganga river originates from Gaumukh in Gangotri glacier.

A5. The physical environment of the Ganga-Brahmaputra basin plays a significant role in the human life style and their activities. The distribution of population is also influenced by the physical environment. In the hilly areas, the density of population is low due to inhospitable conditions. The plain areas are very thickly populated. The soil is fertile and the main occupation is agriculture.

Ans B 1. Piranha 2. cassava 3. Tsangpo 4. Intensive 5. selvas

Ans C 1. F 2. T 3. T 4. T

Ans D 1. a 2. c 3. b 4. a

Lesson - 19

Ans A1. When there is a sense of feeling of inequality among the population, it is called discrimination. A feeling of discrimination on grounds of religion, race, caste, sex or place of birth.

A2. Europe witnessed the emergences of modern society. The Glorious revolution of the 17th century in England and the France Revolution in the 18th century in France greatly contributed to its development. The Glorious Revolution laid the foundation of the first democratic principle of the Rule of Law. Earlier it was believed that the king's wishes were the rule of law. The people protected against this principle and by dethroning their king in 1688 and by passing the Bill of Rights they established the idea that the country should be ruled by laws passed by the people or the parliament and not by the whims of an individual. Thus, the Rule of Law was the first important step towards the establishment of a democratic government.

A3. Economic Equality - Poverty is a curse. If real democracy is to be established, then economic disparity will have to be minimised. Our constitution guarantees equality to the people. The government tries to implement this in two ways - first, through the laws and second, and second through various government welfare programmes and schemes.

A4. Contemporary Challenges of Democracy

(i) Illiteracy - In India, only 74% (in 2011) people are literate. This is a serious threat to democracy.

(ii) Economic Inequality - Economic inequality is prevalent in India.

(iii) Social inequality - Discrimination on the basis of caste, colour, race etc is very common.

(iv) Political inequality - It is very necessary to enable citizens to develop themselves and participate in the affairs of the state.

(v) Communalism - It is being a divisive feature poses a great threat to democracy.

(vi) Lack of Political Stability

Ans B 1. Bhutan 2. 1964 3. election 4. power 5. Democratic

Ans C1. Electorate - The government must be responsible to the people who had right to vote and who were known as electorate.

C2. Sovereignty - In a democracy, Sovereignty rests with people, who are the ultimate source of power. Government gets its authority from the people and is answerable to them for the use of these powers.

C3. Rule of Majority - Today's democracy is also known as the rule of majority. In general elections, the party which gets clear majority, forms the government. However, while ruling the administration, it cannot ignore the interests of minority.

C4. Political Inequality - Political equality is necessary to enable citizens to develop themselves and participate in the affairs of the state.

Ans D 1. c 2. c 3. b 4. a

Lesson - 20

Ans A1. If the citizens of a country are conscious of their rights and duties and they are vigilant, they are called enlightened citizens.

A2. In democracy, citizens have the right to express their opinions. Everyone should be allowed to express his opinion. Even the views of an opponent should be heard patiently citizens have the right to criticise the bad policies and actions of the government. So, do the opposition parties. It helps to keep the power of the ruling party in check and exposes their failures and inefficiency. But in doing so both the opposition and the public should follow lawful and peaceful methods.

A3. When a single political party fails to form its own government then it has to seek the help and cooperation of other like minded political parties. The government thus formed are called coalition Government.

A4. In domestic countries, opposition is the watch dog of the people's interests. Opposition parties make the government accountable and force it to adopt responsible courses of action, provide an alternative team to form

the government and also promote political awakening among the people. Opposition Parties -

- => Check on the misuse of powers.
- => Formation of public opinion.
- => Spread of political consciousness.
- => Protection of rights and liberties.
- => Ventilating the grievances of the people.

Ans B 1. People 2. Opposition 3. Political Parties 4. 325 5. Responsible

Ans C 1. T 2. F 3. T 4. F 5. T

Ans D 1. b 2. b 3. b 4. a

Lesson - 21

Ans A1. Andhra Pradesh, Bihar, Jammu and Kashmir, Uttar Pradesh, Maharashtra and Karnataka.

A2. If the council of minister does not function properly, the governor can advise the president to declare a constitutional emergency in the state. He can also make such move if he thinks that council of ministers has lost the confidence of the assembly and a new ministry can not be formed easily or there is a complete breakdown of law and order. In such situations, the Governor sends a report to the President. If the president dismisses the ministry of state on the basis of the report and dissolved the Assembly, the state is said to have been placed under President's rule.

A3. Powers and functions of the Chief Minister

- (i) Formation of the Council of Ministers.
- (ii) Distribution of Portfolios
- (iii) Removal of Ministers
- (iv) Presides over the meetings of the council
- (v) Link between the Governor and the Council of Ministers.
- (vi) Chief Spoker person of the Government
- (vii) Chief adviser of the Governor
- (viii) Appointments.

A4. The central Government has taken the following steps related to land reform.

- (i) The right to property has been deleted from the list of Fundamental Rights.
- (ii) The abolition of intermediaries.
- (iii) Regulation of the size of holding through the imposition of ceiling on landholdings and redistribution or through land consolidation.
- (iv) Settlement and regulation of tenancy.

Ans B 1. Governor 2. Chief Minister 3. Upper 4. Governor 5. Money

Ans C 1. (ii) 2. (i) 3. (iv) 4. (v) 5. (iii)

Ans D 1. a 2. c 3. c 4. b

Lesson - 22

Ans A1. The government can, at times, prevent the media from publishing any news. This is called censorship. Government should not put censorship on press because in doing so there is a violation of right to expression and we would not be able to know public opinion.

A2. Media can play a significant role in checking the abuse of power by ruling government. Democracy seeks public opinion on different issues. Public opinion helps in creating such a condition where the government can not afford to misrule or neglect the country. The government also knows that ignoring the aspiration of public will soon make it unpopular and there will be less chances of its returning to power.

A3. Right to information (RTI) Act (2005) gives the citizens the legal right to get information from the government as they have the right to know. The power without accountability is always sweeter than power with respon-

sibility for the individual enjoying it.

A4. The rights of consumers are protected by laws of the country. The consumers are protected against malpractices and all other forms of consumers exploitation. Under the Consumer Protection Act (1986) special consumer courts at the district, state and national levels are set up protect the interest of the consumers.

Ans B 1. Press 2. ratio 3. censor 4. information 5. Newspaper

Ans C 1. Commercial 2. Commercial 3. Commercial 4. Social 5. Social 6. Social
7. Social 8. Social

Ans D 1. a 2. c 3. b 4. c

Lesson - 23

Ans A1. 'Sex' is referred to the biological and Physiological characteristics that define man and women ; where as 'gender' refer ; - the socially constructed roles, behaviours, activities and attributes that a society considers appropriate for men or women.

A2. In general, a girl-child is treated in a different view. There is still a feeling of inequality or discrimination for a girl child. While everything is spent on the education of boys, every attempt is made to save that money as for as girls are concerned.

A3. We can not calculate the worth of humanity in terms of money but women's worth is measured and valued everyday. There is an elaborate structure of wages and salaries that tell them how much they are worthy in the market economy. The basic assumption in determining worth in the economic system is that productive work is worth what is paid for it. By this definition, unpaid work is not productive because it is not paid for. Therefore, what women do without payment has an extremely high price tag. The estimated value depends on the valuation method used and is depends on the valuation method used and is dependent on how unpaid work is defined and then measured in the first paid.

A4. Men and women are two faces of the same coin. They play significant role in productive work throughout the world for themselves and their families. But women's role are often invisible and hence go unrecognised and unrewarded.

Ans B 1. Sex 2. Marriage 3. Sex ratio 4. Pandita 5. Preval

Ans C 1. Sex Ratio - Sex ratio represents the number of girls for every 1000 boys.

C2. Women Empowerment - In India, many steps have been taken to provide constitutional safeguards and institutional frame work for women welfare activities. The development of women has been the central focus in developmental planning since independence.

Thus, women are making significant gains in the political spheres where increased participation is rapidly empowering women, boosting their confidence, changing perception.

C3. Gender Inequality - The roots of gender inequality go back to the time when separate roles emerged for men and women based on survival realities. Men would go forth to hunt, and women would stay at home and look after the domestic front. Gender inequality is found everywhere - in family, in School, and in society also.

C4. Sharda Sadan - Pandita Ramabai was the architect of female education in India. She was well versed in Puranic Sanskrit and other religious texts. She started a school for widows known as 'Sharda Sadan' in Mumbai.

Ans D 1. b 2. b 3. a 4. c

Lesson - 24

Ans A1. Itinerant Retailers - These are retailers who has no fixed shops, such as, hawkers, peddlers, street traders and periodic market traders.

A2. Wholesale trade refers to selling of goods to merchants usually in large quantity for resale to consumers. Whereas, Retail trade is carried out in consumer markets and thus a retailer is concerned with buying goods in small lots and selling them across the counter to the ultimate consumers.

A3. Factors influencing consumer choice of retailers -

(i) Regular supply of goods - Retailers maintain regular supply of goods as per demands of the consumers.

(ii) Opportunity of Right selection - Retailers deal in different varieties of goods. As a result, customers have choice to select goods that suit their needs and tastes.

(iii) Location Advantage - The most successful retail stores are based in localities where there is concentration of customers.

A4. Shirts are made of silk, cotton, synthetic or woollen cloth. Let us see production of a cotton shirt, the story of a cotton shirt starts with its production and ends with the shirt being sold in the market. In between production and sale, a shirt has to traverse a number of steps.

Ans B 1. Retailers 2. Street traders 3. Weekly market 4. Consumers 5 .

Branding

Ans C 1. F 2. T 3. F 4. F 5. F

Ans D 1. a 2. c 3. b 4. c

VIII SSt

Ans A1 By the end of 18th century, a revolution took place in France. At that time, French society comprised of three states. - the nobility, the clergy and the commoners. A part from the royal family wealth was concentrated in the hands of nobles and merchants. The first and second estates lived in luxury. They did not have to pay taxes. This caused great anger within the third estates which formed a majority of the French population. The leaders of the third estate declared themselves a 'National Assembly' and they rose their voice against the King.

A2. There was a shift from the manual system to the machine system in England during 18th century, which was known as 'Industrial Revolution'.

Advantages -

- (i) Production level rised rapidly.
- (ii) Minimum manpower required.
- (iii) Manufacturing cost reduced.

Disadvantages -

- (i) There was a greate unemployment faced by the people.
- (ii) People depended on machines only.

A3. Conflict between Britain and China arose in 1839. Because Chines port officials prevented the British from distributing opium to Chines port workers. Britain got agitated by refusal of the Chines emperor to grant them the right of free trade. The emperor was against the opium being smuggled into China.

A4. Diaries accounts of pilgrims and travellers, newspapers, books, novels and leaflets reflect the feelings of the Indian under British rule. People wrote in English and in the regional languages. This made people aware of the real intentions of the British.

A5. The Thirteen British colonies in North America revolved against representation. The colonies were taxed but they were not given representation in the British Parliament. Most of the people settled in these colonies had come from Europe, but they were deprived of rights of representation that people living in England enjoyed. The revolutionary era declared the independence.

Ans B 1. Mughal empire 2. Vasco-da-gama 3. Declaration of the Rights of Man
 4. ezars 5. Chandar Nagar

Ans C 1. F 2. F 3. T 4. T 5. F

Ans D 1. a 2. c 3. b 4. b 5. e

Ans E 1. (iii) 2. (iv) 3. (v) 4. (i) 5. (ii)

Ans F1. The renaissance was a cultural movement which inspired the people of Europe to challange the old established systems.

F2. The Induslgence were a by product of the crusades or holy war of the 12th and 13th centuries. An Indulgence was a payment to the catholic church that allowed one to purchase an exemption from heavenly punishment for having committed certain kinds of sins.

F3. Nationalism was a spirit that emerged when a homogenous population living in a common territory and sharing common history and culture began to consider itself as a single, united entity.

F4. In 18th century, French society was devided into three states - The first, the second and the third state. the third estate includes the people of common catogary. They were other than nobility, the clergy and merchants.

F5. Socialist - In the middle 19th century, two philosophers KarlMarx and Friedrich Engels co-authored a book entiteled. The Communist Manifesto, which was published in 1848. In the book, they wrote that capitalism should be replaced by a new system of social organisation in which property and the distribution of income were subject to social control rather than individual determination of market foreces. The revolutionary concept chal- lenged the very basis of capitalism. So they were called socialists.

Lesson - 2

Ans A1. The Mughal Empire started to decline during the last phase of Aurangzeb's reign. His prolonged absence from the capital was a major reason for the disintegration of the Mughal Empire. While he was busy capturing the Jagirs of the Deccan, his jagirdars in the north were unable to collect their dues from the villages. This all caused Mughal Empire to disintegrate.

A2. In 18th century, the new rulers lost their credibility and there were many revolts against the administration. The country soon broke up into small estates ruled by petty nawabs, feudal overlords who had risen to prominence in the vacuum left by the crumbling imperial edifice.

A3. The main causes behind the defeat of the Marathas in the third Battle of Panipat -

(i) The faulty strategy of war adopted by Marathas.

(ii) The lack of solidarity among the Indian rulers. In contrast, Ahmed Shah Abdali received the support of the treacherous Indian rulers and nobles who were united in their opposition to the Marathas.

A4. Agriculture was the main source of livelihood for the majority of the population, while land revenue was the main source of income of the state. In the absence of a uniform taxation system the peasants were forced to pay heavy taxes. Even in natural calamity they did not get any relief from the state.

Ans B. 1. Daulat Khan Lodhi 2. Nadir Quli 3. Sardesh Mukhi 4. Hyder Ali

Ans C 1. F 2. F 3. F 4. T

Ans D 1. e 2. b 3. a 4. d 5. c

Ans E 1. First Battle of Panipat - Fed up with continuous battle with Kabul, he was lured to India by Daulat Khan Lodhi, a disgruntled of Ibrahim Lodhi. Crossing the Khyber Pass, Zahiruddin Muhammad Babar defeated Ibrahim Lodhi in the first Battle of Panipat in 1526.

E2. Later Mughal - The successors of Aurangzeb known as 'the Later Mughals' were mere puppets in the hands of their nobles. These nobles aligned themselves into many factions on the basis of their separate origins. The result of such factions being formed was that each group vied with each other for supremacy, while consolidating its own. Gradually, several provinces became separated from the empire.

E3. Guerilla Warfare - By 1673 Shivaji had controlled the most of western Maharashtra, he assumed the title 'Chhatrapati' and established a vast Maratha Empire. He had developed an efficient administration and a powerful army known for its unique brand of strike and retreat warfare, which we today call guerilla warfare.

Ans F 1. a 2. a 3. c

Lesson - 3

Ans A1. British and French both were traditional rivals and thus, there was intense competition between them. This resulted in a war which lasted for about twenty years. It was fought in the Carnatic region in South India. Because both the companies wanted to have trade monopoly.

A2. Battle of Plassey was fought between British and Siraj-ud-Daula, Nawab of Bengal. The reason behind the battle was that the British accused Siraj-ud-Daula of conspiring with the French against them and Robert Clive with his army attacked on him. Siraj-ud-Daula was defeated and later killed.

A3. Mir Jafar was a corrupt member of the Nawabs court. He was a commander. Robert Clive conspired with him, recognising the weakness of the political structure in Bengal. Mir Jafar was assured by British that he would be the next Nawab of Bengal after Siraj-ud-Daula was deposed.

Mir Jafar was also double crossed by British lastly he turned against the company.

A4. Started by a group of merchants In 1600, Queen Elizabeth I gave it a charter with granted the company the exclusive right to trade with the east. This meant that no other trading group from England could compete with the company. Company made Surat, the first trading centre.

A5. Fortification - It means building Forts in view of safe guarding.

Ans B 1. Alfonso 2. Hindu 3. Bengal

Ans C 1. T 2. T 3. T 4. F

Ans D 1. First Carnatic War - It was fought during 1746 and 1748. In this war, England and France took opposite sides. This resulted in war between their trading companies in India. Dupleix the French Governor of Pondicherry, captured Fort St. George in Madras in 1746. The British tried to recapture it but failed. Lastly the war ended and a treaty was signed. Madras was returned to the East India Company.

D 2. Farman - This was a permission or order from the authority.

D 3. Seven year's War (1756-1763)

It was Third Carnatic War that started in 1756. Which broke in Europe between the French and the British for supremacy in the region. British had defeated Nawab Siraj-ud-Daula of Bengal in the Battle of Plassey and captured the provinces. The British defeated the French army in 1760. It proved a final blow. The French lost all their possessions in India. The war ended in 1763 with the treaty of Paris and with it French empire of India ended.

D 4. Battle of Plassey (see A2)

D 5 Diwani - It was a tax collected from the subject by the ruler through his officials called Diwan.

Ans E 1. b 2. b 3. c 4. b

Lesson - 4

Ans A1. Lord Wellesley became Governor General in 1798. He introduced the system of subsidiary alliances under which the native state was expected to acknowledge the British authority and function entirely on British terms. Tipu Sultan refused to do so and tried to get external help to oust the British. He built up a large army and asked the French to support him. Wellesley attacked Mysore in 1799. Tipu fought bravely and was killed in action in May 4, 1799.

A 2. Lord Dalhousie introduced various reforms during his rule to improve the condition of India. He introduced the non-regulation System, where a chief commissioner was appointed in the non-regulation province. They were directly under the control of the Governor General through Commissioners. Railways and Telegraph were introduced to improve the means of communication. He began building many public utility structures and started the Public Works Department, which undertook the work of constructing roads, bridges and irrigation works such as canals, etc.

The extension of the Grand Trunk Road from Peshawar to Kolkata was started. Old canals were repaired and the new Ganga canal was constructed for irrigation purposes. He gave recommendations to the Wood's Despatch for improving the education system in India.

A 3. The British needed a large army to -

- (i) Conquer more territories.
- (ii) Protect British territories from their rivals.
- (iii) Protect trading interest of the company.
- (iv) Suppress internal revolts against the British.

A 4. After the death of Hyder Ali in 1782, his son Tipu Sultan continued the war. It was brought to an end by the Treaty of Mangalore. The Governor of Madras offered peace and signed the treaty of Mangalore in 1784. According to it the two parties exchanged their territories and prisoners of war.

The treaty is an important document in the history of India. It was the last occasion when an Indian power dictated terms to the British. Warren Hastings called it a 'humiliating pacification'. The credit for this treaty goes to Tipu Sultan. The British did not reconcile themselves to this humiliating and worked hard to subvert Tipu's power thereafter.

A 5. Regulating Act (1773)

- (i) The Governor General of Bengal was made the Governor General of all territories in India.
- (ii) He was helped by a four member council which was formed to assist him.
- (iii) The Act proposed to set up a Supreme Court at Kolkata in order to check the corrupt practices of the

company officials.

(iv) All officials were asked to surrender details of their properties earned. They were asked to place all documents of civil, military and revenue affairs of the company before the British Government.

Ans B 1. Mysore 2. Dual System 3. Dalhousie 4. Ranjeet Singh

Ans C 1. (ii) 2. (i) 3. (v) 4. (iii) 5. (iv)

Ans D 1. After the death of Hyder Ali, his son Tipu Sultan continued was in 1771. It was brought to an end by the 'Treaty of Mangalore'. The Governor of Madras offered peace and signed the treaty in 1784. According to it the two parties exchanged their territories and prisoners of war.

D 2. Lord Wellesley, Governor General in 1798 introduced the system of subsidiary alliances under which the native state was expected to acknowledge the British authority and function entirely on British terms.

D 3. William Pitt, the Prime Minister of Britain introduced the Pitts Act in 1784 in order to cover the shortcomings of Regulatory Act. A board of control was set up in Britain to control the company's military, civil and revenue affairs in India.

D 4. Treaty of Salbai - Treaty of Salbai was signed in 1782 which brought an end to the First Anglo-Marathas War (1775-1782). The treaty resulted in a relative peace between the Marathas and the company until outbreak of the second Anglo-Maratha war.

Ans E 1. c 2. c 3. b 4. a

Lesson - 5

Ans A1. To ensure a regular income, the company decided to fix the land revenue of Bengal and Bihar on permanent basis. This scheme was introduced in 1793 by Lord Cornwallis and came to be known as the permanent settlement. According to it the revenue to be collected from an area was fixed permanently. The Local Zamindar was asked to collect the revenue from the peasants. Every year, he had to pay the fixed amount by a certain date. He could keep the surplus amount. But if he could not pay the stipulated amount, he would lose his zamindari rights.

A2. These land revenue settlements impoverished the peasants. The method of cultivation remained backward. The British or the Zamindar took no initiative to improve agricultural methods or launch irrigation projects. As the productivity of the land fell, famines became a regular phenomenon. But the company remained insensitive to the travails of the peasants. The peasants became jobless and they became labourers.

A3. In 1830, the Mahalwari System introduced in parts of North-Western provinces, central provinces and Punjab. Mahal means a group of villages. A system of common ownership of lands prevailed in these mahals, hence the system is called Mahalwari System. Whereas, in Ryotwari System, the Permanent settlement failed to produce the desired results. A new system of collection of taxation known as Ryotwari settlement was introduced in Madras and Bombay Presidencies. In this system, the revenue was fixed for a period of thirty years after which it could be revised. It was based on the quality of the soil and nature of the crop.

A4. British agrarian policies disturbed the economy of the Indian villages. Due to Ryotwari and Mahalwari settlements, instead of protection the peasants, the social inequalities increase. Thus, it proved economically disastrous.

A5. When the British came to India, villages were self-sufficient units. They needed very little from the outside world except items like salt and clothes. Each village was a well-knit society comprising professions suited to the village economy. While peasants tilled the land, many supporting occupations performed all the services needed by the village. The farmer owned the land he cultivated and he could not be evicted. He paid a small part of his produce to the king. In case of crop failure due to natural calamities, the king reduced the land revenue and sometime totally wrote it off.

Ans B 1. Plassey 2. thirty 3. Talukdar 4. Suez canal 5. 1839

Ans C 1. T 2. F 3. F 4. T 5. F

Ans D 1. (ii) 2. (iv) 3. (i) 4. (v) 5. (iii)

Ans E 1. Board of Revenue - The company needed money for strengthening its administration and expanding its dominion. To extract more income from land revenue, Robert Clive, the Governor of Bengal, introduced the Dual System of Government. Taking Clive's work forward, Warren Hastings, the first governor general of India abolished the Dual System and formed a Board of Revenue to supervise the whole machinery of revenue collections.

E2. Absent Landlords - The traditional landlords were soon replaced by the new moneyed class the preferred to live in urban areas. Thus, it introduced the concept of absentee landlords. This new class of landlords was loyal to the British. They leased out their lands on high rent to tenants who further subleased the lands. This system increased the rent rate ultimately shouldered by the last tenant, who was the actual cultivator.

E3. Decennial Settlement - In the beginning of 1790, Lord Cornwallis announced the settlement of land revenue for ten years. This was known as the Decennial Settlement. This policy of permanent assessment received legal sanction during Cornwallis' rule and in March 1793, the Decennial Settlement was declared permanent.

E4. Mahalwari Settlement - In 1830's the Mahalwari System introduced in parts of North western provinces, central provinces and Punjab. Mahal means a group of villages. A system of common ownership of lands prevailed in these mahals, hence the system was called Mahalwari System.

E5. Neel Darpan - Exploitation of labourers became synonymous with indigo cultivation, a theme very well depicted in the drama Neel Darpan by Dinbandhu Mitra in 1860.

Ans F 1. a 2. c 3. c 4. b 5. b

Lesson - 6

Ans A1. The tribals live in small clusters of huts and have a strong sense of community. The most of them are completely ignorant of the world outside. They are contented with their own customs, beliefs and culture. Generally, there is a common meeting place in each village where dance and religious ceremonies are held.

A2. The British came in contact with the tribes when they were trying to consolidate their empire in India. Soon they were followed by traders, money-lenders and landlords who established themselves under the protection of the colonial authority and took advantages of the new judicial system to deprive the tribes of large tracts of their land. Thus, outsiders became their exploiters and masters. But tribals revolted against all that.

A3. The civil records of 1888 of Andaman and Nicobar islands, revealed that from 1866, a great deal of sickness and mortality was observed among the Andamanese. But the fact was that due to gradual clearance of forests the tribals living near the settlement areas fell prey to malaria. With the passage of time, their mortality rate increased considerably. In fact the contact with civilisation proved disastrous for them. It gave way to between the tribals and the British.

A4. Monogamous Family - A single unit of husband and wife, as in the Khasi, Santhal etc.

Polygamous Family - A person (man or woman) with more than one spouse, as found in Nagas, Gonds, Baigas, etc.

A5. Most Indian tribals have a subsistence type of existence. They practised a special type of cultivation called Jhum Shifting cultivation. The tribals selected a patch of land and cleared it by cutting down the trees and burning them. They cultivated that land for some years. When the yield from the land decreased, they abandoned it and moved to a new area. Their only occupation besides farming is handicrafts.

Ans B 1. Jewellery 2. Patriarchal 3. Ho Tribal

Ans C 1. T 2. T 3. T 4. F

Ans D1. Adivas is - 'Indigenous people' is term commonly used to describe tribal people. 'Adi' means beginning or earliest time, and 'vasi' means resident of ;. These people were relatively free from external interference. Their contact were very limited with Indian society.

D2. Patriarchal Society - It is one where wealth and title passes from father to son. It is a male dominated form of social organisation. Various tribes of Odisha and Chhotangpur region, such as the Kharia, HO, Oraon,

Khasa etc are such society. Women are usually exempted from agricultural duties, but they play, important role in the domestic sphere.

D3. Sea at A5.

D4. Mahajans - The Mahajans (money-landers) extracted heavy interest and many Kols became bonded labourers for life.

D5. Rampa Rebellion (1857) - It was an unsurrection by the hill tribes in the Rampa region of Vizagapatam district against the British government of the Madras Presidency. The extorttions and the oppressiveness of a corrupt police and ruler were the immediate causes of the Rampa Rebellion. The operation of the civil law of the country was an additional grievance of the tribesmen. The ignorance of court proceedings further aggravated their misery as it enabled traders from the lowlands to make unfair contracts with them. The hill people laid the blame for such injustice on the government and its regulations. They decided that their only remedy lay in rising against the authority.

Ans E 1. b 2. c 3. b 4. c

Lesson - 7

Ans A1. The British colouisers were not interested in preserving and promoting Indian arts and crafts. The factors that led to the decline Indian arts and crafts were -

(i) The ruthlessly exploitative colonial policies.

(ii) The downfall of princely states and their rulers, who had long patronised. Indian handicrafts and created conditions conduciors to their prosperity and growth.

(iii) The beginning of the Industrial revolution. Its mass produced mass market products, defeated the high quality-low production, class market goods, which traditional India Industrils produced.

A2. The company forced Indian agriculturists to grow crash crops like cotton and indigo to provide cheap raw materials for the looms and factories of Britian. Along with the destruction of the rural Indian economy the British also destroyed Indian industry by similar partisan tactics. This led to the de-industrialisation of India.

The scarcity of indigenious capital carried by the drain of wealth and the disrupted conditions of the country because of the misrule of the British company, made the revival of trade and industry impossible. At the same time, the policy of permanent settlement gave an impetus to agriculture and investment in land.

A3. The company started importing raw materials, cotton from Bengal at very cheap prices, to feed the mechanised textile mills in England. The company then exported bulk of finished cotton textiles from Manchester to Bengal. Due to the sof sophistication of machiner, vast quantity of cheap cotton goods from Manchester flooded the Indian market and almost destroyed the Indian indurstries.

A4. Despite the reluctance of the British India making attempts to recover from these sever blows to her economy. Indians slowly started organising themselves along modern lives. The initiative was actually taken by the British in their own interest, But later on, Indian businessmen and enter preveurs also started investing in factories.

Ans B 1. trade and industries 2. 18th 3. Plassey 4. deindustrialisation.

Ans C 1. T 2. F 3. T 4. T

Ans D1.

D2. Industrial Revolution - In second half of 18th century, the labour based economy switched over to machines and industrial progress. It began with the mechanisation of the textile industries. Thus, by the end of 18th century, the rich merchants set up factories installed mechines and started making machine goods in England. This was called industrial revolution.

D3. De-industrialisation - As the Indian textile and handicraft sector deminished, the skilled workers were rendered jobless and shifted to agriculture. This process is known as deindustrialisation.

Ans E 1. c 2. b 3. d

Lesson - 8

Ans A1. Causes of the revolt of 1857

(i) Political Cause

- The British policy of annexing territories led to the displacement of the ruling classes.
- The rulers who accepted the terms of the subsidiary Alliance lost their independence. Their armies were disbanded and they became depend on the company for all their needs.
- The strict enforcement of the policy of Doctrine of Lapse turned Rani Laxmi Bai against the British. She led the revolt in Jhansi.
- The annexation of Awadh in 1856 by Lord Dalhousie was greatly resented since the nawab of Awadh had always been loyaled to the British.

(iii) Economic Causes

- As a result of industrial revolution, machine-made English clothes floated the Indian market at the expanse of the indigeneous textile industry. The weavers employed in the textile industry lost their jobs and became strong opponents of the English.
- The commercial policy of the British was anti-Indian. Custom duty was imposed on Indian goods being exported to England.
- During the rule of the English both agriculture as well as peasants suffered. Zamindars were accepted as the owners of the land.
- Heavy taxes had been levied on the Indian people but the people did not have the capacity to pay them. The British were only interested in maximum tax collection with minimum efforts.

A2. Nature of the revolt of 1857

To underplay the importance of the uprising, British historians refer to as a 'sepoy muting', that is, one in which a few sepoys of the English East India company revolted. The facts however, suggest otherwise. The revolt was started by the sepoys but was joined in large numbers by the civilian population. The participation of peasants and artisans made the revolt a widespread and popular event. It shows that it was a clearly a popular revolt.

A3. (i) The ruler who accepted the terms of the subsidiary Alliance lost their independence.

(ii) The strict imposition of the policy of Doctrine of lapse turned Rani Laxmi Bai against the British.

(iii) The commercial policy of the British was anti-Indians.

(iv) They stopped child marriage and abolished the custom of sati. Many orthodox Hindus thought they were trying to change the social order.

(v) The social discrimination faced by the people due to the British attitude of racial discrimination also resented the Indians.

(vi) Educated Indians were denied promotions and opportunities to be appointed to high posts.

A4. Causes of Failure of Revolt 1857

(i) The revolt did not spread to all parts of the country.

(ii) The Sikh, Rajput and Gorkha battalions remained loyal and helped the British to suppress the revolt.

(iii) The Revolt lack unity. Many rulers and Nizams supported the British.

(iv) Different groups had different motives.

(v) The revolutionaries were poorly organised. They had no common plan of action.

(vi) There was lack of resources.

(vii) The revolt started much before the fixed time, i.e. 31st May 1857.

(viii) Postal and Telegraph systems were under the control of British.

A5. After the revolt, a proclamation was made by Queen Victoria when she assumed responsibility for governing India. The proclamation was read out by Viceroy Lord Canning at Allahabad on Nov.1, 1858. The proclamation was significant many promises were never kept.

Ans B 1. Sati 2. Indians 3. rural area

Ans C 1. T 2. T 3. T 4. F

Ans D 1. Subsidiary Alliances - Lord Wellesley became Governor General in 1798. He introduced the system of Subsidiary alliances under which the nation state was expected to acknowledge the British authority and function entirely on British terms. Subsidiary alliance was introduced to secure British supremacy in India. The system was practically forced on a ruler who was faced constant threat from other states. According to this, the Indian rulers were not supposed to keep their independent armed forces as they were protected by the company. The Indian rulers were also to keep a British resident in the court who in turn interfered with the internal administration of the state, if it was against the company's interests.

D2. Farman - It was a kind of order or information given by higher authority.

D3. Cantonment - An area, where army is stationed.

D4. Residency - A place where British resided.

D5. Queen Victoria Proclamation - A proclamation was issued by Queen Victoria when she assumed responsibility for governing India. The proclamation was read out by Governor Lord Canning at Allahabad on Nov. 1, 1858. The proclamation was significant, many promises were never kept.

A5. E 1. c 2. a 3. b 4. c

Lesson -9

Ans A1. Raja Rammohan Ray founded Brahma Samaj in 1828. Many social evils of that period were the direct outcome of the prevailing superstitious beliefs, like the practice of sati. Hindu widows would immolate themselves on the funeral pyre of their husband to 'earn a lasting place in heaven'. Apart from Sati, he also raised voice against the 'pardah' system, polygamy, and abuses of the caste system.

A2. Swami Vivekananda founded the Rama Krishna Mission which helped in reconstruction of society in many ways. The Mission preaches harmony of all religions and upliftment of women. He urged people to respect women while himself working for women's education and upliftment.

A3. Swami Dayananda Saraswati founded Arya Samaj 1875. At the age of 22, he became Sanyasi.

The Arya Samaj worked as following -

- The Arya Samaj denounced 'Sati'.
- It advocated widow remarriage.
- It was greatly opposed to child marriage.
- It set up orphanages and widow-ashrams.
- It laid great emphasis on women's education.

A4. Social evils in 18th century -

- (i) Sati
- (ii) Female Infanticide
- (iii) Human Sacrifice
- (iv) Widow Marriage was not allowed
- (v) Child Marriage
- (vi) Women were not allowed to have education.
- (vii) Pardah system
- (viii) Abuse of caste system
- (ix) Marry of more than one girl to a Hindu man.

A5. Impact of The Reform Movements

The East India Company initiated some useful social reforms in India -

- (i) Sati - It was declared illegal in 1829.
- (ii) Ban on female infanticide - This practice was banned in 1795.
- (iii) Suppression of Human Sacrifice - Lord Harding suppressed the practice of human sacrifice that had

prevailed among primitive tribes such as the Gonds. However, it took a long time to eradicate.

(iv) Widow Remarriage - The British government passed an act allowing Hindu Widows to remarry in 1856.

Ans B 1. British 2. Lila Nag 3. Writer 4. Prathna

Ans C 1. T 2. F 3. T 4. F

Ans D 1. (iv) 2. (iii) 3. (v) 4. (i) 5. (ii)

Ans E 1. a 2. b 3. a 4. a

Ans F1. Superstition - Thought of existence of souls and supreme souls.

F2. Sati System - This is an example of superstitious beliefs. In this system, Hindu Widows would immolate themselves on the funeral pyre of their husband to earn a lasting place in heaven. This inhuman practice was declared illegal in 1829.

F3. Age of consent - In 1901, the Gaikwads of Baroda passed the Infant Marriage Prevention Act, which fixed the minimum marriageable age in the state for girls at twelve and for boys at sixteen. 'The Age of Consent Committee' met at Shimla in June 1928 to discuss the marriage reforms. After that 'Sharda Act' was passed in 1929. It laid down the minimum age of marriage for girls as fourteen and for boys as sixteen.

F4. Keshab Chandra Sen was instrumental in passing the Native Marriage Bill of 1872, which legalized inter-caste marriage, widow marriage, prohibited child marriage and polygamy, and gave legal sanction to divorce.

F5. Sharda Sadan - Pandita Ramabai worked hard for the reforms of Indian women. She started the 'Arya Mahila Samaj' and taught women. She inaugurated a school for widows in 1889, known as 'Sharda Sadan' in Mumbai.

Lesson -10

Ans A1. The Indian caste system is based on the concept of the four Varas - The Brahmins, Kshatriyas, Vaishyas and Priests, the second one were kings and warriors, the third ones were traders and last were agriculturists, artisan groups. Although the political power was in hands of the Kshatriyas, Brahmins traditionally enjoyed prestige and privileges.

A2. Kandukuri Veerasalingam was social reformer from Andhra Pradesh. There was excessive caste rigidity in 19th century. Social life was dominated by the caste system and religious dogma. Child marriage, polygamy, devadasi, dowry and superstition were prevalent evils. He started social reforms movement in Andhra Pradesh reforms related to women were his first priority. He worked to eradicate child marriage, polygamy and sati projecting his arguments through a drama.

A3. Shri Narayan Guru was a great saint and social reformer in Kerala in 1856. He belonged to the Ezhava community. He realised the evils of casteism and pioneered the lower caste movement in Kerala. He founded an organisation in 1903 called SNDP (Shree Narayana Dharam Paripalana Yogam). He preached that all of us belong to one caste-the human caste.

A4. Jyotiba Phule founded the Satya Shodhak Samaj in 1873. The main objectives of this organisation were to liberate the shudras. He opposed idolatry and supported widow remarriage and women's education. He stressed on unity of man.

A5. Mahatma Gandhi founded Harijan Sevak Sangh and Sewagram as a part of his freedom movement. He insisted on equal status of women and men. Gandhiji gave equal weightage to both mean and work.

Ans B 1. Veerasalingam 2. Narayan Guru 3. Mahor 4. Travancore
5. Jyotiba Phule

Ans C 1. F 2. T 3. F 4. F 5. T

Ans D 1. (iii) 2. (v) 3. (iv) 4. (ii) 5. (i)

Ans E 1. a 2. c 3. a 4. b 5. d

Ans F1. Devadasis - It was a social evil in 19th century. Veerasalingam, a social reformer from Andhra Pradesh worked to eradicate this evil.

F2. SNDP - SNDP means Shree Narayana Dharam Paripalana Yogam. It was the name of an organisation

which was founded by Narayan Guru in 1903 in Kerala. It was founded to eradicate castism from the society.

F3. Vaikom Movement - This movement was started by Periyar in Tamil Nadu against untouchability. Many popular national leaders like Ganghiji, Rajgopalachari and Acharya Vinoba Bhave participated in this movement. Finally, the Raja of Travancore abolished this inhuman practise by the Act.

A5. Harijan Sevak Sangh - Mahatma Gandhi founded Harijan Sevak Sangh as a part of his freedom movement - taking up constructive work for the uplift of Harijans.

Lesson - 11

Ans A1. During the British rule, the administrative factor played an important role in the process of urbanisation. This was because of their changed perceptions as conquerors, rulers and administrators. There were large cities during the Mughal period including Agra, Delhi, Sikri, Ahmedabad, Cambey, Ellichpur, Burhanpur, Ajmer, Ujjain, Mandu, Awadh, Lucknow, Varanasi, Janpur and Cuttak. Of these, four have survived till today as large cities, Delhi, Ahmedabad, Lucknow and Varanasi. Mode of transportation was limited in the 19th century.

A2. The first railway was built between Bombay and Thanr in 1853. By 1900, the network of railways connected major seaport with main trading centres and manufacturing towns. Now, every railway station functioned as a trading point, where products were exchanged or stored. Many trading points along the Ganga river, which were earlier important transit points, lost their importance with the diversion of routes and communications.

A3. The Tomer Rajput occupied the area in 736 AD and made Dilli their capital city. Whereas, The foundation stones of the present capital were laid by king George V and Queen in the Coronation Park on 15 December 1911. British architects designed the New Delhi.

A4. In 20th century, Delhi witnessed many changes. Delhi witnessed the freedom struggle, British leaving India. It became the capital of a democratic nation and many more things.

A5. A parliamentary statute authorised the Governor General to appoint a police force to maintain law and order in these Presidency towns - Calcutta, Bombay and Madras. But police system established by the Police Act of 1861 did not work well because of the recruitment of untrained persons. Simultaneously, a central intelligence Bureau under the Home Department of the Government of India was formed to collect information from all provincial criminal investigation departments. But yet there was no concept of all India police organisation. The Police system was under the control of the local government.

Ans B 1. urbanisation 2. Ala-ud-din khilji 3. Lord Macaulay's 4. 1935
 5. Dal housie

Ans C 1. F 2. F 3. F 4. F 5. F

Ans D 1. (iv) 2. (v) 3. (ii) 4. (i) 5. (iii)

Ans E 1. c 2. b 3. d 4. a

Ans F 1. Urbanisation - It is closely linked with the rise and decline of kingdoms and dynasties in the medieval period. A second major social and cultural influence on the Indian Urban scene was brought about by the Mughals.

F 2. Provincial Capitals - They were the towns or cities from where the province of a kingdom was administratively controlled.

F 3. Budget - It is a list of earnings and expenditures of a state, which is prepared yearly.

F 4. Indian Penal Code - A list of rules and regulation and the category of crime regarding law and order. Indian Penal Code was drawn up in 1860 during Lord Macauley's tenure.

F 5. Jahonpanah - During the rule of Mughals, Jahanpanah was a kind of Title given to Mughal rulers. It meant a person who took after the whole world.

Lesson - 12

Ans A 1. The revival of interest in the culture of Ancient India arose through the work of Sir William Jones, who had a high post under the company. He founded the Asiatic Society of Bengal in 1784 with an aim to research India's past. Due to these efforts, the people of India began to overcome the demoralising effects of colonial

hegemony. They began to realise that their ancestors had great achievements to their credit. These efforts revealed to the world the treasure of Indian literature and culture.

A 2. Artistic Nationalism - In 20th century, a spirit of nationalism, was arising in India because of works of social reformers. In the field of art, artistic nationalism focused on the common man and the themes related to the common man : life of the working class, poverty and manual labour. The Calcutta group in the early 20th century was mainly associated with nationalism, but was also supported and promoted by many British art administrators.

A 3. In the 19th and 20th century Indian literature adopted secular and national themes. The individual became important and his day to day problems and struggles became the central theme of the literary works of this period.

A 4. The colonial architecture was the blend of Hindu Islamic and western elements. Some colonial architectures survive in innumerable institutional civic and utilitarian buildings such as post office, railway stations, rest houses and government buildings.

A 5. By the end of 19th century the colonial setting in India formed the backdrop of nationalist movement in India art. The movement led by Abanindranath Tagore and supported by E.B. Havel Head of the Calcutta school of Art in the opening decade of the 20th century. Havel tried to propagate true appreciation of India's cultural heritage abroad and advised young Indians against blind admiration of western art. Nationalist art culminated in the works of three Tagores Gaganendranath Tagore, Abanindranath Tagore and Rabindranath Tagore.

A 6. Western Academic Style - In the post renaissance period in Europe, art was dominated by classical artists. Artistic themes revolved around nature and religion. But advancement in the fields of science and technology added new dimensions.

The classical influence continued throughout the first half of the 19th century, but alongside it gave the powerful movement of Romanticism. Romanticism asserted the power of feeling and the individual imagination. However, the French Revolution and Napoleonic wars helped to bridge the gap between Neoclassicism and Romanticism.

Ans B 1. James Princep 2. Lahore 3. Wide 4. Dada Sahib Phalke
5. Victoria Terminus

Ans C 1. T 2. F 3. T 4. F 5. F

Ans D 1. (v) 2. (iii) 3. (iv) 4. (ii) 5. (i)

Ans E 1. c 2. b 3. c 4. c 5. b

Ans F 1. Miniature Painting - Miniature paintings are carried out on any perishable material such as paper, canvas, hardboard, etc.

F 2. Gharana - A number of musical schools developed in North India. These were called Gharanas. The Patiala Gharana of Punjab has been one of the most influential schools.

F 3. Victoria Terminus - It is called Chhatrapati Shivaji Terminus also. The monument is the best specimen of colonial architecture in India. It was built in 1888. It looks more like a cathedral than a railway station. It is UNESCO World Heritage Site.

Lesson - 13

Ans A 1. Indians started forming political associations to raise their voices against the British policies. In 1870, MG Ranade, Chiplankar and Gopal Krishna Gokhale formed the Poona Sarvajanik Sabha to focus attention on the Social economic and political conditions of India and to create awareness among Indians as well as to draw the attention of the government to their causes. Surendra Nath Banerjes led a protest against the Government Regulation of 1877, which lowered the age to appear in ICS examination, making it almost impossible for Indians to clear this exam. The Madras Mahajan Sabha was founded in 1884, with the Bombay Presidency Association following suit in 1885.

A 2. The moderate Phase was soon overshadowed by radical nationalism more commonly known as extremist Phase. It was led by Lala Lajpat Rai, Bal Gangadhar Tilak, and Bipin Chandra Pal (Lal-Bal-Pal). The split of congress at Surat session in 1907 led to the establishment of extremist phase. These leaders argued that the aim of the congress should be the attainment of Swaraj through all possible methods. Whereas, the moderates believed in

constitutional methods all in methods of persuasion.

A 3. The British government remained rigid and uncompromising. They did not withdraw the Rowlatt Act. Angered by the British attitude, the congress, under the leadership of Gandhiji started the Non-cooperation movement, challenging the government.

The congress decided to boycott the visit of Prince of Wales to India. This was followed by serious mob violence in Chauri-Chaura. Due to this, Gandhi ji decided to withdraw it.

A 4. The British adopted the policy of Divide and Rule. Also, some of the Muslims became suspicious of the Hindus. The British encouraged separatist tendencies among the breakaway section of Muslims led by Nawab Salimullah of Dacca. They also encourage to start a separate organisation for Muslims, with the congress being described as a party of Hindus by the British. In 1906, Aga Khan and Nawab Salimullah Khan formed the All India Muslim League.

Ans B 1. WC Benerjee 2. Mahajan 3. Morley Minto Reform

4. Bal Gangadhar Tilak

Ans C 1. T 2. F 3. F 4. T

Ans D 1. (iv) 2. (i) 3. (v) 4. (iii) 5. (ii)

Ans E 1. d 2. c 3. b 4. c

Ans F 1. The greatest influence remained that of Bankim Chandra Chatterjee's Anandmath in 1882. Its patriotic song Vande Mataram became so popular that offer independence it became our national song.

F 2. In March, 1919, the government passed the Rowlatt Act. Under it, the government could arrest any one without a warrant and imprison him without a trial.

F 3. Revolutionary - A person who is involved in a revolution is called revolutionary.

F 4. Khilafat Movement - The Ottoman Empire was defeated in the First World War. To mark their victory, the British imposed humiliating terms on Turkey and the allies divided the empire of Turkey among themselves. It abolished the title Caliph (the spiritual head) of the Sultan. This infuriated the Muslims, since the Sultan of Turkey was also the Caliph and was the head of Muslims throughout the world. Thus, relations between the British and the Muslims began to sour. Two brothers - Muhammad Ali and Shaukat Ali, along with Maulana Abul Kalam Azad, organised Khilafat Movement in India in 1919. It was aimed at building political unity amongst Muslims.

F 5. Civil Disobedience Movement - Civil Disobedience was a form of non-cooperation to pressurise the government to concede demands. It was done by breaking laws and suffering the consequence began with 'salt satyagraha'. Gandhiji decided to break the Salt law made by the British Government. The manufacture and sale of salt. People had to buy salt from the government Gandhiji decided to walk from Sabarmati Ashram to the small coastal village of Dandi. On March 12, 1930, with a group of 78 followers. Gandhi ji made the 385 km long 'March to Dandi' to violate the salt law. On 6th April, Gandhi ji reached Dandi and ceremonially violated the law by picking up a handful of salt.

By breaking the law, he threw a challenge to the British government.

Lesson - 14

Ans A 1. The Indian constitution can be described as a charter of freedom. It aimed at a democratic form of government. In keeping with the spirit of that pledge, the constitution enshrines the supremacy of the will of the people and their resolve to secure for all citizens socio-economic and Political justice, liberty of thought, expression beliefs, faith and worship, equality of status and opportunity, and promotes the principle of fraternity, thus assuring the dignity of the individual and the unity of the nation.

A 2. The Four Principles of Panchsheel are -

(i) Mutual respect for each other's territorial integrity and sovereignty.

(ii) Mutual non-aggression.

(iii) Mutual non-interference in each other's internal affairs.

(iv) Equality and Mutual benefit, and

(v) Peaceful co-existence.

A 3. There was another war between India and Pakistan in 1971, which resulted in the emergences of Bangladesh. After Pakistan defeat in the war, the Prime Ministers of both the countries met at Shimla, and signed an agreement known as Shimla past. This agreement sought to normalise the relations between the two countries.

A 4. India and Bangladesh has lot of issues to be sorted out like Ganga water sharing, border problems and refugees migration into India from Bangladesh.

Nepal is an independent nation to the North of India. India has good relations and understanding with Nepal. A very large number of Nepalese keep migrating to India in search of jobs.

A 5. Cold war is a war which is fought without army and without declaration. As Pakistan is fighting with the help of terrorists and by politics.

Ans B 1. paramountry 2. fundamental 3. Pluralistic
 4. Nepal 5. Pakistan

Ans C 1. T 2. T 3. F 4. F 5. T

Ans D 1. (v) 2. (iv) 3. (ii) 4. (iii) 5. (i)

Ans E 1. c 2. b 3. b 4. a 5. a

Ans F 1. Till the partition of the country, India was divided into two categories of states-pricely states and British India. The pricely states were under the paramountry of the British crown. With the independences of India, this paramountry lapsed and princely states were free to decide their future relationship either with India or Paki-stan.

F 2. The unique aspect of our constitution is the Directive Principles of State Policy; which exhort the state to secure social, economic and political justic in society and to promote welfare of the people.

F 3. panchsheel - India's determination to stick to the policy of non-alignment and consistent efforts for peace, reached its climax when she proclaimed the principle of peaceful co-existence in 1954. This concept was well received world wide and found a prominent place in the Sina-Indian agreement in 1954. Five Principles of panchsheel

(i) Mutual respect for each others territorial integrity and sovereignty.

(ii) Mutual non-aggression.

(iii) Mutual non-interference in each other's internal affairs.

(iv) Peaceful co-existence.

F 4. Proxy War - Pakistan frequently raises the Kasmir issue at different international conferences and meetings. Pakistan at has also been assisting terrorist activities against India. India has also expressed its concern over Pakistan acquiring more and more deeply weapons including nuclear ones. Pakistan's inter-services-intelli-gence (151), has been disturbing India's inkrnal security. Like this Pakistan has launched a Prexy war in Kashmir.

Lesson - 15

Ans A 1. Biotic Resource - These are living resources like forests and forests products, crops, animals birds, marine life etc.

Abiotic Resources - These are material resources or non-living things. Minerals and power responses are abiotic resources. These resources can be exhausted by excessive use.

A 2. Sustainable Development

Economic Development

1. It refers to change in amount, composition.

1. It refers to exploitation of natural resources at a rate not about that of their.

2. It is governed by demand and supply.

2. It is governed by concern for protection and preservation of environment.

3. It only refers to human progress.

3. It is based on respect and care for all forms of life.

A 3. Conservation does not prohibit human beings from marking use of resources. It rather demand man's foresight to use the resources wisely. The main foresight to use the resources wisely. The main aim of conservation

is to ensure survival of life in all its forms and variety. Therefore conservation of natural resources is necessary and meant to preserve resources for future generation. As there exists close relationships between plants and animals and the environment in which they live, the concern for the health of the environment is also a goal of conservation.

A 4. Factors that contribute to development are as follow :

- (i) Human Resources - Human resources are the most important ingredients.
- (ii) Technology - It is an important contributor to enhance productivity.
- (iii) Self governing institution
- (iv) Stability and peace
- (v) Free Market Economy

A 5. Four types of value addition related to resources are economic, legal aesthetic and ethical.

Ans B 1. renewable 2. value 3. fossil

Ans C 1. T 2. F 3. F 4. T 5. F

Ans D 1. Non-utilitarian resources - The resources which have legal, ethical and aesthetic great importance.

The resources which have legal, ethical and aesthetic value are also called non-utilitarian resources.

D 2. Industrialisation - Using machines in place of man power is called industrialisation.

D 3. Biotic Resources - These are living resources like forests and forest product, crops, animals, birds, marine life etc.

D 4. Raw materials - Minerals, vegetation, agricultural for production of goods.

D 5. Conservation - Using the resources wisely is called conservation. The main aim of conservation is to ensure survival of life in all its forms and variety.

Ans E 1. a 2. c 3. b 4. b 5. b

Ans F 1. (iv) 2. (i) 3. (v) 4. (iii) 5. (ii)

Lesson - 16

Ans A 1. The proportion of land put to a particular use and its distribution over an area or the world is known as land use pattern.

A 2. Soil conservation means protection, preservation and efficient utilisation of soil resources. Three ways of soil conservation are -

(i) Mulching - 'Mulch' means covering with straw or compost. Bare ground is covered with the layers of organic matters. This prevents torrential rainfall, animals and fast winds from causing damage to soil.

(ii) Terrace farming - It is done on hilly areas on steep slopes. Step like terraces with flat surface are made to enable the fields to hold soil and water. This reduces surface run-off as well as soil erosion.

(iii) Shelterbelts - Trees are grown in rows and columns to prevent winds, running water and even grazing animals from causing damage to the soil. They check the speeding water and wind movement.

A 3. Water in its pure form, is odourless and colour less liquid. It easily get contaminated with hundreds of different types of wastages that affects its quality. It becomes saline but does not decompose easily. Therefore, these wastes infuse disease causing pathogens in water and make it dangerous for human or even animal consumption the common water borne disease are cholera, dysentery typhoid and amoebic infections.

A 4. Some of the important conservation methods are -

- (i) Improving vegetation cover by planting trees, grass and even bushes to check surface water run off.
- (ii) Preventing pollution by taking adequate steps to prevent contamination of water and improving its quality.
- (iii) Making legislation like banning pesticides in agriculture and using efficient means of irrigation like sprinkler irrigation.

Ans 5. Circulation of water from the surface of water to sky through evaporation and comes down to the surface of earth with the help of condensation is called Hydrological cycle.

Ans B 1. Food 2. land 3. soil 4. water 5. running

Ans D 1. Pasture land - It is also called the Grassland. This is a source of food for the animals that falls in the

category of herbivores.

D 2. Cooperative Ownership - On the basis of its use, land can be divided into private land, community lands and cooperative ownership. Traditionally, Adivasis in India and tribals in other parts of the world consider land a community resource.

D 3. The organic content in soil is called Humus, Flora, fauna and micro organisms in soil affect humus formation and give it back or grey colour.

D 4. Horizon - Soil is formed in layers from parent rock upward. This layering arrangement is called soil Profile. The layers of soil are also called Horizon. Generally, there are three Horizons designated as A, B and C : C is bed rock, B is the subsoil above it and A is the soil proper and contains humus.

D 5. Salination - Accumulation of water on soil causes its saltiness. Irrigation canals lead to salination, thus resulting in soil degradation.

Ans E 1. a 2. a 3. c 4. c

Lesson - 17

Ans A 1. There are two main subdivisions of forests - Evergreen and Deciduous. In the species shed their leaves at different times. Such forests always appear to be green. The trees in the Deciduous forests shed their leaves during the particular dry season. It helps in conserving the moisture and reducing loss through transpiration.

A 2. Factors Responsible For Depletion

(i) Deforestation - Rapid growth of population has put huge pressure on resources like agriculture, habitations, industries, roads, etc. It gave way to deforestation on a large-scale. Deforestation has also led to the loss of natural habitats, plants and animals.

(ii) Hunting and Poaching - Illegal hunting of wild animals for pleasure and trade is called poaching. Wild animals are poached for their hides, nail, teeth, horn as well as feathers.

(iii) Pollution - It results in climate change and global warming which in turn cause damage to forest resources on account of location and tolerance to heat intensity.

(iv) Economic Exploitation

(v) Agrifuels

(vi) Other Agents

A 3. Steps for conservation of plants

(i) Institutional measures - The government has formulated the forest laws and established National Parks, Wild life Sanctuaries and Biosphere Reserves to protect natural vegetation and wildlife.

(ii) Afforestation - This means planting of trees where they have been cut down, on vacant lands, wastelands, swamps, roadsides, parks, etc.

(iii) Legislation - To prohibit cutting down of trees without prior permission.

(iv) Prevention - Preventing loss on account of calamities like floods and forest fires. Some fires occur naturally and others due to negligence.

(iv) Community Initiative - An example of conservation is the community initiative taken by the Bishois in Rajasthan. They have maintained vast areas under forest cover in an arid area.

A 4. The life supporting system on the surface of the earth is known as the ecosystem. The size of the ecosystem may vary from that of the pond to a whole ocean. In fact, the biosphere is itself treated as big ecosystem.

A 5. Factors influencing Plants and wild life Resources

(i) Deforestation

(ii) Hunting and Poaching

(iii) Pollution

(iv) Economic Exploitation

(v) Agrifuels

(vi) Other Agents

Ans B 1. Natural Vegetation 2. 33 3. U.S.A. 4. Pointed leaves 5. Vultures

Ans C 1. T 2. F 3. T 4. T 5. T

Ans D 1. (iv) 2. (i) 3. (v) 4. (ii) 5. (iii)

Ans E 1. b 2. a 3. b 4. b 5. b

Ans F 1. Biosphere - Atmosphere, Ecosphere, Hydrosphere and Lithosphere collectively called Biosphere.

F 2. Biodiversity - There is a great variation in species known as biodeversity in vegetation zones.

F 3. Coniferous Forests - The coniferous forest areas are located between 50° to 70° in North latitudes. This vegetation zone is also called Taiga and is found in Siberia, northern Canada. This ecosystem is under threat because of climatic change.

F 4. Poaching - Illegal hunting of animals for pleasure and trade is called poaching. Wild animals are poached for their hides (skins), nails, teeth, horns as well as feathers. Some of the animals that are victims of poaching on a large scale include tigers, lions, elephants, rhinoceros, crocodiles, deer, ostrich and peacock.

F 5. Afforestation - Planting of trees where they have been cut down, on vacant lands, wastelands, swamps, roadsides, parks, etc.

Lesson - 18

Ans A 1. Characteristics of Minerals

Some of the characteristics of minerals are -

(i) Location - Minerals are found in areas of active geological processes, for example, in the Chhotanagpur region of India. Geological processes operating beneath the ground have led to the accumulation of various mineral elements which can be commercially exploited.

(ii) Quantity and Quality of Minerals - They are generally inversely proportional to each other.

(iii) Place Deposits - There are alluvial mineral deposits which occur through small particles carried by rivers along with the other sediments.

(iv) Ores - Metallic minerals like iron and even gold occur in ores or in beds, or seams parallel to enclosing rock. This makes exploitation commercially profitable.

(v) Even Distribution - Minerals are dispersed and unevenly distributed. There are great variations between abundant and scanty deposits between abundant and scanty deposits of minerals.

A 2. Different kinds of products are important like the household utensils and fuel, in our daily life. Mineral resources have been exploited and used since pre-historic times. Copper was the first metal to be used. Later, the use of iron revolutionised the life of man. Modern industrial development depends upon the utilisation of minerals. Minerals are 'Vitamins of Industry'. Most minerals are inorganic substances. Coal and mineral oil are organic minerals and are found at places that have favourable conditions for their distribution on the earth's surface.

A 3. The coal is found in three main grades on the basis of its formation viz. lignite, bituminous, and anthracite. The first stage of formation is lignite and peat. It is known as brown coal. It is considered as to be of low quality with a carbon content of 50% and high moisture content. Bituminous coal is the most common variety having 70% carbon content. Anthracite is formed under great depths due to high temperature. It is high quality coal.

A 4. Energy consumption is directly proportional to the standard of living. Higher the standard of living, greater is the energy consumption. Countries such as USA, Japan, West Germany, France and UK use between 4,000 to 10,000 units of energy per head as against just 100-300 units of energy consumption per in countries like Zaire, Ethiopia, Vietnam, Bangladesh, Myanmar, India, China and Pakistan. India's consumption per head does not exceed 225 units as against 270 units for China and 300 units in Pakistan.

Ans B 1. Metallic 2. Australia 3. Fossil fuel 4. Anthracite

Ans C 1. T 2. T 3. F 4. T

Ans D 1. Ore - A mineral from which a metal is obtained is called an ore.

D 2. Ductility - Ductility means ability of a material to be stretched without being weakened. Based on ductility, minerals are classified into metallic and non-metallic.

D 3. Quarrying - The process is used near the surface of the earth by simply digging out or breaking rocks.

D 4. Magnetite - It is a mineral that contains 50-70% iron by weight.

D 5. Fossil Fuels - Remains of dead lines and plants buried the surface of earth for a long period turned into the gas and liquid that is called fossil fuels.

Ans E 1. c 2. b 3. b

Lesson - 19

Ans A 1. Disasters can also occur through deliberate actions of misguided attacks are an example of man-made disasters. Droughts, floods, earthquakes and cyclones are natural disasters. They can occur anywhere. With increase of population, the land that was once available to the rivers for flowing during the rains to the rivers for flooring during the rains has become inhabited. This shrinking space for the river flow causes floods. Excessive use of ground water and deforestation causes drought. Humans contribute to the misery caused by floods by encroaching upon land that the river needs for flowing and expansion during the rainy season.

A 2. Man-made disasters can be prevented -

(i) If the buildings are built according to the prescribed by laws. There would be no collapses.

(ii) Abiding by the rules is most important for installations like nuclear power plants.

(iii) International agreements already exist. What is needed is that nations follow the rules like not making and storing weapons of mass destruction.

(iv) Factories Act prescribes safety conditions. If all manufactures stick to those safety measures, there would be fewer industrial accidents.

(v) We can not check the natural disasters, but the human misery can definitely be minimised. If we are prepared for a disaster, there would be minimum suffering and damages.

(vi) Blindly cutting of tree reduces annual rainfall leading to soil erosion and land slides.

(vii) In the process of industrialisation, ecological balance of nature must be kept in mind.

A 3. In case of railway accidents, community contingency plans should be carried out. Potential danger is to be identified.

A 4. Community contingency Plans

- All disasters cannot be warded off. However human misery due to disasters can be minimised through community contingency plans.

- First of all, potential danger is to be identified. The danger can be in the form of flood, a volcanic eruption, spread of an epidemic and earthquake.

- After that come the preventive measures like erection of bunds to check inflow. So that the gravity of the cyclonic waves is lessened.

- Government should be kept in readiness, places where camps could be set for putting up the persons evacuated from their original residences. Proper arrangements must be made for their toilets, food, cattle and medical cars.

Ans B 1. Disaster 2. Management Plan 3. Geographical 4. Odisha

Ans C 1. F 2. T 3. T 4. F

Ans D 1. Disaster - From time to time, we come to know about people in distress due to floods and other reasons in some parts of the country. Parts of the country that entirely rely on rain water for irrigating the crops face acute shortages of food grains due to insufficient rains. High intensity cyclonic winds can destroy the entire population living sea-side. Earthquakes can kill thousands of people and make them homeless. All these are disasters.

D 2. Seismic Zone - It is another term used for earthquake prone areas. If a dam is built in a seismic zone, it can be a real disaster, in case of a volcanic eruption.

D 3. Drought - Drought takes place when an area does not get sufficient rainfall. Crop failure causes acute

shortage of foodgrains. A drought may turn into a disaster where the people are already very poor. Droughts cause calamity not only by way of shortage of foodgrains but also scarcity of potable water for humans and cattle. Excessive use of ground water and deforestation causes droughts.

D 4. Nuclear Explosion - Weapons of mass destruction can also create huge disasters. Nuclear explosions in Hiroshima and Nagasaki of Japan during the second world war was a disaster caused deliberately by us forces.

Ans E 1. a 2. a 3. d 4. b 5. b

Lesson - 20

Ans A 1. Secularism denotes equal regard for the religious sentiments of all people. All people have the freedom to follow any religion in India.

A 2. Dowry is a gift given by the parents of the bride at the time of marriage of their daughter to the bridegroom and his family.

Evil Aspects of Dowry

- The marriage ceremony becomes an occasion for sale and purchase.
- The parents of the daughter have to take debts to arrange for dowry.
- Often parents of the groom use unfair means to get dowry.
- Several girls remain unmarried as their parents are not in a position to arrange the dowry.
- Parents often resort to killing of baby daughter even before their birth.
- Bridegrooms and parents do all kinds of atrocities when their daughter in laws do not bring them the desired amount of dowry.

A 3. In a Republic system, no external authority has any say in the affairs of the country. Before independence, the Queen or king of Britain happened to be the constitutional Head of India. But with the introduction of our constitution we have become republic and our elected representatives in the parliament and state legislatures have equal freedom.

Ans B 1. Lord Minto 2. a set of rules 3. 2002

Ans C 1. F 2. F 3. F 4. F

Ans D 1. (iv) 2. (iii) 3. (i) 4. (ii)

Ans E 1. a 2. c 3. a 4. c

Lesson - 21

Ans A 1. The parliamentary form of government is that in which the virtual power vests with the parliament. The executive body is accountable to the Parliament. The Prime minister uses the real power and the president is the head of the country.

A 2. Parliamentary Form of Govt.

1. President is the nominal head. He has limited power. The Prime Minister has real power.
2. Govt. is responsible to the Parliament
3. Prime minister is the head of cabinet.

Presidential Form of Govt.

1. The President is all powerful.
2. No Parliament here.
3. No cabinet President appoints secretaries who head the various departments of the Govt.

A 3. Every citizen of India who is more than 25 years of age can contest election to the Lok Sabha.

A 4. For Rajya Sabha

- The members are not elected directly by the people.
- Members of the Legislative Assembly elect the members for it.
- The President nominates 12 members.
- A citizen of India who has the age of not less than 30 years can be the member of Rajya Sabha.
- The tenure of member is six years.

For Lok Sabha

- Minimum age is 25 years, citizen of India.
- Term 5 years.
- Election of member is direct by the people.

A 5. Budget is a statement of estimated receipts and expenditures of the Govt. of India for a year. It states the way of meeting the estimated expenditure. It includes all taxation proposals and also the ways in which the government intends to utilise its income during the year.

Ans B 1. T 2. T 3. T 4. T

Ans C 1. (ii) 2. (i) 3. (iv) 4. (iii)

Ans D 1. a 2. a 3. b 4. b 5. c

Lesson - 22

Ans A 1. An emergency may be declared under any of the following conditions -

- Emergency arising out of war or an attack from other nations or internal anarchy.
- Emergency due to the failure of the constitutional machinery.
- Financial emergency.

A 2. Legislative Powers of the President

- A Bill passed by both the Houses of the Parliament is presented before the President for his approval. If he is not satisfied, he can return the Bill to the parliament after giving his suggestions and award the Bill, or just pass it when it goes to the President for second time, it is obligatory on the part of the president to give his approval. The Parliament to give his approval. The Parliament meets on being summoned by the President. On the advice of Prime Minister, the President can dissolve the Parliament.

If the Parliament is not in session and need arises, the President can, on his own make laws which become effective with immediate effect. Such laws are called Ordinances. The President has power to nominate 12 members to the Rajya Sabha.

A 3. The Prime Minister is the most powerful official under the constitution. On the advice of the Prime Minister, the President appoints other members of the Union Cabinet. The President is bound to act on the advice of the Prime Minister. In emergency, the President has all the powers in his hands and govern the country.

A 4. Child Marriage Act - Child marriages in India have been one of the common evils. Such marriages prove very harmful to the health of the young children. Many Social reformers have raised their voice against this social evil from time to time. A number of Acts have been passed from time to time to check the child marriages. This Act forbids the marriage of girls below the stipulated age. The Child Marriage Act (1930) forbids the marriage of boys under 18 and girls under 14 years of age.

A 5. The Council of Ministers consists of all the categories of ministers - Cabinet Ministers, Ministers of state and Deputy Ministers. The Cabinet, however, includes only their first category. All significant decisions concerning the govt. at the centre are taken by the cabinet.

Ans B 1. President 2. Vice 3. Deputy Ministers 4. Prime Ministers

Ans C 1. F 2. F 3. F 4. F

Ans D 1. a 2. b 3. a 4. c

Lesson - 23

Role of the Court and Police

The work of police is to investigate all cases lodged with it. It places the facts of the case in the courts as found by it in its investigation. After examining the records placed by the police and the reply of the accused, court decides the case. The police has no power to decide what is wrong or right in the case. It is the court that decides what is wrong or right. Both the police and the court have different roles. The police prosecutes, the court punishes.

A 2. FIR (First Information Reports) - FIR is a written document prepared by the police when it first

receives information about a cognizable offence. It is a complaint lodged with the police by the victim or by some one on his/her behalf.

It is a very crucial document as it puts the process of criminal justice in motion. After the FIR is registered at the police station the police takes up investigation of the case. The person who makes a complaint has the right to demand the information recorded by the police to be read to him or her.

A 3. Public Prosecutor - The accountability for proving a criminal cases in the court lies upon the state. A prosecutor is a lawyer employed by the state to represent it in a criminal case in the court. He acts on behalf of the state and is expected to be impartial. He must study the case thoroughly and present his views before the court as forcefully and honestly as he can.

A 4. Consumer courts are courts that decides cases related to consumer grievances against the sellers of different products. A consumer can file a case before a consumer court when he comes to know that the product sold by a manufacturer is not of the standard quality or the service provided to him is deficient in any way.

A 5. Directive of Supreme Court on FIR

- The Supreme Court has directed that the police, must register the complaint of the person who approaches the police station for this purpose.

- The complainant has the right to get a copy of the FIR written by the concerned police officer at the police station.

- The Police can not refuse to register the complaint.

- On the basis of FIR, a person is arrested by the police, the concerned officials should bear clear identification name tags with their designations. The friends or relatives of the arrested person must be informed as early as possible.

- The police must record the place of the arrest.

- The arrested person must be permitted to meet his lawyer.

Ans B 1. 600 2. 1988 3. Judiciary 4. Session Judge 5. President

Ans C 1. T 2. F 3. T 4. F 5. T 6. F

Ans D 1. c 2. d 3. a 4. a

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Lesson - 24

Ans A 1. Infrastructure refers to the facilities which help in the economic growth. Water, electricity, road and sewerage are basic infrastructure which need top attention. In addition to these there is need for better facilities for insurance, banking and communication facilities.

Surface transport facilitates transportation from production to consumption point. There is therefore a need for better roads and high ways. Bulk cargo can be handled by railways.

We should develop our waterways as they do not require heavy investment in building roads and tracks.

A 2. Literate people are assets to the nation. They can easily understand the environment around. It is not possible to provide skill and training to such people who are not able to read and write.

A 3. Some characteristic features of SCs-

- Generally, they are very poor.

- They are engaged in 'menial' work.

- Mostly, they follow menial occupations like tanning animal skins.

- They are ill fed and ill-clad.

- They live in thatched house and work as landless labourers.

- They are illiterate and live on outskirts of villages.

- They have very low social status.

A 4. Economic and social justice includes almost everything which promotes the welfare of all the members of

the society in general and in particular the welfare of weaker sections of the society. It devotes the following:

- Equality of opportunity
- Economic security
- Elimination of social inequality and social evils
- Abolition of special privileges of upper section of society
- Providing special benefits to backward classes
- Reducing gap in wealth
- Protecting the interests of workers
- Catering to the basic requirements of all the members of society

A5. There is no fix definition of SCs and STs but under Article 341 and Article 342 of the constitution, certain classes are placed in this category. It can be said that marginalised communities are those which have traditionally been at the lower levels of the society for many reasons. Scheduled Tribes usually do not form the mainstream of the society.

Characteristics of Scheduled Tribes

- They live in the remote parts of the country, away from civilised society.
- They speak tribal dialect.
- They believe in ghosts and spirits and perform many rituals to appease them.
- Their chief occupations are gathering forest products, hunting, etc.
- Mostly they are meat eaters.

Ans B 1. T 2. F 3. T 4. F 5. T

Ans C 1. marginalised community 2. meat 3. Harizen week 4. ghosts, spirits 5. 1955

Ans D 1. a 2. b 3. a

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Class VI

SST Key

Ans A 1. There are two sources of Indian History -

(i) Literary Sources (ii) Archaeological sources

Ans A 2. Our country is known by different names such as Hindustan, India and Bharat. The word 'India' came from the word 'Indus'. The word 'Indus' came from the original Sanskrit name of the river.

Ans A 3. It is important to know our past because it helps us to know how early men gradually grappled with all difficulties. We should study history because :

(i) It provides us information about different societies and behaviours of the people. It highlights on the food and clothes of the people, their beliefs, faith and occupations.

(ii) The past leads to present, Present leads to future.

(iii) A student builds experience in dealing with and assessing various kinds of evidence. He/She learns where did the people live and how were they able to protect themselves.

Ans A 4. Literary sources that deal with religious subjects are known as religious literature. On the other hand texts that are focused on subjects of social, political and economical importance and are linked with no religion, are known as secular literature.

Ans B 1. objects 2. literary source 3. edicts of Ashoka 4. inscriptions 5. secular

Ans C 1. T 2. F 3. T 4. T 5. T

Ans D 1. a 2. b 3. b 4. a

Lesson - 2

Ans A 1. The early history of man is called the stone Age because that time people made and used stone tools and weapons.

2. Early people were great artists. As they took shelter in the caves during cold nights. They painted on its walls. They draw the pictures of running animals, dead ones and arrow struck in, and birds on the walls of caves.

3. There was a great impact of farming on the life of the Neolithic period. Humans learnt the technique of sowing them. They gave up their nomadic life and became food producers. They had a steady supply of foodgrains and vegetables. They were not dependent on hunting now.

4. The discovery of fire was proved very useful to the early people. They might have cooked meat of the dead animals. Fire also kept them warm during the winter period. It gave them light at night. Animals could be scared off with fire.

Ans B 1. Flint 2. Chalcolithic Age 3. Spain 4. dog 5. copper

Ans C 1. T 2. F 3. F 4. F 5. F

Ans D 1. a 2. b 3. a 4. d

Lesson - 3

Ans A 1. The surplus food allowed early man to do other things than merely hunt for food. They exchanged their goods and services for food grown by others. This was the beginning of the barter system. One thing is exchanged for another in a barter system.

2. Mohenjodaro and Harappa were situated in the Indus Valley. Therefore this civilisation came to be known as the Indus Valley civilisation.

3. The cities of Indus Valley were well planned like modern cities, strong high walls, were built around the cities to safeguard them. There were long, broad ten metres wide. All the streets ran in straight lines from east to west and from north to south. They bisected each other at right angles. So, Indus Valley civilisation was called Urban civilisation.

4. Some historians think that floods occurring on the banks of river Indus wiped out this civilisation. Others think that the Aryans invaded this civilisation a number of times, defeated the Indus Valley people and destroyed them. Earthquakes are also a reason for the decline of this civilisation. It is also believed that famines and epidemics brought its end.

Ans B 1. craftsmen 2. The Great Bath 3. Citadel 4. Indus Valley 5. Mohenjodaro

Ans C 1.(ii) 2.(iii) 3.(iv) 4.(i) 5.(v)

Ans D 1. c 2. c 3. a 4. b

Lesson - 4

Ans A 1. Before coming of the Aryans, the Dasys were the native of India. Their language was different from Vedic Sanskrit. They worshipped different gods. The Aryans called these people 'Dasas' and were very hostile to them. However, Some of the Dasa chiefs were treated with great respect.

2. The priests were involved in the teaching work. Education was only for the higher classes. Students lived with their gurus in separate schools called gurukuls. They had to memorise and recite the vedic hymns.

3. In this period, more and more Aryan tribes poured into the country. They used to fight each others over grasslands. Each tribe had its king, also called 'Rajan' or chief who would lead the tribe in these fights. Therefore only a strong and brave man was selected as a king. After wards, kingship became hereditary when a king died, his son became his successor or the new king. The king ruled with the help of a number of people. The commander of army was called senani. The purohita performed religious ceremonies. The headmen of villages were used to give advice to the king.

4. In this culture, large stones were specially placed to mark burial site. Sometime a simple slab was placed upright in the ground to rock-cut caves. Burial practice were similar in different parts of India. The dead were buried with distinctive pots, which were known as Black and Red ware. Sometimes a body was buried with ornaments, tools and pet animals like hares.

Ans B 1. Shudra 2. Usha 3. Chariot 4. Saptasindhu 5. Kingship

Ans C 1. The upanishads or the Vedanta contains the views of great saints. So, these were holy books. Common people were not able to understand them.

2. Indo-Aryans - The Aryans spread to different parts of the world from their original home in central Asia. Those who came to India are Known as 'Indo-Aryans'.

C 3. The landmass between the Himalayas and the Vindhyas and from the western-sea to the east, was named Aryavarta.

C 4. Three groups emerged in the Aryan society Kings and their warriors were called 'Kshatriyas'.

Ans D 1. c 2. c 3. a 4. b

Lesson - 5

Ans A 1. In ancient time Rajas used to perform different kinds of sacrifices to acquire more power, wealth and territories. The 'Ashwamedha' or 'Horse Sacrifice' was one such ritual. According to it a horse was left loose to wander freely. It wandered into the kingdoms of other rajas and if they dared to stop it, they had to fight. If they allowed the horse to pass, it meant they accepted that the raja who wanted to perform the sacrifice was stronger than them. The raja who performed such sacrifices were now recognised as being rajas of Janpadas rather than Janas.

Ans 2. Shakyas and Lichchavis were two clans that performed important republics with the passage of time some Janpadas conquered the neighbouring territories and were transformed into powerful kingdoms and republics and were called Mahajanpadas.

Ans 3. Bimbisara ruled over Magadha from 542 BC. to 492 BC. He ruled his kingdom wisely with the help of a council of advisors. He worked a lot to improve the social level and trade. He made good relations with the neighbouring states. In this way he made Magadha a powerful.

Ans 4. By improving the economic life, trade and social life and by making development in towns and villages, Magadha became very powerful country.

Ans B 1. Iron 2. Rajgriha 3. Viji 4. King 5. Nishka

Ans C Wrongly given

Ans D 1. b 2. b 3. Misprint 4. b

Lesson - 6

Ans A 1. Satyakama Jabala was the son of a slave woman named Jabali. Satyakama was a disciple of Gautma, a brahmin. Satyakama was a great thinker and contributed much to the Upanishads.

2. Mahavira said that the aim of every human being should be to attain what he called 'Nirvana'. There are three ways to attain it - Right faith, Right knowledge and Right Action. Man's deeds should be based on these three jewels which are known as Triratnas.

Ans 3. Most of the crafts men, traders and peasants became Buddhist. Most of the town talk adopted this religion. Due to this, Buddhism got more popularity than Jainism.

Ans 4. The Noble Eight-fold Path to the highest bliss comprises eight principles - (i) Right knowledge, (ii) Right Aspirations, (iii) Right speech, (iv) Right Action, (v) Right Living; (vi) Right Efforts, (vii) Right Mindfulness; and (viii) Right Meditation or contemplation.

Ans B 1. Upanishads 2. God 3. Vedic 4. Mahavira's 5. Hinayana

Ans C 1. T 2. T 3. T 4. F 5. T

Ans D 1. b 2. b 3. a 4. a

Lesson - 7

Ans A 1. The main sources of information about the Mauryan period are 'Indica' written by Megasthenes, 'Arthashastra' written by Kautilya, 'Rock edict' of Ashoka and 'coins' of the Mauryan period.

A 2. Kalinaga war was perhaps the most important event of Ashoka's life. His heart was moved when he saw the misery of men. He decided that he would not fight war any more. Instead, he would try and persuade people to live in peace. The war drum was silenced forever.

A 3. Ashoka worked a lot to spread of Buddhism.

Ashoka set an example for the people by himself following the principle of Dhamma in his life. He relinquished his earlier luxurious lifestyle, stopped hunting and renounced the policy of warfare. He treated his subjects like his children. He preached tolerance and respect for all religions.

Ashoka embarked on tours for the propagation of Dhamma. He appointed officials known as Dhamma Mahamatras. He sent missionaries to countries like Nepal, Sri Lanka, Burma, Syria and Egypt.

A 4. After the death of Ashoka the Mauryan empire began to decline. The reasons were:

- The successors of Ashoka were weak. The governors of various provinces took advantage of the weakness of Ashoka's successors and declared their independences.

- The various regions of the empire were cut off from one another by great distance.

- The later ruler could not collect enough taxes to maintain a large army.

Ans C 1. T 2. F 3. F 4. T 5. T

Ans D 1. a 2. c 3. a 4. b

Lesson - 8

Ans A 1. The rulers collected extra crops as tax to meet their military and administrative needs. The surplus could also be made available to the towns which had developed in the sixth century BC.

2. In western Europe, there was a great demand of Indian pepper and hence it was called yavan priya. Steel cutlery from India was another popular item imported by the Roman empire. The balance of trade was so much in favour of India that ultimately Rome had to ban trade with India in pepper and steel goods.

A 3. Towns and cities developed into centres of trade whereas villages were mainly engaged in agricultural activity. In course of time, the people of the town developed a variety of occupations and skills.

A 4. The most important town was Mathura. It was situated on the crossroads of two important trade-routes-one from the northwest to the east and the other from north to south. Mathura also prospered because of central location and as a centre of sculpture, towns existed on the Uttarapath route, from Mathura to Taxila.

Ans B 1. Kushana 2. The village headman 3. Trade 4. Yavanpriya 5. Hereditary

Ans C 1. VAISHALI 2. MATHURA 3. KAUSHAMSI 4. BANARAS

Ans D 1. a 2. c 3. c 4. d

Lesson - 9

Ans A 1. There were three main factors which led to the expansion of Indian contacts abroad :

(i) trading activities; (ii) desire for new markets; (iii) missionary efforts to spread Indian religion and culture. The Indian traders and religious preachers took Indian culture and civilisation to different parts of the world, especially central Asia, China and South-east Asia.

A 2. Since ancient times, Indian had trade relations with south-east Asian countries, Egypt, Rome, Greece, Iran, Arabia, China, Tibet, Afghanistan, etc.

A 3. The South-east Asian region was known as Swarnadwipa (The land of gold). Many Indian traders used to buy spices from south-east Asian countries and sell them to Roman traders and other countries of the west. Many Indian merchants settled in south-east Asian countries. Gradually, many features of Indian culture were adopted by the people of south-east Asian countries.

A 4. In Champa (Vietnam), the first Indian Kingdom was founded in the latter half of the 2nd century AD. Many Hindu temples were built there. Indian festivals were celebrated with great enthusiasm. A big temple was constructed at the capital Amravati.

A vihara was built by the Sumatran king at Nalanda, and on his request, the Bengal rulers donated five villagers for the maintenance of this vihara.

Ans B 1. T 2. F 3. F 4. T 5. T

Ans C 1. c 2. a 3. a 4. c

Lesson - 10

Ans A 1. After the Moryans, India was divided into a number of kingdoms - shunga, kanvas, satvahana, kharvelas, cholas, pandyas and cheras.

A 2. Buddhism spread to many parts of the world. Kings like Ashoka and Kanishka took vigorous steps to spread this religion not only in India but also in foreign countries. They sent missionaries to south-east Asia. Today, Buddhism is a world religion. As it is castless, it attracts those wishing to sidestep the caste system. Thus, Buddha has been rightly called the 'Light of Asia.'

A 3. Kanishka was the most famous Kushana ruler. But his real fame rests upon wholehearted patronage he gave to Buddhism. He organised a Buddhism council in Kashmir where the doctrines of Mahayana form of Buddhism were finalised.

A 4. Gautamiputra Satakarni was a great conqueror. He was regarded as the Lord of Dakshinapath before his coronation the Sakas had driven Satavahans away from Nasik in Maharashtra and western India.

Ans B 1. Rome 2. Simuka 3. Kushana 4. Andhras 5. Gandhara

Ans C 1. (v) 2. (i) 3. (iv) 4. (ii) 5. (iii)

Ans D 1. c 2. b 3. c 4. a

Lesson - 11

Ans A 1. Samudragupta was not only a great conqueror but also a great scholar, a poet and a lover of music. He had keen interest in art and learning. He himself was a good poet and musician. In one of his coins, he is shown

playing a veena. Though he was a Hindu, he showed respect towards, other religious he worshipped Lord Vishnu.

2. The Pallavas were the officers of the Satavahana period. After its decline the Pallavas established an independent kingdom of their own. They made kanchipuram their capital. The pallavas fought prolonged wars against Pandyas and the chalukyas. They fought to prove their supremacy.

3. Samudragupta defeated many territories of India and added them to his Kingdom. Therefore, he is known as the 'Indian Napoleon'.

4. Central Administration - The King assumed titles like Maharajadhiraj. Many ministers were recruited to assist the king in administration.

Provincial Administration - The empire was divided into many provinces called Uparika, headed by a governor known as Uparika Maharaja. The provinces were further divided into districts called Vishyhas headed by Vishyapati. The persons who had a position of authority were Pratham Kayastha.

The village was the basic unit of Administration. The village headman was known as Gramika. In town and cities Nagarpatis carried on administration with the help of a parishad.

Ans B 1. Kumardevi 2. Veena 3. Uparika 4. Samant 5. Harsha

Ans C 1. The king assumed titles like Maharajadhiraj.

2. Sakari was the title that was given to Chandragupta II, son of Samudragupta. Sakari meant the enemy of Sakas. This title was given to him after he defeated the Saka chiefs.

3. Pulakesin II, the great king of the Chalukya dynasty. His court poet Ravikirti composed a prasasti. Poet wrote about the bravery of his king in this prasasti.

4. Samanta was a class of landlords. They acted as intermediaries between the King and the peasants. They were assigned to collect revenues, to maintain soldiers and horses and to provide equipment for warfare. They provide troops to the king.

Ans D 1. c 2. c 3. a 4. c 5. a

Lesson - 12

Ans A 1. Kalidasa lived for some years in the court of Chandragupta II. He wrote his world famous work Shakuntalam, Raghuvarsam, Meghaduta, etc during this period.

A 2. There are many religious and secular literatures in Sanskrit in this period. There are 18 Puranas and 108 Upanishads. Arthashastra and Megasthenes' Indica are important sources of information of Mauryan Empire.

A 3. Many rock-cut Viharas and Chaityas have been discovered in the Ajanta and Ellora caves near Aurangabad in Maharashtra. The Chaitya at Karla near Pune are rock-cut cave structures with carved pillars. In the Chaityas and Viharas at the Ajanta caves, numerous paintings depicting scenes from the Buddha's life have been found. The Ellora caves have Hindu, Jain and Buddhist monasteries and temples.

A 4. India made tremendous improvement in the fields of science, mathematics, medicine and surgery. Aryabhatta, a great mathematician and astrologer introduced the principle zero in 5th century AD. Also he was the first Indian to claim that the earth rotates on its own axis. He calculated the positions of the planets and explained the movements of the stars. In addition, he explained the causes of solar and lunar eclipses.

Ans B 1. Iron Pillar 2. Viharas 3. Eclipses. 4. Shilappadikaram 5. Aryabhatta

Ans C 1. T 2. F 3. T 4. F 5. F

Ans D 1. c 2. b 3. a 4. b

Lesson - 13

Ans A 1. It is believed that the Universe was born about 14 million years ago after a gigantic explosion, commonly known as the Big Bang.

A 2. The earth is called a unique planet in the solar system and it supports life. This planet has a thick layer of atmosphere which no other planet has.

A 3. The solar system consists of planets, moon, asteroids, comets and meteorites.

A 4. Meteors are also called 'shooting stars'. On a clear night, you might notice a bright flash of light across the sky. This is a shooting star. It is not a star. It is a rock, even a small particle of dust that falls from space and burns up in the upper layer of the atmosphere due to friction with the air. A larger piece may survive the scorching heat of travelling through the earth's atmosphere. It may then actually hit the ground, when it is called a meteorite.

Ans B 1. solar 2. plants 3. Neptune 4. Asteroids

Ans C 1. T 2. F 3. T 4. F 5. T

Ans D 1. a 2. b 3. c 4. c

Lesson - 14

Ans A 1. The local time of the $82\frac{1}{2}^{\circ}$ E meridian has been selected as the standard in India. This is known as the Indian Standard Time or IST. It passes through Allahabad, which lies roughly at the centre of the country.

A 3. Latitudes and longitudes help us to locate places of the earth. Longitudes which are known also as meridians are used to calculate time between places. Latitudes are also known as parallels.

A 4. The International Date Line is an important longitude that helps to standardise time across the world.

Ans B 1. 23.5° 2. Equator 3. Frigid 4. Greenwich meridian.

Ans C 1. Tilted Axis - The Earth is tilted at an angle of 23.5° with the perpendicular to the plane of the earth's orbit. It means that it makes an angle of 66.5° with the orbital plane. This is called tilted axis.

2. Torrid Zone - This zone lies between the tropic of cancer and the Tropic of Capricorn. The sun is overhead always at noon at one place or the other during year in this zone. It is the hottest of the earth.

C 3. Prime Meridian - The Prime Meridian is the central longitude, that divides the earth into two vertical halves - The Eastern Hemisphere and the Western Hemisphere. It runs through a place called Greenwich in England and is also called the Greenwich meridian. It is regarded as the 0° longitude.

C 4. GMT - The local time of the Greenwich Meridian is regarded as the standard time for the United Kingdom. It is known as Greenwich Mean Time (GMT).

Ans D 1. c 2. c 3. -

Lesson - 15

Ans A 1. When the earth rotates on its axis, at any point of time, one half of it has day while the other half has night. This is because one part of the earth faces the sun and has day light, while the opposite side, which is away from the sun is in darkness and experiences night. This way day and nights are formed.

A 2. When the earth rotates, we do not fall down because we also move with it at the same speed.

A 3. Rotation - The movement of the earth from west to east on its axis is known as rotation. It takes 24 hours to complete one rotation.

Revolution - Along with rotation, the earth also revolves around the Sun at the same time. This movement of the earth around the sun is called revolution. It takes 365 days 6 hours 9 minutes and 9.54 seconds to complete one revolution.

Ans B 1. axis 2. aphelion 3. illumination

B 2.

R

O

N I G H T E

A R

T U

P E R I H E L I O N

O N

N N O R W A Y

X

Ans D 1. c 2. a 3. a

Lesson - 16

Ans A 1. The components of map are scale, directions, conventional symbols, etc.

A 2. Thematic maps are those ones which deal with a certain theme on a particular aspect. Different types of the matic maps are political maps, weather maps, population maps, topoyraphica maps, maps showing distribution of agricultural crops, mineral resources etc.

A 3. A map represents the earth surface or a part of it, on a flat surface according to scale. Sometimes when we are required to show a small place in great details, we draw a plan. A plan of a park, showing its location, direction, arrangues of various features inside or the housing plan of a colony showing arranment of houses, lanes, by-lanes, parks ant other landmarks.

Ans B 1. Map 2. Plan 3. North

Ans C 1. Scale - The scale represents distance on a map and corresponding distance on the ground.

C 2. Atlas - An atlas is a book of maps. It contains physical as well as variety of thematic maps including political maps.

C 3. Cardinal Direction - On the map, on the top is North, to the bottom is south, to left is West and to right is East. These four directions are called cardinal directions.

C 4. Plan - Sometimes when we are required to show a small place in great details, we draw a plan. A plan of a park showing its location, direction, arrangement of various features in side or the housing plan of a colony showing arrangements of houses, lanes, parks, and other landmarks.

Ans D 1. a 2. c 3. b

Lesson - 17

Ans A 1. According to the size the four oceans are - Pacific, Atlantic, Indian and Arctic ocean.

A 2. Ozone layer is very important for us because it absorbs the harmful ultraviolet rays of the sun and prevents them from reaching us.

A 3. There is a class interaction between living and non-living things. Because climatic conditions caused rock disintgaration. It resulted in the formation of sail., which forms a vital part of earth crust. Thus, the four realms are interactive and can not be separated from each other. The foru realms are lithosphere (land), hydrosphere (water), atmosphere (air) and biosphere (life).

A 4. There is a very a very narrow zone where land, water and air come in cantact with each-other. Because of an ideal situation, all living things, different types of organisms and plants are found in this zone. The organisms present in the biosphere depend fully on hte climatic conditions as they make it their habitat and adap it.

Ans B 1. soil 2. Nile 3. North America 4. Pacific

Ans C 1. Fjords - It is a mark point on the coastosphere - It is the region with the ozone layer. It is one of the five layers of the atmosphere. Temperatures increase with height in this layer.

C 3. Deforestation - Cutting down of forests is called deforestation. It is direct resurt of a growing human population.

C 4. Soil Erosion - Due to heavy pressure on agriculture is affecting the quality of land and causing soil erosion on a large scale. It is cutting away the agricultural land due to floods and deforestation.

Ans D 1. a 2. b 3. b

Lesson - 18

Ans A 1. Crustal plateaus are formed when the magma below the lithosphere pushes the crust on top but is unable to break through. As a result the entire flat land surface above it is uplifted. This forms a crustal or continental plateau.

A 2. Endogenic Forces - The forces created by internal processes of the earth is called endogenic forces such

as earthquake and volcanoes which act suddenly.

Exogenic Forces - The forces created by external processes of the earth is called exogenic forces such as winds, rain and ice which act slowly.

A 3. Mountains - The mountains are the most striking of all landforms. A mountain should have steep slopes, sharp edges and a peak.

Plateau - A plateau is a broad and levelled stretch of land which rises abruptly from the adjoining areas.

A 4. Importance of Plains

Plains are the most valuable to humans. Plains are the most valuable to humans.

- Water, the basic need for living beings is easily available in the plains.

- The level land helps in building houses, roads and railways. The rivers too can be used for transportation.

- Fertile soil of plains are suitable for agriculture .

Ans B 1. soil erosion 2. Kashmir 3. Intermontane 4. Volcanic

Ans C 1. F 2. T 3. T 4. T 5. T

Ans D 1. a 2. a 3. c 4. a

Lesson - 19

Ans A 1. Neighbouring countries of India are - Pakistan, Nepal, Bhutan, Bangladesh, China, Sri Lanka and Maldives.

A 2. Advantages of India's Geographical Location -

Its central location gives it several advantages. It was cradle of one of the four earliest civilisation known as the Indus Valley civilisation or the Harappan Civilisation. From ancient times it enjoyed close trade and cultural contacts with the rest of the world. Being at the head of the Indian ocean, its climate is shaped by winds blowing over the ocean, which pick up moisture in summer and cause rainfall.

Below the Himalayas is a Vast plain. The climate and fertile soil help to sustain more than one billion people who live in India. India has 16 percent of world's total population. They give it many political advantages.

A 3. The Himalaya range separate India and its neighbours from the rest of Asia. Thus, along with Nepal, Bhutan, Pakistan and Bangladesh, India forms separate geographic unit known as Indian subcontinent.

A 4. Himalayan Rivers - Ganga, Yamuna, Gandak, Gomti, Kosi and son.

Peminsular Rivers - Godavary, Mahanadi, Krishna, and Kaveri.

Ans B 1. China 2. Himadri 3. Greater 4. Ganga 5. Kochi

Ans C 1. (iv) 2. (v) 3. (iii) 4. (ii) 5. (i)

Ans D 1. b 2. b 3. c 4. b

Lesson - 20

Ans A 1. Weather is the current condition of the atmosphere in any one place over a short period of time. So, it might be sunny, hot and windy, in the morning, but in the evening, it may be cloudy. Therefore, weather can change from one time of the day to another.

Whereas climate on the other hand is the average atmospheric condition of a given area over a long period such as 30 to 35 years. So, the climate of a place could be tropical, temperate or frigid.

A 2. India has four major seasons that follow a set of sequence to form an annual cycle. They are winter, summer, rainy and retreated monsoon season. These seasons are repeated year after year and hence called the cycle of seasons.

A 3. The winter season begins in mid November in India. It becomes well established in December and lasts till February.

A 4. The amount of rainfall varies from season to season and from place to place. The distribution of rainfall is controlled by the direction of the rain bearing winds and the relief of the land.

There is a gradual decrease in rainfall from west and east coasts to the interior parts in Peninsular India.

The monsoons can sometime be erratic in behaviour. Sometime they fail to bring adequate rainfall. This causes drought. Thus, the distribution of rainfall is highly uneven.

Ans B 1. weather 2. Jet Streams 3. Triangular 4. Equitable 5. Kerala

Ans C 1. Weather - Weather is the atmospheric condition of a place over a short period of time.

2. Extreme type of climate - The central and the northern parts of India experience an extreme type of climate. In these regions, the summers are very hot and winters are very cold.

C 3. Jet Streams - These are air currents blowing in a narrow zone over the northern plains in winter. The jet streams create a low pressure zone in northern India.

C 4. Cyclones - Cyclones originate in the Bay of Bengal and cause damage to life and property in the eastern coasts of India.

Ans D 1. b 2. a 3. b 4. c

Lesson - 2

Ans A 1. In India, natural vegetation is found in five major types- tropical rain forest, tropical deciduous forests, thorny forests, tidal forests and mountain forests.

A 2. Tidal Forests - These forests are covered by mangrove trees. They are called Sunderban in West Bengal. Sundry trees provide durable wood, which is good for making boats. Mangrove trees can survive in both fresh and salt water.

A 3. Importance of Forests - The forests have various importance as follow :

(i) Forests Products : Forests yield hundreds of economically useful forest products like timber, herbs, varnish, etc.

(ii) Photosynthesis : They not only remove excess carbon dioxide from the air, they also release oxygen into the atmosphere with the help of a process called photosynthesis.

(iii) Humus : Plants and animals in forests are the largest single contribution of humus a vital constituent of soil on which all agriculture is dependent.

A 4. Due to cutting down of forests and hunting, several species of wild life of India are declining rapidly. Many species have already become extinct. Due to this reason our wildlife is vanishing.

Ans B 1. Tropical Rainforests 2. monsoon 3. tidal 4. Mountain 5. extinct

Ans C 1. T 2. T 3. F 4. T 5. T

Ans D 1. b 2. b 3. a 4. a

Lesson - 22

Ans A 1. Our country is full of diversity. It consists of people belonging to diverse backgrounds.

A 2. Religious Diversity - India is a secular country where the followers of different religions like Hindus, Muslims, Sikhs, Christians, Buddhists, Jains, Parsis etc live. Our constitution guarantees freedom of religions and worship. All religions are given equal opportunity to grow. We follow the principle of Sarvadharmā Sambhava.

A 3. Sarvadharmā Sambhava means all religions are essentially the same. All believe in one God but have adopted different paths to reach the same Almighty.

A 4. The short-sighted caste considerations hamper the growth of national integration. Some people consider themselves above other caste people. They shun people belonging to lower castes. It is an inhuman and anti-democratic practice.

Ans B 1. South 2. 150 3. Physical 4. Bhagvat Geeta 5. Church

Ans C 1. Diversity - Diversity means many kinds of like many kinds of castes, colours, seasons, people, etc. Our country is full of diversity. It consists of people belonging to diverse backgrounds.

C 2. Independence - Independence means 'having right to speak, worship, education, line, express, trade, vote, etc. Indian people fought a long fight to get independence. Now we have got the freedom. We love independence and we love India.

C 3. Conflict - Having difference of views. When there is some difference of views arise, a conflict takes birth, sometime due to conflict violence takes place.

C 4. Unity in Diversity - In India, we are bound together by on common identity that we are Indians. There is one main current of national life, which we call Indian culture. It had peserved our identity as one nation throughout the long course of our history.

Ans D 1. b 2. b 3. b 4. b

Lesson - 23

Ans A 1. Who are physically or mentallyh challenged, are now called 'People with special needs'. The government has provided these people with reservation in jogbs and other facilities.

A 2. Rights are very essential for good life and self development. The constition of India gaurantees certain basic rights to all its citizens. These basic rights are called fundamental Rights. The government has passed laws for easiness of life. This all are called constitutional Provisions.

A 3. There are a few things which make a nation great. The most important for any nation is its democracy. In a democracy, there is no place for discrimination, prejudice and inequality. All these things make a nation great.

A 4. The evil of untouchability has reduced but not removed totally due to some sincer efforts of the government. There is a lot of to do to improve the economic condition of the untouchables. People should be made aware of the evils of untouchability through mass media such as jornals, television, programmes, cinema, theatre, speeches, etc. Intercaste marriages should be encouraged.

Ans B 1. second 2. discrimination 3. Rights 4. Unity 5 .
marriages

Ans C 1. F 2. T 3. F 4. F 5. T

Ans D 1. b 2. b 3. b 4. c

Lesson - 24

Ans A 1. The government is an organisation or agency, through which a political system exercise its authority, regulates public policy and administer its subjects. Government has to oversee many activities such as the welfare of citizens of all kinds, running Postal and railways services, minting coins, maintaining law and order, rushing assistance to people in case of a natural disaster, etc.

A 2. Sometimes, when no single political party is in the majority, one or more of the contesting parties join hands to form the government. This alliance is called a 'coalition government'.

A 3. In democratic government people elect their representatives who work on behalf of the people. Political Parties put up candidates for election. An authoritarian government is one that is based on force and not on people's choice. Another name for authoritarian government is dictatorship, in which people have no share in the process of government.

A 4. Judiciary is an important part of the government. Its main function is to defend the laws made by the government. By the people or public offices violet a law, this can be punished by the judiciary.

Ans B 1. Government 2. Democratic 3. representatives 4. Authoritarian 5. Minority

Ans C 1. F 2. T 3. T 4. F 5. T

Ans D 1. a 2. b 3. b 4. a

Lesson - 25

Ans A 1. The opposition parties criticise the wrong policies of the government and do not allow it to become despotic.

A 2. Press plays most significant role in the formulation of public opinion. Press includes newspapers, journals and magazines. The news papers publish news and express their views in their editorials on important matters. The pople read these views which mould their opinion.

A 3. There are many obstacles in the formation of healthy and sound public opinion in India.

(i) Poverty - Most of the people in India are poor. Poverty is a great hindrance to the formation of Public opinion.

(ii) Illiteracy - About 35 percent people are illiterate in India. Illiteracy breeds ignorance.

(iii) Press in India is parial.

(iv) Defects in party system.

(v) Generally, people do not take active part in political activities.

(vi) Conservative outlook of the people.

(vii) Regionalism.

A 4. Drawbacks in Electoral System

There are many problems related to elections in India. Firstly, it is very costly affair. Secondly, the ruling party often misuses government machinery to win elections. Thirdly, the voter lists are not revised from time to time. Fourthly, there are frequent cases of violence and both capturing during the elections. Fifthly, the political parties appeal to religion, caste, race and language considerations to secure votes. Thus, elections are fought on narrow considerations which are against the norms of a democracy.

Ans B 1. government 2. Partner 3. way of 4. government

Ans C 1. T 2. T 3. F 4. T

Ans D 1. b 2. a 3. c 4. c

Lesson - 26

Ans A 1. The five functions of a panchayat are -

- construction and maintenance of village tanks and wells.

- construction of roads, path ways etc.

- planting press

- supply of clean drinking water.

- Maintain records of births and deaths.

A 2. Nyaya Panchayat - The Panchayat has a judicial wing called the Nyaya Panchayat. There is one Nyaya Panchayat for a number of villages. Each Panchayat. No person can be a member of the Nyaya Panchayat and the Panchayat Samiti at the same time.

The Nyaya Panchayat resolves minor disputes of the villagers like theft. They can not send a person jail. They can try civil and revenue cases of minor nature.

A 3. Panchayat Sevak or secretary, keeps the records and registers of all works done by Panchayat. He also prepares Panchayat accounts.

A 4. Achievements of the Panchayati Raj

The achievements of the Panchayati Raj are as under -

(i) It has brought political and social awakening among the villagers.

(ii) It encouraged the village people to take interest in government affairs.

(iii) It has made efforts to remove illiteracy among the villagers by setting up literacy centres.

(iv) It has improved the quality of village life by looking after sanitation, health, education and welfare activities of the village.

Ans B 1. T 2. T 3. F 4. F 5. T

Ans C 1. Sarpanch - Gram Panchayat elects one of its members as 'Sarpanch'. He is also known as the Pradhan. He calls the meetings of the Panchayat and presides over them. He is assisted by an up-pradhan, who is elected by the members of the Panchayat.

C 2. Nyaya Panchayat - It is judicial wing of a Panchayat. It resolves minor disputes of the villagers. They can try civil and revenue cases of minor nature.

C 3. Block samiti - Block samiti is middle-tier of the Panchayat system. It is known by different names in different states. The strength of a Block Samiti depends on the number of villages it consists. Normally, it consists

of 20 to 60 villages depending on area and population.

C 4. Zila Parishad - It is the top most level of the Panchayat Raj at the district level. It examines and coordinates the activities of the Block Samitis in a district. It also serves as a link between the state Government and the Block Samitis within a district. Zila Parishad also advises the state Government in carrying out development schemes in a district.

Ans D 1. b 2. a 3. b 4. c

Lesson - 27

Ans A 1. Municipal Corporation functions in towns and cities.

A 2. Octroi tax is a tax levied on goods entering municipal limits from outside. Octroi superintendent is responsible to collect this tax.

A 3. Like the Panchayati Raj institutions in rural areas, Municipal committees are set up in towns or small cities while Municipal corporations are set up in Metropolitan or big cities to take care of the citizens welfare.

A 4. Sources of Income of Municipal Corporation

(i) Taxes on property and houses.

(ii) Taxes on roads, flyovers, bridges and ferries,

(iii) Terminal tax or octroi tax levied on goods entering municipal limits.

(iv) Auction of vehicle parking lots at designated places.

(v) Taxes on Vehicles.

(vi) Rent from municipal properties, land markets and rest houses.

(vii) Taxes on water, lighting, drainage and sewerage.

(viii) Fines and penalties levied on violators of traffic and city rules.

(ix) Raise loans from the public with the consent of the state government.

Ans B 1. Wards 2. corporation 3. committees 4. Municipal Corporation

5

Members

Ans C 1. T 2. F 3. F 4. T 5. T

Ans D 1. c 2. b 3. c 4. b

Lesson - 28

Ans A 1. The district is the most important unit of administration in India. All important offices of the government such as revenue, education, public health, police, civil and criminal courts, jails, irrigation, excise, taxation, post and telegraphs, Zila Parishad etc are located at the District HQ.

A 2. Deputy Commissioner or collector has his headquarter at the district town. He frequently tours the district to keep himself in touch with the affairs of the district. He is assisted by the superintendent of police, Deputy Superintendents and Inspectors of police, district and session judges, Munsifs, chief Medical officer, District Education officer, Block Development Officer and other several officers.

A 3. Superintendent of police is in charge of the police forces in the district. He maintains law and order in the district. For better administration the district is divided into five or six circles.

A 4. The Block Development Officer works in coordination with the Deputy Commissioner in the work of educating the village people in teaching them new methods of agriculture, introducing them to the latest animal husbandry practices, digging new wells, showing how to harvest rain water, building new roads etc.

Ans B 1. district 2. collector 3. clerk 4. Thana 5. Jailor

Ans C 1. F 2. F 3. F 4. T 5. T

Ans D 1. a 2. a 3. b 4. a

Lesson - 29

Ans A 1. Most of the Villages were backward before independent because :

- (i) The British Government did not pay any attention towards upliftment of our villages.
- (ii) The British destroyed the village economies order to gain control over them.
- (iii) Zamindary system hindered the development of villages.
- (iv) Lack of irrigation facilities.
- (v) There were no good roads.
- (vi) There were no education facilities.

A 2. People migrate from villages to cities in search of jobs and better living standards.

A 3. A casual worker is recruited on daily basis. If there is no work, they are not paid. Their jobs are seasonal. Whereas, a Permanent worker is employed on a long term basis and his job is secured as long as he works efficiently and sincerely.

The main problem in big cities is accommodation. Many people in cities have not their own house to stay in. They stay in cities, earning their livelihoods by hard work, cut off from better localities and their vastly better facilities. These workers fall under what is called as the 'inorganised sector'.

Ans B 1. unplanned 2. zamindars 3. Local 4. market 5. officers

Ans C 1. F 2. T 3. F 4. T 5. T

Ans D 1. b 2. b 3. a 4. b

Science - 6

Chapter 1

Ans 1. a. omnivore b. ingredient c. ingredient d. stem e. honey

Ans 2. a. (iii) b. (i) c. (ii) d. (iv) e. (iii)

Ans 3. a. Bees collect nectar from flowers and make honey from it. They store the honey in their hives.

b. Mango - Fruits

Peas - seeds

Potato - stem

carrot - roots

Cauliflower - Flower

c. Herbivores - Animals that eat plants and plant's products.

Carnivores - Animals that eat the flesh of other animals.

Omnivores - Animals that eat both plants and animals.

d. Food From Animals - Milk, milk product, eggs, honey and meat.

e. There are two sources of food -

(i) Food from plants (ii) Food from animals.

Ans 4 a. Food b. animals c. plant d. used e. honey

Ans 5 a. T b. F c. T d. F e. T

Ans 6 a. Three names of fruits - mango, grapes, apple.

Three names of vegetables - Brinjal, potato, cauliflower.

b. Omnivores eat both plants and animal.

c. Food gives us energy to work.

d. Saprophytes - These are organisms which can not make their own food and obtain their nutrition from dead and decaying plant and animal matter. These plants have no leaves at all.

2. Animal Products

Sources

Eggs - Hen, duck

Milk - cow, buffalo, goat

Paneer - milk

Ghee - cow, buffalo

Milk Products - cow, buffalo

Honey - Honey bees

Meat - Goat, buffalo, Hen, Pig, deer

Chapter 2

Ans 1. a. Protein b. Vitamin C c. deficiency diseases d. iodine e. vitamin D

Ans 2. a. (i) b. (i) c. (i) d. (ii) e. (i)

Ans 3. a. Testing the presences of starch

Take a small quantity of food or raw material which is to be tested. Add 2-3 drops of dilute iodine solutions. If the colour changes to blue black it indicates starch.

b. Growing children need more proteins because our body needs proteins to make new cells, to replace worn out and damaged cells.

c. Balanced Diet - A diet which contains all the important nutrients in the right amounts is called a complete or a balanced diet. The balanced diet is not the same for everyone. It depends on various factors like age, sex, physical activity of a person.

d. Deficiency Diseases - These are diseases that occur in our body due to lack of essential nutrients over a long period of time.

- Deficiency of proteins causes stunted growth, swelling of face, discolouration of face, skin diseases and diarrhoea.

- Deficiency of carbohydrates causes the person to become thin and weak. If the diet is deficient in both proteins and carbohydrates for a long time, growth may stop completely.

e. We can have a balanced diet even by eating simple inexpensive food like pulses, soyabean, groundnuts, sprouted pulses, fermented food (idli, Dosa, Dhokla), using a combination of flours (missiroti), bananas, spinach, Khichri, etc.

Ans 4. a. starch b. fats c. warmth d. Iron e. balanced

Ans 5. a T b. T c. F d. T e. F

Ans 6. a. Carbohydrates, Proteins fats, vitamins and minerals.

b. Proteins are called body - building substances. Our body needs proteins to make new cells, to replace worn out and damaged cells.

c. Two kinds of carbohydrates are - sugar and starch.

d. We must not wash fruits and vegetables after peeling or cutting them. This results in the loss of vitamins and minerals. The skin of many fruits and vegetables are rich in vitamins and minerals.

e. Symptoms of Scurvy - Swelling of gums, bleeding gums, wounds take long time to heal.

Chapter 3

Ans 1. a. Takli b. Powerloom c. wool d. silk route 5. shearing

Ans 2. a (i) b. (ii) c. (iii) d. (i) e. (iii)

Ans 3. a. Weaving - This is a process of arranging two sets of yarm to make a Fabric. It is done on looms.

Knitting - A single yarm is used to make a peice of fabric. It can be done by hand or by machines.

b. Jute is mainly grown in the states of Bihar, west Bengal and Assam in India during the rainy season. It is grown best in sandy and clayey soil.

c. The stalk of the jute plants are tied in bundles and immersed in water for about 20 days. This is called retting. The fibres are then separated from by hand.

d. On maturing, the cotton balls burst open.

- Fibres are then separated from the seeds by combing.

- Then spinning is done.

- Yarn is made into a fabric by wearing or knitting.

e. Cotton is grown best in the sandy and clayey soil.

Ans 4. a. material b. largest c. yarms d. cotton e. spinning

Ans 5. a. F b. F c. T d. F e. T

Ans 6. a. The process of making yarn from fibres is called spinning.

b. Natural Fibres - Cotton, Jute, Silk.

c. Fabric - clothes or soft material that is used for making clothes, curtains etc.

Yarn- Fibers from the bundle of cotton are drawn out and then twisted to make yarn. This process holds the Fibres together.

d. The two process of converting yarn to fabric are - weaving and knitting.

e. Sacks, mats and ropes.

Chapter 4

Ans 1. a. Yes b. No c. wood d. glass

Ans 2. a (iii) b. (iii) c. (iv) d. (iv) e. (iv)

Ans 3. a. We can see through the transparet objects. Ex. glass, water, air.

We can partially see through the translucent objects , Ex. butter paper, and we can not see through the opaque objects at all. Ex - wood, metal, cardboard.

b. Density - It is the mass per unit volume of a substance. If we weigh equal volume of wood, metal and water, it will be seen that iron is the heaviest and wood is the lightest. Thus, a substance like iron or sand which is denser than water will sink in the water, whereas, substances like wood, cork and sawdust, which are less dense than water will float on water.

c. Properties of Materials.

(i) Appearance (ii) Lustre (iii) Hardness (iv) Roughness (v) Solubility.

d. Some materials lose their shine and appear dull when exposed to air and moisture. An iron rod appears dull but when it is rubbed with sand paper, the top layer gets removed and it appears lustrous. Therefore, to see whether a material is lustrous or not, we must observe freshly cut surface of the material. If the freshly cut surface is shiny, then the material is lustrous.

e.	Round Objects	Other Shape
	Ball	eraser
	wheel	chair
	chapati	kite
	orange	Note book
	moon	

Made of Paper - kite, note book

Made of wood - ball, chair, wheel

Ans 4. a. object b. plastic c. metals d. plants e. properties

Ans 5. a. chair, bed and bat.

b. All materials have mass and occupy space.

c. Some liquids like milk mix completely with water and are said to be miscible liquids. But some liquids do not mix with each other are called immiscible liquids like oil and water.

d. By applying some oil on a sheet of paper it can be made translucent.

e. On the basis of common properties we classify the materials for our use.

Chapter 5

Ans 1. a. Hand Picking b. Winnowing c. Sieving d. Sedimentation

Ans 2. a. (iii) b. (iv) c. (i) d. (ii) e. (i)

Ans 3. a. We need to separate some mixture into its components because some of the substances we use purely or we do not want a particular component to use. Ex. we strain tea to remove tea leaves with a strainer.

b. To obtain clear water from muddy water, we use the process of evaporation. Evaporation is used to separate solids dissolved in a liquid. The process of conversion of water into water vapour on heating is called evaporation. Evaporation of water takes place continuously wherever it is present.

c. We can separate wheat grains and straw pieces with the help of winnowing process.

d. We can separate the mixture of sand, sugar and pebbles with the help of the processes of sedimentation, Decantation and evaporation.

e. A saturation point of a solution is one in which no more solute can be dissolved in it. Solubility of water can be increased by increasing the temperature of water.

Ans 4. a. F b. T c. F d. F e. F

Ans 5. a. The separation of a component from a mixture is carried out on the principle that each component has a unique property which is not shared by any other component.

b. The process of Hand Picking is used to remove impurities like pieces of dirt, stone and husk from wheat, rice and pulses.

c. Sieving - It is a process of separating constituents of a mixture having particles of different sizes using a sieve. Ex. - separating stones from the sand.

- d. A saturation solution is one which no more solute can be dissolved.
 e. Farmers separate husk from grain by using the process of winnowing.

Chapter 6

Ans. 1. a. (i) b. (ii) c. (iv) d. (i)

Ans 2. a. Difference between physical and chemical changes.

Physical Change	Chemical Change
1. No chemical takes place.	1. Chemical reaction takes place.
2. No new substance is formed.	2. New substance is formed.
3. This change is not permanent and can return to its pre-position.	3. This change is permanent and can not return to its previous form.

b. Chemical Change - A chemical change is the one when there is a chemical reaction between the substances. A new substance is formed. Most chemical changes are permanent and irreversible. Ex. Making curd is a chemical change.

c. The property of expansion and contraction is used to fix a metal rim on a wooden wheel of a cart. The metal rim is slightly smaller in size. It is heated so that it expands and is fitted on the wheel. Cold water is poured on it to cool it. It contracts on cooling and fits tightly on the wheel.

d. When a candle burns a physical change takes place because this change is reversible and it does not change its properties.

Ans 3. a. time b. physical c. cold d. size e. substance

Ans 4. a. T b. T c. T d. F

Ans 5. a. Reversible change is the one that can go back to its previous form.

b. No, this change is irreversible.

c. When on heating a piece of iron or other metal expands, this is called expansion.

d. Cutting a potato is the process of cutting it into many parts but its properties remain the same whereas cooking a potato is a process of heating to change some properties.

e. Making small balls out of the dough and roll them out is reversible change but frying pooris is irreversible change.

Chapter 7

Ans 1. a. Root system and shoot system.

b. mustard, wheat, coriander

c. rose, lemon, jasmine

d. carrot, radish

e. petal, stigma

Ans 2. a. (i) b. (iii) c. (iii) d. (i) e. (iii) f. (iv) g. (iv)

Ans 3. a. Functions of the Stem

- Stems keep the plants upright.
- Stems transport water to all parts of the shoot system.
- Stems provide support to the different parts of the plant.
- Some stems of plants are used to store food.
- Stems of some plants like cactus are modified to make food.

b. Transpiration - Leaves also release extra water absorbed by the root through the stomata in the form of vapour. This process is called transpiration.

c. Tap Root - This kind of roots have a main root from which a number of branching roots arise.

Fibrous Root - This kind of roots have no main root. There is a cluster of roots all appearing similar and these are called fibrous roots.

d. Activity-

To show that leaves contain starch.

Take a green leaf of a healthy plant. Place it in a test tube and cover it with spirit. Place the test tube in a beaker filled with water. Heat the beaker till the green colour of the leaf is completely leached and the leaf becomes colourless. Remove the leaf carefully and wash it in water and put it on one sheet of white paper. Pour a few drops of iodine on it.

What do you observe? The leaf turns blue black in colour. This shows the presence of starch.

Parts of a flower

Flower

Ans 4. a. T b. T c. F d. T e. T

Ans 5. a. Function of Root

- Roots fix the plant firmly in the soil.
- Roots absorb water and mineral from the soil and help the plant to grow.
- Roots help to prevent soil erosion.

b. Plants have two systems - Root system and shoot system.

c. Function of Midrib in a leaf.

- To carry water and mineral to leaves.
- Release extra water absorbed by the root with the help of transpiration.

d. Roots are modified in some plants to give extra support. Banyan tree has roots growing down from its branches. These roots when they reach the ground, fix themselves in the soil. Such roots are called prop roots.

e. Herbs

1. They have green, soft and flexible stems.
2. very small plants
3. No branches are there.

Shrubs

1. They have hard stems.
2. Medium sized plants.
3. They are bushy and branching out near the base

Chapter 8

Ans 1. a. Heart, Lungs

b. wrists, ankles

c. dorsal, pelvic, anal

d. lower, jaw

e. snail

Ans 2 a. (iii) b. (ii) c. (iv) d. (i) e. (iv)

Ans 3 a. Pivotal joint allows movement in all the directions. It is found between the head and neck.

b. Our backbone is made of many small bones called vertebrae. The vertebrae are joined together by joints which allow very slight movement. This is why we are able to bend.

c. There are flat curved bones. They join the backbone and the chest bone together to form a cage called rib cage. The rib cage protects the heart and the lungs.

d. Bones can not move by themselves. The muscles have the ability to move. Muscles attached to the bones make them move the joints. The muscles work in pairs. To move a bone in one direction, two sets of muscles are needed. When one muscle contracts, the bone is pulled in that direction. The other muscle of the pair relaxes. Similarly, the relaxed muscle contracts while the first muscle relaxes.

e. The bones of the birds are hollow and very light. The two hind limbs are used for walking and perching. The forelimbs of the birds are modified as wings which are used for flying.

f. The snake has a long backbone which is flexible. It has no legs. They have many thin muscles, connected to the ribs, backbone and skin. The snake can curve its body into loops. Each loop pushes against the ground to make the body move forward.

Ans 4 a. fly b. pivotal c. Hinge d. 4 e. humerus

Ans 5. a. F b. F c. T d. T e. F f. F

Ans 6.a. lower jaw

b. The human skeleton is made up of four parts - skull, backbone, ribs and limbs.

c. Cartilage - The end of the bones are covered with a cartilage. It acts as a shock absorber and prevents rubbing of bones against each other at the joints.

d. A number of tiny hair like bristles are present on the lower surface of the body which provides good grip on the ground.

e. Joints - The place where two bones are joined together as in elbow, is known as a joint.

Chapter 9

Ans 1. a. Ecology b. living c. water d. sea water.

Ans 2. a. (iii) b. (iv) c. (iii) d. (iii)

Ans 3. a. Adaptations in camel

- It has long legs to keep the body away from the heat of the sand. Its hooves are covered with a large sole which help it to move easily on soft-sand.

- The camel stores fat in its hump. It utilises this food during shortage and is able to survive without food for long periods.

- It can drink a large quantity of water at one time and then stay without water for a long time.

- It excretes a small amount of urine, its dung is dry and it does not sweat. It thus, loses very little water from its body.

b. Pine Tree in Mountain

- The trees are cone shaped having slopping branches. These have sharp needle-like leaves. This helps the rain water and snow to slide off easily.

- The plants have shorter stems so they are not broken down by the harsh winds.

Pine trees have cone shaped leaves so they are called conifers.

c. It is very windy and dry in these regions. Mainly grass grows here. The adaptations are :

- Strong roots to fix the plants.

- Flexible stems so that they can sway with the wind and not break.

- small leaves to reduce water loss.

d. Lions have eye in front of their faces which help them to locate their prey easily. Deer have eyes on the sides of the head which enable them to look in all directions for danger.

Ans 4. a. Adaptations - The special characteristics that enable a plant or animal to survive in a particular environment are called adaptations.

b. A squirrel hibernates in winter. It means it goes in a long sleep during winter months to protect itself from the cold.

c. Terrestrial animals are those that complete their life cycle on land. Ex. dog complete their life cycle on land. Ex. Fish.

d. In aquatic plants the roots are small in size and their main function is to hold the plant in place. In partially submerged plants the roots are fixed but the leaves and flowers are floating on top of the water.

In floating plants, plants float in water and roots hang submerged in water. Their leaves are broad and round.

Chapter 10

Ans 1. a. Train running on a track.

b. Car moving on curved path.

c. Spinning top

d. clock pendulum

e. Motion of a bullet

Ans 2. a. (iii) b. (iii) c. (i) d. (iii) e. (ii)

Ans 3. a. Periodic Motion - When the object repeats its motion after a fixed time. This is called periodic motion. Ex. Motion of a clock pendulum.

b. It was felt that there is a need to have a standard set of units which do not change from person to person. So, the French created a standard set of measurements called the metric system. So, for the sake of uniformity and convenience, scientists all over the world decided to accept a basic set of units for the world decided to accept a basic set of units for the measurement of physical quantities. This set of units is known as the International system of units.

c. To measure the length of a pencil :

- The measuring instrument must be placed exactly along the length to be measured. It must be kept parallel to the body.

- At times, the end of the ruler may be broken and the zero mark may not be clearly visible. In such cases use any other mark of the scale like 1 cm. or 2 cm. Subtract this reading from the final reading to get the length of the object.

- Position your eye exactly above the point where measurement is being taken.

d. (i) car running in rectilinear, curvilinear and translatory motions.

(ii) Motion of the earth has periodic motion and rotational motion.

(iii) Cricket ball has translatory motion, rotational motion and curvilinear motion.

Ans 4 a. T b. F c. T d. F e. F

Ans 5. a. Invention of wheel and steam engine brought about revolutionary changes in the field of transport.

b. An object is said to be in motion if it changes its position with time, in relation to a stationary object in its surrounding.

c. Translatory Motion - When all parts of an object move by the same amount in the same direction, it is said to have translatory motion.

d. The length of a table = 125 cm
= 1.25 m (100cm = 1m)

e. Motion - (i) Translatory Motion - Rectilinear motion and curvilinear Motion.

(ii) Rotational Motion

(iii) Periodic Motion

Chapter 11

Ans 1 a. yes b. No c. No d. No e. Transparent f. No g. Black h. Reflection
i. Yes j. Non-luminous

Ans 2. a.(iii) b.(i) c.(i) d.(iii) e.(iv)

Ans 3. a. We have seen circular images of sunlight when passing under a tree covered with a large number of leaves. These images are actually the pin hole images of the sun. The gaps between the leaves act as pin holes. So, we can say that pin hole camera exists in nature also.

b. Activity - To show that light travels in straight lines.

Activity

Take a straw. Place a lighted candle on a table. Look at the candle through the straw while standing at the other end of the table. Can you see the candle? Now bend the straw slightly. Again look at the candle. Can you still see the candle? You will not be able to see the candle. This shows that light travels in straight lines (Rectilinear propagation of light).

c. Reflection of light causes the formation of images whereas shadow is the region of absence of light.

d. Reflection of light - When light falls on a polished surface like glass, it bounces back. This phenomenon is referred to as reflection of light.

e. Characteristics of Shadow

- It is black.

- can not be seen without a screen.
- Need source of light to form a shadow.
- Source of light, shadow and screen are always found in line.

Ans 4. a. F b. T c. F d. T e. T f. F

Ans 5. a. An object that allows light to pass through it partially is called translucent. Ex. tissue paper, butter paper and plastic.

b. When light falls on an opaque object, the rays of light cannot pass through the object and the area behind the object appears dark as this area does not receive any light from the source. This area of darkness behind an object where the light is not able to reach is known as the shadow. This way shadow is formed.

c. Light always travels in a straight line. This is what rectilinear propagation of light means.

d. Principle of Pin hole camera - Pin hole camera is based on the principle that light travels in straight lines.

e. Non-luminous objects - Objects which do not emit light of their own like chair, table, pen, moon, earth etc.

Chapter 12

Ans 1. a. No b. Filament c. No d. chemical reaction e. Switch f. Non-metal
g. insulator

Ans 2. a. (iii) b. (iii) c. (i) d. (i) e. (iv)

Ans 3 a. When the filament of a bulb is broken, bulb is said to be fused and it does not glow.

b. When an electric current flows through a copper wire from the positive terminal of the battery to the negative terminal through a bulb. The complete path of the flow of electric current from one terminal to the other terminal cell and bulb glows. It is said an electric circuit.

c. Some materials allow electricity to pass through them are called conductors. Ex. aluminium, water, steel, etc. Some materials do not allow electricity to pass through them are called insulators. Ex. wood, plastic, air, etc.

d. Electric cell is a device which is used as a source of electricity whereas a battery is a group of cells which is used as source of electricity.

Symbol of cell.

Symbol of battery

e. We need to change a battery after long use because the chemicals stored in the cell produce electricity. A cell produces electricity by a chemical reaction that changes chemical energy into electrical energy. When the chemicals in the cell are used up it stops working and we need to replace it with a new one.

Ans 4. a. electricity b. torch c. source d. glow e. broken

Ans 5. a. When we connect the two ends of a cell to a bulb using copper wires, the bulb glows. So, the complete path of the flow of electric current from one terminal to the other terminal of cell through the bulb is known as an electric circuit.

In an electric circuit, the direction of current is taken from the positive to the negative terminal of the electric cell.

b. The complete path of the flow of electric current from one terminal to other terminal of a cell through the bulb is known as a closed electric circuit.

c. Switch is a simple device that completes the circuit or breaks it.

d. Elements of an electric cell - cells, bulbs, wires and switches.

e. Cell has an important role in a cell. Electric cell is source of current. When we switch on the torch, it glows. It happens due to cell only.

Chapter 13

Ans 1. a. Greek b. magnetic c. Two d. wood

Ans 2. a. (i) b. (iv) c. (ii) d. (ii) e. (iv)

Ans 3. a. Compass was used to find direction. A compass is a flat, circular glass box with a glass cover. A magnetised needle (Free to rotate) is pivoted inside the centre of the box. The box has directions marked on the needle points in north-south directions.

b. Uses of Magnets

- They are used to pick iron pieces from waste.
- They are used in credit cards, ATM cards, etc.
- They are used in audio, video tapes.

When like poles of a magnet are close together they repel each other i.e, they push apart. In other words north pole repels north pole but attracts a south pole. Similarly, south pole with attract a north pole and repel a south pole.

d. Unlike poles attract and like poles repel each other.

Activity 119

Place an iron bar on a table. Take a strong magnet. Place one end of its poles near one edge of the bar. Move the magnet a long the iron bar to the other end, without lifting the magnet. Raise the magnet and bring it back to the starting position. Repeat the process atleast 30 times. Remember to move the magnet in the same direction every time. Test the iron bar if it has become a magnet by bringing a pin near it. If not, repeat the process.

In this way, you can convert an iron nail, a needle or a blade into a magnet. This method is known as single touch method of making magnets.

The starting point of the iron bar acquires the same pole as the end of the magnet from which stroking was started.

STORING OF MAGNETS

- Magnets tend to lose their properties if heated strongly, hammered or handled roughly.
- Magnets become weaker after sometime if their poles are left free. This is called separated by a piece of wood. Pieces of iron called keepers are placed across both ends. A horse shoe magnet needs keeper at one end only.

Magnets should be kept at a objects with magnetic comps, computer, cassettes, television, cell phones, CD's etc.

Ans 4. a. magnets b. loadstone c. magnetic d. two e. Repulsion

Ans 5. a. The substances having the property of attracting iron are known as magnets.

b. If a magnet is broken into two peices, we will get two separate magnets each having a north pole and a south pole.

c. A magnet has two poles. The two ends of a magnet are called the poles.

d. Properties of Magnet

- Magnets become weaker after sometime if their poles are left free.
- Magnets tend to lose their properities if heated strongly or hammered.

e. Self Demagnetisation - Magnets becmome weaker after sometime if their poles are left free. This is called self demagnetisatio.

Chapter 14

Ans 1. a. Yes b. drought c. Transpiration d. Rain water e. Temperature.

Ans 2. a.(iii) b.(i) c.(i) d.(iii) e.(iii)

Ans 3. a. Water is essential to us because we use it for drinking, cooking food, cultivation, a medium of transport.

b. The circulation of water from the surface of the earth to the atmosphere and back to the earth is called water cycle.

c. Water enters into the air through the process of evaporation and transpiration. The water vapour being

lighter than air rises up. The higher air is cooler. As water vapour rises up it begins to cool. When it cools down it condenses to form water droplets. Thus it forms clouds.

d. Due to absence of rain in an area over a long period of time, the soil becomes dry, rivers and ponds dry up. The level of water in the well and ground water decreases drastically crops dried up in absence of water. Such a condition is called drought.

e. Rain water harvesting is an important method of conserving water.

Ans 4. a. two-thirds b. Seas c. Earth d. transport e. clouds

Ans 5. a. Evaporation increases with the increase of temperature.

b. Puddles of water disappear as the water dries up. This is because when water is heated, it changes into water vapour, a gaseous form.

c. Evaporation also depends upon the wind. More evaporation takes place with more wind. That is why clothes dry faster when it is windy.

d. Fog - It is created due to, condensation of water vapour near the ground. This greatly reduces the visibility.

Dew - This is due to condensation of moisture directly on cold object.

e. The demand for water is increasing day by day. This is due to increasing population. More and more water is being used for production of food. All these factors are leading to water shortage. Since the demand for water exceeds the availability of water. Hence it has become extremely important to conserve water.

Chapter 15

Ans 1. a. oxygen b. carbon dioxide c. smoke d. atmosphere e. gills.

Ans 2. a. (i) b. (iv) c. (iv) d. (ii) e. (iii)

Ans 3. a. Activity

To show that air is present in the water.

Take some water in beaker. Heat it gently. Observe the inner surface of the vessel. You see tiny bubbles on the inside of the vessel. These bubbles are of air that was dissolved in water. Initially when we heat water, air dissolves in it escape. On further heating, water begins to boil and starts evaporating. The bubbles now formed are of steam and not of the air dissolved in water.

b. Activity

To show the presence of water vapour in water

Take some chilled water in a glass and keep it on a table. After some time you will see tiny water drops visible on the outer surface of the glass. How do these tiny drops of water form there? It happens because air contains water vapour. When air comes in contact with vapour. When air comes in contact with glass it condenses and the water vapour present in this becomes water which is collected on the surface as tiny drops of water. This proves that water vapours are present in the air.

c. During heavy rains and in rainy season, we see earth worms coming out of the soil. This is because when it rains heavily. Water fills up all the spaces occupied by air in the soil. This makes it difficult for them to breathe and they have to come out of their burrows for respiration.

d. Air also contains smoke. This smoke comes from the vehicles and factories and burning fire. This is the reason policeman wears mask when regulating traffic.

e. Plants produce oxygen during photosynthesis which is added to air. Plants also use oxygen for respiration. However, the amount of oxygen produced in the air is maintained by consumption of oxygen through respiration in plants and animals and by its release during photosynthesis. This is called oxygen cycle.

f. Uses of Air

- Birds, insects and bats fly due to air.

- Air helps in respiration

- Air helps in dispersal of seeds.

- Air helps in winnowing.

- Air helps in pollination of several flowers.

Ans 4. a (v) b. (iii) c. (i) d. (ii) e. (iv)

Ans 5. a. Plants produce oxygen during photosynthesis. Plants also use oxygen for respiration. The amount of oxygen produced is much more than that of used up in respiration. So, plants are called producers of oxygen.

b. The main gases present in the air are nitrogen and oxygen. The remaining consists of carbon dioxide, water vapour, helium, argon, smoke and dust particles.

c. Smoke in the air comes from the vehicles and factories and burning fire.

d. The amount of water vapour in the air is called humidity.

e. Our earth is surrounded by a thick layer of air called the atmosphere.

f. The main gases present in the air are - Nitrogen and Oxygen.

VII Sci Science - 7

Chapter 1

Ans 1. a.(iii) b.(i) c.(iii) d.(iv) e.(ii)

Ans 2. a. In green plants, leaves prepare food. For making food carbon dioxide, and water and chlorophyll is required. Leaves provide water from soil through stem and root. Leaves also absorb carbon dioxide from the atmosphere. They have chlorophyll also. So they play an important role in the process of photosynthesis.

b. Symbiosis - Some plants live in association with other organisms and share shelter and nutrients. Both the plants gain from each other. Such type of process is called symbiosis.

Ex. - certain fungi live in the root of trees. The tree provides nutrients to the fungi. The fungi in return provides certain nutrients from the soil to tree.

c. Pitcher Plants are usually green in colour and leaves of these plants are modified to trap the insects. Leaves of these plants are modified into a pitcher like structure with a lid. The tip of the leaf is modified to form a lid which can open and close the mouth of the pitcher.

d. Saprophytes are those organisms which cannot make their own food and obtain their nutrition from dead and decaying plant and animal matter. So, they are called the cleaners of the environment.

e. Usually, crops require a large amount of nitrogen. We can grow leguminous plants like gram, moong, beans, peas, etc in the fields. Rhizobium bacteria which lives in the roots of leguminous plants can take in atmospheric nitrogen and convert it into a soluble form in the soil. That is the reason farmers grow leguminous crops after harvesting of cereals.

Ans 3. a. F b. F c. T d. T e. T

Ans 4. a. chlorophyll b. energy c. starch d. cacti e. soil

Ans 5. a. Plants which live on other living organisms and obtain their food from them are called parasite. Whereas saprophytes are those organisms which cannot make their own food and obtain their nutrition from dead and decaying plant and animal matter.

b. Some plants cannot prepare their own food because these plants do not contain chlorophyll so they are unable to perform the process of photosynthesis.

c. Algae has a heterotrophic mode of nutrition.

d. Mushroom and a bread mould both have heterotrophic mode of nutrition.

e. Requirements of Photosynthesis

- chlorophyll

- sunlight

- carbon dioxide

- water

Chapter 2

Ans 1. a.(i) b.(iii) c.(i) d.(ii) e.(ii)

Ans 2. a. Villi are finger like projections on the inner wall of the small intestine. They absorb the nutrients present in the digested food. These villi increase the surface area of the small intestine for absorption of the digested nutrients.

b. Human tongue is a flesh, muscular organ. It is attached at the back to the floor of the buccal cavity and free at the front. It can thus be moved in all directions. The main functions of the tongue are :

- It helps to mix saliva with the food

- It helps in swallowing food

- It tells the taste of the food with the help of taste buds

- It helps us in talking

c. Amoeba is a unicellular organism found in pond water. When it senses food, it pushes out the pseudo podia which engulf the tiny particles of food. The food is trapped in a food vacuole. The digestive juices are secreted into the food vacuole and help in breaking down food into simpler substances.

d. Bile - It is a kind of juice which is called bile juice. It is secreted by liver, which is situated on the right side on the digestion of fats. Bile is stored in an organ called gall bladder, which is sac like. The gall bladder is connected to the liver with the bile duct.

e. Digestion in Ruminants

In herbivores, these animals swallow their food after chewing once and store it in the part of the stomach called rumen. Here, the food is partially digested. It is called cud. When the animal is resting, the cud is brought back into the mouth in small lumps and chewed. This process is called rumination. During rumination cud mixes with saliva and after chewing it goes into the stomach. The animals are called ruminants.

Ans 3. a. F b. F c. T d. T e. F

Ans 4. a. utilised b. process c. 9-10 d. ingestion e. liver

Ans 5. a. Based on Structure and Function

	Type of Teeth	Name	Number of Teeth		Total
			Lower Jaw	Upper Jaw	
1.	Cutting, biting	incisor	4	4	8
2.	Piercing, tearing	canine	2	2	4
3.	Chewing grinding	Premolar	4	4	8
4.	Chewing grinding	Molar	6	6	12
				Total	32

b. Ruminants eat grass which is rich in cellulose. These animals have a four-chambered stomach called rumen. The rumen contains a number of bacteria and other microbes which break down the cellulose. The cellulose of the grass is then digested in caecum, a large sac like structure between the small and the large intestine by symbiotic bacteria. These bacteria are not present in humans and hence they can not digest cellulose.

c. Assimilation - It is the process of building of proteins and other complex substances from absorbed substances.

d. The small intestine receives digestive juices secreted by the liver and pancreas. This juice helps to complete the digestion here.

e. The wind pipe and the food pipe lie close together. But inside the throat the two share a common passage. During the act of swallowing, a flap like structure called epiglottis closes the opening of the wind pipe. This prevents the entry of food into the wind pipe.

Chapter 3

Ans 1. a. Fleece b. c. sericulture d. sheep e. coir

Ans 2. a. (i) b. (i) c. (ii) d. (iv) e. (ii)

Ans 3. a. Scouring - The sheared skin along with the hair is thoroughly washed in tanks to remove dust, dirt and grease. This process is called scouring.

Fuzz - These are small, soft fluffy fibres called fuzz are picked up from the hair.

Carding - This is a process of passing dyed fibres through metal teeth to straighten them.

b. The silk thread gets wrapped around the body of the silk worms to form a ball like structure called cocoon. The silkworm now turns into pupa.

c. Sheared skin now goes through the process of scouring. After scouring hair are sorted out and graded. The wool is now ready to be drawn into fibres.

d. Life cycle of silk Moth

These are four stages - egg, caterpillar (larva), Pupa and adult.

- The female 'silk moth lays about 300-400 eggs. On mulberry leaves.
- Larvas are called caterpillar or silkworm.
- Caterpillars grow in size and become pupa.
- Pupa hold it self by wearing a net around its body to form a ball like structure by swinging its head from side to side. During this movement it secretes protein fluid. This fluid forms a long thread of silk. This thread gets wrapped around the body of the silk worm to form a ball like structure called cocoon. This tuns into Pupa now.

Ans 4. a. F b. T c. F d. F e. T

Ans 5. a. Sheep are herbivores and eat grass and leaves. The wool yielding sheep are given protein rich food such as mixture of corn, pulses, jowar, oil-cakes and minerals. In winters sheep are kept indoors and fed on leaves, grains and dry fodder.

b. Shearing is not painful because it is done by machines. It is done in the hot weather. shearing does not hurt the sheep, just as the hair cut does not hurt us. This is because the uppermost layer of the skin which is shaved off is dead.

c. Silk and wool are animal fibres. We get silk from silk worm. Wool is obtained from sheep, goat, yak, rabbits, etc.

d. We wear woollen clothes in winter because Air is a poor conductor of heat. Air gets trapped in the spaces between the hair and it does not allow the body heat to escape. Thus, woollen clothes keep us warm during the cold weather.

Chapter 4

Ans 1. a.(ii) b.(i) c.(iv) d.(iii) e.(i)

Ans 2. a Activity

Take an iron rod. Fix four drawing pins on it with the help of wax at nearly equal distances. Place the rod between two bricks as shown in the figure. Heat one end of the rod with a candle.

What do you observe?

You will see that the pin nearest to the candle falls down first as the wax melts. After sometime the second pin falls down and this continues.

The above activity shows that heat travels from the hotter to the colder end through conduction.

b. Conduction - It is a process of heat transfer from hotter to the colder end of a solid. Here not particles remain still.

Convection - It is a process of heat transfer in liquids and gases where heat is transfered from the hotter part to the colder part by actual movement of hot particles in it.

Radiation - It is a process of heat transfer the sun to the earth. No medium is required in this process. It can takes place even in vacuum.

c. Precautions while reading a clinical thermometer

- Wash the thermameter with an antiseptic solution before and after the use.
- Hold the thermometer from its top and read the mercury level.
- Ensure the mercury level is below 35°C before use.
- Place the bulb of the thermometer under the tongue for one minute, then read it.
- Read the thermometer keeping the level of mercury along the line of sight.
- Do not hold the bulb while nothing down the temperature.

d. Sea Breeze - In coastal areas, the breeze blows from the sea to the land during day time. This is because during the day, the land gets heated up faster than the water. The air over the land becomes hotter and rises up. The cooler air from the sea moves towards the land to take its place.

Land Breeze - At might, exactly the opposite process takes place. The land cools down faster than the sea water. Therefore, the cool breeze from the land blows towards the sea. This is called land breeze.

e. In summer white and light coloured cotton clothes most of the sun's heat. Dark coloured clothes absorb

most of the sun's heat and hence we feel more comfortable wearingg them in winter.

In winter, we wear woollen clothes because wool is a bad conductor of heat. It allows body's heat to be trapped inside. Moreover the air present in between the wool fibres prevents the flow of our body heat to the surrounding so, we feel warm.

Ans 3 a. F b. T c. T d. T e. T

Ans 4. a. clinical b. 37°C c. thermometer d. solids e. temperature

Ans 5. a. Heat - It is a form of energy which gives us the sensation of warmth.

b. The three modes of heat transfer are -

(i) conduction (ii) convection (iii) radiation

c. Conductors are those substances which allow heat to pass through them. But , insulators are those substances which do not allow heat to pass through them.

d. The capillary of a clinical thermometer have a kind. This kink ensures that mercury in the thermometer does not fall down when it is taken out of the mouth, the temperature can therefore be easily read.

e. We jerk a clinical thermometer before use because with this the level of mercury thread can be brought to right position.

Chapter 5

Ans 1. a (iv) b. (iii) c. (i) d. (i)

Ans 2. a. Concentrative acids are called strong acids whereas dilute acids are called weak acids.

Ans 3. a .F b. T c. F

Ans 4. a. water b. turmeric c. neutralised d. farmers

Ans 5. a. some substances taste sour. They are known as acids.

Some substances taste bitter and soapy. They are known as bases.

b. Window cleans turn red litmus blue so, its nature is basic.

c. Sodium hydroxide+ Hydrochloric acid - Sodium Chloride+ water
(NaOH) (HCl) (NaCl) (H₂O)

d. To test if a given substance is acidic or basic, there are special kind of substances called indicators. They change their colour when added to an acidic or basic solution. Ex.- turmeric, litmus, etc.

Chapter 6

Ans 1. a. Galvanisation b. Saturated c. evaporation d. prevention of rusting e. chemical reaction

Ans 3. a. In chemical change, two or more substances react in such a way that one or more new substances are formed. It is irreversible. New substances with different properties are formed. In this change, a large amount of heat is either evolved or absorbed during a chemical change.

b. When baking soda is mixed with vinegar, bubbles are formed with hissing sound.

vinegar+baking soda - carbon dioxide-other substance

CH₃COOH NaHCO₃ CO₂

Carbon dioxide + Lime water - Calcium Carbonate + water

CO₂ Ca(OH)₂ CaCO₃ H₂O
(milky)

c. Rusting of iron is a common chemical change The essential requirements for rusting of iron are presence of oxygen and moisture.

Ways to prevent rusting

- Applying a coat of grease or paint. They however, need to be applied regularly.

- By Galvanisation.

d. Cutting of potato and frying of potato are considered two separate types of changes. Cutting of potato is considered a physical change because after cutting its chemical properties remain same.

Frying of potato considered a chemical change because after frying its chemical properties get changed.

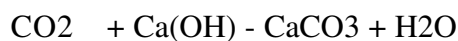
Ans 4. a. physical b. chemical c. rusting d. iron e. solid

Ans 5. a. The basic difference between a physical and chemical change is that physical change is reversible whereas chemical change is irreversible.

b. Two essential requirements for rusting are oxygen and water.

c. Iron gates are painted to prevent rusting on iron gates. Because by painting oxygen and water vapour do not come in contact with iron. So, rusting does not take place.

d. Carbon dioxide + lime water - calcium + water carbonate



(Milky)

e. Crystallisation is the formation of crystals of pure substances from their solutions. It is a physical change.

Chapter 7

Ans 1. a. (iii) b. (iii) c. (i)

Ans 2. a. Weather is the condition of the atmosphere at a particular time and place.

Weather Forecast

It is the prediction of the weather condition for a place over a short period of time. Meteorologists use computer technology and data collected from satellites and earth stations to predict weather.

b. Polar region are always covered with snow. The climate is very cold throughout the year. During winters, temperature is as low as -40°C . Animals living in these regions have adapted themselves to the extreme cold conditions.

c. Penguins spend most of their time in the icy water of Antarctica.

- They huddle together in groups to stay warm.

- Its body is white coloured and merges well with the white background.

- Its feathers are densely packed with no gaps between them.

- They have a lot of fat to protect them from cold.

- They have very small ears which help them retain heat.

- They are good swimmers.

c. Same as above.

d. Adaptations in elephants living in the tropical rain forests.

- Large trunk - It uses its trunk as a nose and has a strong sense of smell. It also uses its trunk for picking up food.

- Tusk - The tusks are modified teeth. They are straight as curved ones get caught in the branches. They can tear the branches of trees and eat them.

- Large ears - It has large ears which help them to hear even the slightest sound. They help it to remain cool in hot and humid weather as it can flap them to create a cooling effect.

Ans 3. a. F b. T c. T

Ans 4. a. (ii) b. (i) c. (iv) d. (iii)

Ans 5. a. The temperatures, wind, speed, humidity, rainfall etc are called elements of weather.

b. The Siberian crane migrates from Russia to India in winters travelling a distance of 4000 miles. These birds migrate to warmer places at the onset of winter season and return after the winter is over.

c. Tropical rain forests are found in Western Ghats and Assam in India.

Chapter 8

Ans 1. a. Monsoon wind b. tornado c. wind speed d. centre of cyclone e. wind

Ans 2. a. (iii) b. (i) c. (ii) d. (i) e. (iv)

Ans 3. a. Take an empty tin. Pour water in till half full and heat it till the water starts boiling. Continue heating

for some more time. Close the lid. Allow it to cool under tap water in a sink or keep it in a shallow basin and pour cold water over it.

What do you observe?

You will notice that the container gets deformed. Why does the tin gets deformed? This is because when the can is heated, steam is produced which drives out the air from the container. When water is poured over the can, some steam in the can condenses into water and this reduces the amount of air inside. The air from outside exerts more pressure than that exerted from inside the can. As a result, the can is deformed.

CYCLONES

Cyclones are a world wide phenomenon. Cyclone is a storm which develops on the sea and has high speed winds swirling around a low pressure centre called the eye of the storm. The high speed winds revolve in anti-clockwise direction in Northern Hemisphere and in clockwise direction in Southern Hemisphere.

b. The moist air over the seas and oceans gets heated up by sunrays. The warm air carrying moisture rises up. This creates a low pressure area. The warm air condenses as it rises up to form clouds. The heat released due to condensation of water vapour warms the air around. The air tends to rise and causes a drop in pressure. More air rushes to the centre of the storm. This cycle is repeated, resulting in a system of low pressure region with high-speed winds revolving around it. This weather conditions is referred to as cyclone.

c. USE OF ADVANCED TECHNOLOGY

These days due to better technology we are better protect from cyclones than earlier days. These days meteorologists are able to predict storms and cyclones on the basis of pictures taken by weather satellites and radars. In case of a developing cyclone, a cyclone alert or cyclone watch is issued 48 hours in advance of the expected storm. A cyclone warning is issued 24 hours in advance. This message is broadcast every half an hour to create awareness among the people when a cyclone is near the coast.

d. ACTIVITY

Take two identical balloons. Fill them with little water and the rest with air. Tie them up with a string. Hang the two balloons on a stick or a rod about 10 cms apart. Now blow hard in the space between the two balloons. What do you observe?

The balloons move closer to each other rather than away from each other. This is because when you blow air between the two balloons, the air speed increases reducing the air pressure between the two balloons. The air pressure outside the two balloons was higher, which pushes the balloons towards each other.

Ans 4. a. F b. T c. F d. F

Ans 5. a. When we row a boat in the direction opposite to that of wind, we have to put opposite to that of wind, we have to put an extra effort because moving air has a pressure and to face this air pressure we have to put an extra effort.

b. Factors responsible for generation of wind.

- Uneven heating of the earth surface between the equator and the poles.
- Uneven heating of land and water.

c. Uneven heating of land and water - During summer, the land near equator, warms up faster than the water and it rises up. This causes the winds from the ocean to flow towards the land. The wind coming from the ocean contains moisture and brings rain. These are monsoon winds.

In winters direction reverses and wind flows from the land to the ocean.

d. The temperature plays an important role in the formation of wind. When temperature increased air goes up and cold air comes at this place.

e. The roofs of buildings which are not fixed properly blown off at times. It is due to air pressure. High speed

winds are accompanied by reduced air pressure due to which roofs of buildings blown away.

Chapter 9

Ans 1. a (ii) b. (i) c. (iii) d. (i) e. (iii)

2. a. Components of soil - sand, silt, clay and humus.

b. The formation of soil is a very slow process. It takes thousands of years to form a layer of soil. Soil is formed by breaking down of rocks caused by the action of wind, water and climate. This process is called weathering.

c. Soil is important for plants because the properties of soil vary from place to place. In some places, there is sandy soil, in other places clayey soil, while in some other loamy soil. Different crops are grown in different types of soil. A particular type of crop is grown in a particular type of soil.

d. Three factors responsible for soil erosion-

- Deforestation
- Over grazing in forests
- Floods and heavy rains

e. Sandy soil is not good for growing crops because -

- It does not retain water.
- It has very small amounts of silt and clay particles.
- It is highly porous
- It is dry, well aerated and light.

Ans 3. a. soil b. things c. A- horizon d. loamy soil e. moisture

Ans 4. a (ii) b. (iii) c. (i) d. (v) e. (iv)

Ans 5. a. Loamy soil is good for growing crops because it is a mixture of sand, silt and clay silt is a deposit in river beds. Loamy soil has the right water holding capacity and has enough space for air. It also contains humus.

b. Sandy Soil

Clayey Soil

Loamy Soil

(i) Has large amount of sand particles and very less amount of silt and clay particles.

(i) Has mainly clay particles and small amount of humus and silt.

(i) mixture of sand clay and silt.

(ii) Water retention is poor.

(ii) more water retention

(ii) right water retention

(iii) Lot of space between the particles.

(iii) very less space between particles.

(iii) right space between the particles.

c. Soil and crops

The properties of soil differ from place to place. Different types of soil are found in India. Somewhere it is sandy or clayey and at some places, it is loamy soil. That is why different crops are found at different places.

- Loamy and clayey soil are used for growing wheat and gram.

- Paddy is grown in clayey soil.

- Cotton is grown in sandy-loam soil.

- Sugar cane can be grown in all types of soil. So, there is very close relation between soil and crops.

d. Clayey soil is used for making pots because this soil has a good water retaining property.

e. Sandy soil is well aerated because its soil is highly porous due to the large size of its particles. There is lot of space between the particles which is filled with air. So, this type of soil is well aerated.

Chapter 10

Ans 1. a (i) b. (iii) c. (i) d. (iii) e. (ii)

Ans 2. a. When we breathe in, the air enters our nose through the nostrils. The air we breathe in may contain dust particles. At times, these particles may get past the hair present in nasal cavity. They then irritate the nasal cavity and we sneeze. Sneezing throws out these foreign particles from the air inhaled.

b. Athletes suffer from cramps because they perform heavy and vigorous exercise and the demand of energy increases but the supply of oxygen is limited due to anaerobically.

The lactic acid such produced accumulates in the muscles which causes muscle cramps. We get relief from cramps by hot water bath or massage.

c. All living things need energy to do work. All living organisms are made up of a number of cells. Each cell performs various functions of life such as nutrition, excretion and transportation. To perform these functions we need energy. This energy we get from the food we eat.

d. The process of taking in air rich in oxygen and giving out air rich in carbon dioxide is called respiration or breathing. The process of taking in air rich in oxygen is called inhalation and the process giving out air rich in carbon dioxide is called exhalation.

The number of times a person breathes in one minute is called the breathing rate. The breathing rate of a normal individual at rest is 15-18 times per minutes.

e. The human respiratory system consists of the following :

Nostrils . Nasal cavity . Trachea . Bronchi and . Lungs

When we breathe in, the air enters our nose through the nostrils. From the nasal cavity the air reaches the lungs through the trachea (wind pipe) and bronchi (singular bronchus). One bronchus enters each lung.

Ans 3. a. F b. T c. T d. F e. T

Ans 4. a (v) b. (iii) c. (ii) d. (iv) e. (i)

Ans 5. a. In aerobic respiration oxygen is required whereas in anaerobic respiration oxygen is not required.

b. The end products of respiration are - Energy, carbon dioxide and water.

c. When we do physical exercise more energy is required. We take oxygen through respiration. To fulfill the requirement of oxygen used up while doing exercise we need more oxygen. So, we breathe quickly to get more oxygen. Physical exercise.

d. Names of respiratory system (organs)

Nostrils, Nasal cavity, Trachea, Bronchi and lungs.

Chapter 11

Ans 1. a (ii) b. (i) c. (i)

Ans 2. a. Blood composed of the following - Plasma, Red Blood cells, white Blood cells and Platelets.

b. There are three types of blood vessels -

(i) Arteries (ii) Veins (iii) Capillaries

Arteries are the blood vessels that carry blood from the heart to all parts of the body. The blood present in arteries is rich in oxygen. Whereas veins are the blood vessels that carry blood from the various part of the body to the heart. The blood present in veins is rich in carbon dioxide. This is deoxygenated blood.

c. Heart pumps blood rich in oxygen to various parts of our body and brings back blood rich in carbon dioxide to purify it and again pumps it to various parts of the body. It works nonstop.

d. Transpiration - Not all the water absorbed by the plant is used up. The excess water is given out by the plants in the form of water vapour through the stomata present in the leaves. This process is called transpiration.

Transpiration helps to keep the plants cool and provides rigidity to the plant body.

e. Water is absorbed from the soil through roots. The root has many hair called root hair which increase the surface area of absorption of water and minerals dissolved in water. The root hair absorb water present in between the soil nutrients move through xylem to all the parts of a plant.

Ans 3. a. F b. F c. T d. F e. F

Ans 4. a. Components of Blood - Plasma, Red Blood cells, White Blood cells and Platelets.

b. There are valves present in the veins which prevent back flow of blood. Blood thus, flows towards the heart only.

c. All living organisms need food, water and oxygen for survival. The materials produced in one part of the

body need to be transported to various other parts of the body. Thus, process of transport of substances is very important in a living body. All the necessary substances go to all the parts of the body through blood.

Excretion - The process of removing toxic wastes from the body is called excretion.

2. Importance of Transportation - In living organisms the process of transportation is very important because it transport food, water and oxygen to all the parts of the body, similary, the wastes produced within the body, need to be tranported to parts from where they can be removed from the body.

Chapter 12

Ans 1. a (ii) b. (iii) c. (i) d. (iii) e. (iii)

Ans 2. a. Advantages of Asexual Reproduction

- Plants take less time to grow. They bear flowers and fruits earlier than those product from seeds.
- New plant obtained is identical to the parent plant.
- Only one parent is required.
- Seedless plants can be obtained.

b. Bread mould reproduced asexually through spores. Five thread like structures called hyphae and spherical structures are called sporangia. The soporangia are filled with spores. The spores are asexual reproduction bodies having a thick protective wall. When the sporangia is ripe, it bursts open and spares are released.

c. DISPERSAL OF SEED

You must have wondered how the same kinds of plants are found in different places. This is possible because of seed dispersal. The process by which seeds are scattered to different places is known as seed dispersal. If the seeds of all the plant were to fall at the same place and grown, there would be hundreds of new plants growing close together. They would compete with each other for light, water, and minerals. Many would not be able to survive the tough competition and would die. Seed dispersal prevents this over crowding and helps plants to incade new habitats.

Seed dispersal is carried out by agents such as wind, water and animals.

(a) Wind : Seeds of some plants like grass are very light, winged seeds such as those of drumstick and maple, hairy seeds of madar and sunflower, are blown by the wind to far off places.

(b) Water : Seeds and fruits of some plants have structures which enable them to float in water. Fruits likes water lily, coconut or palm float in water. They are able to float because of a spongy or fibrous outer coat.

Animals

Some seeds and fruits have hooks, barbs, spines, or bristles which stick on skin of animals or clthes of humans and are carried to far off places. Examples are xanthium, tribulus and urena.

Explosion

In some plants like balsam, castor seeds, peas and bean plant, the fruit burst with a sudden jerk and the seeds are scattered to far off places.

Zygote. The process of fusion of male and female gamete to form a zygote is called fertilisation.

c. Methods of Asexual Reproduction

- Budding
- Fragmentation
- Spore formation
- Vegetatvie propagation

d. Steps involved in sexual reproduction

- Pollinaton
- Fertilisation
- Formation of sees
- Formation of Fruits
- Germination of seed

e. In asexual reproduction, only a single parents is involved and plants give rise to new plants without seeds or spores. Whereas in sexual reproduction seeds are required to have new plant.

Chapter 13

Ans 1. a (ii) b. (i) c. (iv)

Ans 2. a. When a body covers equal distances in equal intervals of time, it is said to be unifrom motion, whereas, if the object moving in a straigtht line keeps changing its speed, it is said to be in non-uniform motion.

Examples - Hand of a clock - uniform motion

A bus running on road - non-uniform motion

Flower is the reproductive part of a plant. Stamens male reproductive parts and pistil is the female reproductive part.

d. In plants, the male and female floweres may be present in the same plant or in different plants.

Stamen bears anther and filament. Anther contains pollen grains. The pollen grains produce the male gametes.

Pistil

Consists of stigma, style and ovary. The ovary contains one or more ovules. The ovules contains the female gamete or egg.

e. Pollination - The transfer of pollen grains from the anther of the stamen to the stigma of the pistil by air, water, insects etc. is called pollination.

Different between self pollination and cross pollination

If a pollen lands on stigma of the same flower it is self pollination whreras if pollen of a flower lands on the stigma of another flower of the same plant or that of differnent plant of the same kind. it is cross pollination.

Ans 3. a. F b. T c. T d. T e. F

Ans 4. a. Parent b. Fragmentation c. Filament d. reproduce e. two

Ans 5. a. Agents of seed Dispersal

(i) Wind (ii) Water (iii) Animals (iv) Explosion

b. Fertilisation - After pollination, male gameta unites with a female gamele to form a can determine the speed by distance - Time graph as such -

- Draw two perpendicular lines. They represent the two axes, mark them as ox and oy.

- Represent time along the x-axis and distnace along the y-axis.

- Next decide on the scale to represent time and distance

distance 1cm = 1 km

Time 1 cm = 1 min.

Distance time graph

- Plot the values of time and corresponding value of distance.

- In the graph, the set of points corresponding to possition other car at various times are shown.

- Join all the points on the graph. It is a straight line the graph is called a distance time graph.

c. SIMPLE PENDULUM

A simple pendulum consists of a smlall metallic ball (or a stone) called a bob suspended from a rigid stand by a thread.

Figure shows the pendulum in the rest position. This position is also called its mean position. When the bob of the pendulum is pulled to aside and release, it begins to move to and for at fixed intervals. This back and forth motion of a simple pendulum is and example of periodic or oscillatory motion.

When the bob moves from one position and returns to the same position, it is said to complete one oscillation. The path of oscillation could be (i) between two extreme positions i.e. from a A to B and back to A or (ii) Star from the mean position O, moves to A, to B, and back to O.

The time taken by the pendulum to complete one oscillation is called its time period.

Ans 3. a. F b. F c. T

Ans 4. a. Average speed of a person is the distance covered by him divided by the time taken to cover the distance.

b. When a motion of an object occurs after a fixed time period, it is called periodic motion, such as time period between two sundays, time period between sun set to sun rise.

c. Parts of a simple Pendulam - A simple pendulum consists of a small metallic ball called a bob suspended from a rigid stand by a thread.

Chapter 14

Ans 1. a (iii) b. (i) c. (iv)

Ans 2. a. The electric bell is based on the magnetic effect of electric field. An electric bell has an electromagnet that pulls a strip of iron that makes the hammer to hit the gong to ring the bell.

The bell has two soft iron rods. The connecting wire is wound on the rods like a coil. The coil acts as an electromagnet. The iron strip is connected to a hammer at one end. The other end of the wire is connected to a contact screw through a switch. When the iron strip is in contact with the screw, the current flows through the coil, which becomes an electromagnet. It attracts the hammer towards it. The hammer strikes the bell to produce a sound.

Heating Effect of Electric Current

When an electric current flows through a wire, a part of the electric energy is converted into heat energy and the wire gets heated. This is called heating effect of electric current. Like electric iron, hot plate, toaster, electric kettle, geyser and electric oven.

c. The strength of the magnetic field can be enhanced by using a battery instead of a cell. The electromagnet works only when the current is flowing through it. The strength of the electromagnet depends upon - (i) the amount of electric current passing (ii) the number of turns of a coil.

Ans 3. a. T b. F c. T

Ans 4. a. electric b. strip c. single

Ans 5. a. components of an electric circuit - Battery or cell, switch and bulb.

b. Effects of electric current - (i) Heating effect (ii) Magnetic effect.

c. Fuse - Electric fuse is a safety device that protects the electric appliances from damage and prevents fire. These are wires made of some special material which melt quickly and break when large electric currents are passed through them.

Chapter 15

Ans 1. a (iv) b. (iii) c. (ii)

b. Concave Mirror - A spherical mirror that is curved downward on front side

Convex Mirror - A spherical mirror that bulges outside on the front surface.

Plane Mirror - A simple mirror that has a plain surface.

b. It is seen that images formed on a plane mirror interchange sides only. However, the image does not appear upside down. This interchange of sides left to right and vice-versa between the objects and its image called lateral inversion.

Now, we will be able to understand why AMBULANCE is written in an inverted manner on the Ambulance van. When the driver of a vehicle in front of the van looks in the rear-view mirror of his vehicle, he will read it as AMBULANCE. He then allows the ambulance to go ahead by making way for it.

Ans 3. a. F b. F c. T d. F

Ans 4. a. Plane mirror produces virtual, upright and same size image that of the object.

b. It is seen that images formed on a plane mirror interchange sides only. However, the image does not appear upside down. This interchange of sides left to right and vice versa between the object and its image called lateral inversion.

Real image is an image that can be formed on a screen, whereas a virtual image is an image that cannot be formed on a screen.

d. Uses of convex mirrors

- Used as rear view or side view mirrors in cars and scooters.
- These mirrors help the driver to see the traffic coming from behind.

Uses of concave mirrors

- Used in head lights of cars, torches, scooters lights.
- Used by doctors for examining eyes, ears, nose and throat.

Chapter 16

Ans 1. a.(iii) b.(i) c.(iv)

Ans 2. a. Causes of depletion of water table

- Increase in population
- Industrial and agricultural activities being increased
- Poor rainfall
- Deforestation and decrease in the area for seepage of water.

b. We should use rain water to recharge the ground water, instead of allowing it to flow away. This is known as rain water harvesting.

c. Plants are living things. All living things need water for survival. So, water is very essential for plants. Plants cannot prepare their food in absence of water. Thus, they will die.

Ans 3. a. F b. F c. F

Ans 4. a. water b. vapour c. work

Ans 5. a. Three states of water are - solid, liquid and gas.

b. At places the ground water gets collected between the layers of hard rocks below the water table. Such huge reservoir of water is called aquifer. The water present in the aquifer is pumped out with the help of tube wells and hand pumps.

c. Sea water is not fit for human consumption. It is so because sea water contains many impurities dissolved in it. Many water living organisms live in sea water. They excrete in the water only.

VIII Sci Science 8

Chapter 1

Ans 1. a. (iii) b. (ii) c. (i) d. (i) e. (ii)

Ans 2. a. Ploughing is done to loosening and turning of the soil of the field. This helps to fix the plant firmly in the soil. Levelling is the process of making the soil surface even and smooth, Levelling prevents soil erosion and helps in uniform irrigation of the field.

b. Difference Between Manure and Fertilizers

S.No	Manure	Fertilizers
1.	It is an organic substance. It is a natural	It is an organic salt.
2.	It can be prepared in fields.	substance obtained from plant and animal waste.
3.	It increases the humus content of the soil.	It is prepared in factories.
4.	It is not very rich in plant nutrients.	Does not increase the humus content of the soil.
		It is very rich in plant nutrients.

c. Seeds can be sowed in different ways :

(i) Manual Sowing - In this process seeds are sowed by hand.

(ii) Using a seed drill

(iii) Sowing seeds by transplantation - seeds of plants like paddy, chilly, tomato, brinjal are first sown in nurseries and then transferred into the fields manually.

d. The first step to prepare soil before sowing seeds includes tilling ploughing. Ploughing is done by a tool called a plough. After ploughing, the levelling is done in the field. It makes the soil surface even and smooth. Now, field is ready to be sown.

e. Weeding is the process of removing weeds from the fields. Tilling before sowing seeds helps in uprooting and killing weeds. They dry up and mixed with the soil.

Weeds are also controlled with the help of chemicals called weedicides. Weedicides destroy the weeds without affecting the crops. Weedicides are diluted with water and sprayed on the plants by water sprays.

Ans 3. a. F b. F c. F d. T e. F

Ans 4. a. (ii) b. (i) c. (v) d. (iv) e. (iii)

Ans 5. a. Rabi crops - wheat, barley

Kharif crops - Rice, Maize.

b. The supply of water to crops at regular intervals is called irrigation.

- sprinkler method of irrigation.

- Drip system of irrigation.

c. Precautions before sowing seeds

- Seeds should be of good quality.

- Seeds should be sown at a proper depth, neither too deep nor too shallow.

- Seeds must be sown at a proper distance from each other to avoid over crowding.

d. Seeds of certain plants like paddy, chilly etc are not sown directly into the field. They are first sown in nurseries and then transferred into the field manually, when the seeds are four to six weeks old. This is known as transplantation.

Advantages of Transplantation

- To select healthy seedlings and space them properly.

- To ensure that wastage of space is avoided.

e. Undesirable plants that grow along with the crop are called weeds. The process of removing weeds from the field is known as weeding.

Ways of removing weeds.

- Tilling before sowing seeds helps in uprooting and killing weeds.

- Weeds are also controlled with the help of chemicals called weedicides.

Chapter 2

Ans 1. a.(ii) b.(ii) c.(iii) d.(i) e.(iv)

Ans 2. a. Housefly, Female Aedes Mosquito

b. Tuberculosis

c. Apple scab - It is common plant disease caused by microorganisms in the plant of apple. Mode of transmission is air.

d. Jam, squashes.

Ans 3. a. Friendly Microorganisms -

Microorganisms are used :

- In the preparing curd, bread, cake, etc.

- In the cleaning of the environment by decomposing organic matter into harmless and useful substances by some bacteria.

- In the preparation of some medicines.

- In agriculture, for improving the soil fertility by fixing nitrogen from the atmosphere.

b. When a disease-causing microbe enters our body, produces antibodies. These antibodies fight and destroy the disease causing microbe and remain in the body to fight future infection by the same microbe. Like this a vaccine produces immunity against a disease.

c. Curd contains a number of microorganisms. The bacterium Lactobacillus present in curd converts milk into curd. It multiplies in milk and converts it into curd. The production of cheese and paneer also make use of bacteria like lactobacillus and streptococcus.

d. The process of preventing the spoilage of food items by the action of microbes using physical or chemical methods is called food preservation.

- Heat and Cold Treatment - Boiling kills many microorganisms. Milk and water are thus boiled to kill harmful microbes that may be present in them. We also keep food in the refrigerator as microbes can not thrive at low temperatures.

- Dehydration - The removal of water from fruits and vegetables is called dehydration. Removal of water slows down the growth of microorganisms. Hence, food items like pulses and cereals are dried in the sun to remove the moisture before storing.

- By using oil and vinegar - Oil and vinegar are used to preserve pickles as bacteria are not able to live in such an environment. Vegetables, fruits, meat and fish are preserved by this method.

- By vacuum Packaging - You must have seen packets of snacks like wafers, kurkure, etc. in sealed airtight packaging. The air from these packets has been removed by evacuation and flushed with oxygen-free nitrogen.

- By Using salt and sugar - Jam, Jellies and squashes are preserved by sugar. High concentration of sugar slows down the bacterial growth and prevents food spoilage.

e. Nitrogen comprises about 78% of the atmosphere. It is required by all living organisms. The atmospheric nitrogen has to be first converted into nitrogenous compounds before it can be utilised by plants and animals. This is done by the bacteria and blue green algae present in the soil.

Nitrogen compounds are then taken up by roots of plants and used for the synthesis of plant proteins. Animals obtain nitrogen by feeding on plants. When plants and animals die the bacteria and fungi present in the soil convert the nitrogenous waste into nitrogenous compounds. Some denitrifying bacteria convert part of them into free nitrogen gas. This nitrogen escapes into the atmosphere.

Ans 4. a. F b. T c. F d. F e. T

Ans 5. a. Microorganisms are divided into two major groups :

- friendly microorganisms

- Harmful microorganisms

b. Harmful effects of microorganisms

- cholera

- Typhoid

c. Antibiotics are medicines which are prepared by using some bacteria and fungi. These medicines kill or stop the growth of disease causing microbes.

d. A blue green algal help in increasing the fertility of soil. For this purpose, blue green algae fix the nitrogen present in the air as nitrogen compounds in the soil, there by increasing the fertility of the soil.

e. Many bacteria and fungi spoil food like milk, meat, fruits and vegetables. These micro-organisms sometimes produce toxic substances on the food they grow on, making it unfit for human consumption. If was eat such food, we suffer from sever vomiting and diarrhoea. This illness is called food poisoning.

Chapter 3

Ans 1. a. (ii) b. (i) c. (ii) d. (i) e. (ii) f. (i)

Ans 2. a. Advantages of Synthetic Fibres

- They do not shrink.

- They do not wrinkle easily.

- They dry quickly, requiring little ironing.

- They are more durable and less expensive.

- The are readily available and easy to maintain.

Disadvantages of Synthetic Fibres

- They are uncomfortable in hot and humid weather as they do not absorb sweat.

- They catch fire easily.

- They require carful ironing as they melt easily.

- They are non biodegradable.

b. Properties of Plastics

- Plastic is non-reactive.

- Plastics are light weight

- Plastics are strong and durable.

- Plastics are poor conductors of heat and electricity.

c. It is said 'No' to plastic because there are many environmental and health hazards assoicated with plastics. Most of the household waste like peels of fruits and vegetables, left over food, paper , cloth, dry leaves and flowers are biodegradable, means they get decomposed through natural processes such as action by bactreria. Substances which do not decompose by natural processes are called non-biodegradable So, say 'No' to plastics.

d. Thermosets Plastics - These Plastics are hard and do not melt on heating. They can be shaped only once.

Theromoplastics - They are not very hard and can be softened on heating. They can be shaped again and again. They can be recycled.

e. The damage to the enivronment by plastics can be minimised by the suggestions given below :

- Do not accept plastic bags for shopping, instead use cotton, jute or reusable cloth bags.

- Do not through plastic waste at road side or in water bodies.

- Use separate bins to dispose biodegradable and non-biodegradable waste at homes and schools.

- Recycle plastic waste.

- Use the 4 R formula (i) Reduce (ii) Reuse (iii) Recycle, (iv) Recover.

Ans 4. a. Polymers b. rayon c. nylon d. terylone e. wonder

Ans 5. a. Synthetic Fibres are man-made fibres which are obtained by chemical procesing of petrochemicals.

Rayon, nylon, polyester are some examples of it.

b. Synthetic fibres consist of long chains of small molecules. The tiny chain link molecules are called polemers.

A polymer may consist of thousands of smaller units called monomers.

c. Nylon is the strongest among all fibres, hence it is also used to make parachutes and ropes for rock climbing. It is also used for making strings of badminton and tennis racquets.

d. Disadvantages of Synthetic Fabrics

- Synthetic clothes are not comfortable in hot and humid weather as they do not absorb sweat.
- They catch fire easily.
- They require careful ironing as they melt easily.
- They are non-biodegradable.

e. One should not wear nylon clothes when working in a kitchen because nylon clothes catch fire easily.

Chapter 4

Ans 1. a. Sodium b. Phosphorous c. No d. Uses of aluminium - Utensiles, cable
Uses of graphite - Pencils, Batteries.

Ans 2. a (iv) b. (ii) c. (iv) d. (i) e. (ii)

Ans 3. a. Difference between Metals and Non-metals

S.No.	Metal	Non-metal
1.	Malleability is found	Malleability is not found.
2.	Good conductor of heat electricity	Bad Conductor
3.	Generally found hard	Generally found soft
4.	Ductility is there	They are brittle.
5.	They are sonorous.	Non sonorous
6.	They are lustrous	Not lustrous

Ans 3. b. Reaction of Metal with oxygen

Metal+Oxygen - Metal oxide

Activity - Rust is formed due to reaction between iron, oxygen and water. Dissolve a teaspoon of rust in water. Rust remains suspended in water. Shake the test tube well.

The metallic oxides formed are basic in nature and turn red litmus solution green.

Reaction of Non-metal with oxygen

Non-metal + oxygen - Non metallic oxide

Activity - Take a little quantity of sulphur in a deflagrating spoon and heat it. When the sulphur starts burning lower the spoon into a gas jar. Cover the mouth of the tumbler with a plate so that the gas produced does not escape. Remove the spoon after sometime. Add about 20ml water into the jar and close the cover at once. Shake well. Test the solution with both red and blue litmus paper.

Sulphur burns in oxygen to form sulphur dioxide.



When sulphur dioxide dissolved in water, sulphurous acid is formed which turns blue litmus red.



Oxides of non-metals are acidic in nature.

c. (i) copper can not displace zinc from its salt solution.

(ii) Immersion rods are made of metallic substances because the electrons are loose in the atoms of metal. So they form cations.

(iii) Phosphorous is stored under water because phosphorous is a very reactive non-metal. It easily catches fire when exposed to air, hence it is stored in water to prevent its contact with atmospheric oxygen.

d. Reaction with water

Metals react with water under different conditions. However, most metals produce a metal hydroxide or metal oxide and hydrogen gas.

Generally non-metals do not react with water, though they may be reaction in air. Phosphorous is a very

reactive non-metal.

Reaction with acids

Metals react with an acid to form a salt and hydrogen gas is produced. Non-metals react with selected acids but do not produce hydrogen gas.

Reaction with bases

Metals react with bases. The reaction of non-metals are complex.

e. Uses of Metals - Metals are used in making machinery, automobiles, trains, aeroplanes, furniture, industrial gadgets, cooking utensils, jewellery, etc.

Uses of Non-metals - Non-metals are used in fireworks industry, match sticks, fertilizers, in pencils, batteries, making antiseptic, for bleaching, purifying water, respiration and combustion, gun powder, sulphuric acid, as a fuel, for synthesis of ammonia and methyl alcohol, etc.

Ans 4. a. T b. F c. T d. T e. F

Ans 5. a. Sodium and potassium react with oxygen very fast even at room temperature. Hence it is stored in kerosene oil.

b. When sulphur reacts with oxygen sulphur dioxide is formed.

c. In displacement reaction, a more reactive metal replaces a less reactive metal from its compound. However vice versa is not possible i.e. a less reactive metal.

d. Copper vessels turn green with the passage of time. This occurs due to formation of a mixture of copper hydroxide and copper carbonate on copper vessels.

$$2\text{Cu} + \text{H}_2\text{O} + \text{CO}_2 + \text{O}_2 \xrightarrow{\text{moisture}} \text{Cu}(\text{OH})_2 + \text{CuCO}_3$$

e. Metals are used for making metal cables because metals are generally good conductors of heat and electricity. They are good conductors.

Chapter 5

Ans 1. a. (iii) b. (i) c. (i) d. (i)

Ans 2. a. The process of formation of coal is called carbonisation. About three hundred millions of years ago there were dense forests in the low lying wetland areas. Due to various natural processes, the trees died and were buried under the soil. They were covered with more soil and were compressed. They got buried deeper and deeper into the soil. Anaerobic thermal degradation of the cellulosic material of trees took place due to high temperature and under pressure and they were slowly converted to coal.

b. Harmful effects of burning fuels - Pollution in environment and global warming.

Tips to conserve petrol

- Drive at constant and moderate speed.
- Switch off engine at traffic light.
- Maintain correct air pressure in the tires.
- Get your vehicle serviced regularly.
- Use good quality petrol and engine oil.

c. Uses of LPG and CNG gas

- It is used for the generation of electricity.
- This gas is stored under high pressure as compared to natural gas. It is less polluting.
- LPG can be used as fuel directly in homes and factories.
- It is used to produce hydrogen and ammonia. Ammonia in turn is used to manufacture urea.
- As a raw material for manufacturing a number of chemicals and fertilisers.

d. Petroleum is formed from the remains of tiny organisms living in the sea, that died millions of years ago. The marine organisms died and their bodies sank to the bottom of the sea. Gradually, they got covered with sand and clay. Enormous heat and pressure and absence of air over a million of years, transformed the dead organisms into

petroleum and natural gas.

e. Fossil fuels are natural fuels which are exhaustible. They can not be renewed through a rapid cycle. It takes millions of years for the dead organisms to get converted into fossil fuels. Due to excessive use of fossil fuels, the reserves of petroleum, natural gas and coal will last very soon. And without fossil fuels it will not be possible to survive.

Ans 3. a. T b. T c. F d. F e. F

Ans 4. a (v) b. (i) c. (ii) d. (iii) e. (iv)

Ans 5. a. The process of formation of coal is called carbonisation.

b. Exhaustible natural resources - coal, water, petroleum.

Non-exhaustible natural resources - sunlight and wind.

c. There are four varieties of coal are -

(i) Peat (ii) Lignite (iii) Bituminous (iv) Anthracite

d. Coal Gas - It is a gaseous product obtained during the manufacture of coke, It consists mainly of hydrogen, methane and carbon monoxide. It is an excellent gaseous fuel.

e. Constituents of petroleum which are not used as fuel - Lubricating oil and paraffin wax.

Chapter 6

Ans 1. a (iii) b. (i) c. (i) d. (ii) e. (iii)

Ans 2. a. Carbon dioxide being heavier than oxygen envelops the fire and cuts off the supply of oxygen. The fire thus extinguishes in absence of the supporter of combustion. Generally carbon dioxide does not harm the electrical appliances.

b. A good fuel is one-

- That is easily available and cheap.
- That burns easily in air at a moderate rate.
- That produces a large amount of heat.
- That does not produce any poisonous and irritating fumes during burning
- That leaves no ash on burning.
- Whose ignition temperature is above room temperature.

Note - There is no fuel which can be considered an ideal fuel.

c. Zones of candle Flame

A candle's flame has three different coloured zones, depending on the amount of oxygen available.

- Outermost Non-Luminous

Zone (blue) - This is the hottest part of the flame. This zone emits very little light. In this zone, wax undergoes complete combustion because there is plenty of oxygen around it.

- Middle zone - This zone is bright, yellow and luminous. It is less hot than outer zone. Here, there is incomplete combustion of water vapour due to low oxygen. Carbon particles are produced. This zone emits the most light. This is the dark zone.

- The Inner Zone - This is the dark zone. It is the coolest part of the flame. Since oxygen is not available in this zone, no combustion takes place here. The zone is dark and emits no light.

d. Hazards of Burning Fuels

- Solid fuel leaves behind ash, which if not disposed of properly can cause air and water pollution.

- Carbon containing fuels like wood, coal, petroleum when burnt release unburnt carbon particles. These fine pollutants cause air pollution leading to respiratory diseases and asthma.

e. Yes, it is possible to boil water in a paper cup without the paper catching fire -

Activity

- Take two paper cups.
- Pour some water in one of the cups.

- Hold the two cups separately over two candle flames.
- The empty paper cup catches fire and starts burning.
- The cup containing water does not catch fire. The water in it becomes hot. You can even boil water in it. if heating is continued.

Ans 3. a. T b. F c. F d. F e. T

Ans 4. a (vi) b. (ii) c. (iv) d. (i) e. (v) f (iii)

Ans 5. a. Kerosene will catch fire first because the calorific value of kerosene is more than coal. That is 45000 KJ/Kg the calorific value of coal is 25000-33000 KJ/Kg.

b. Air is necessary for combustion. Ignition temperature is also necessary for combustion.

c. Explosion - It is a type of combustion where heat, light and sound are produced accompanied by the liberation of a large amount of gas. Bursting of fireworks is an example for it.

d. Water should not be used for extinguishing electric fire as water is a good conductor of electricity.

e. Combustible substances - Substances that burn easily are called combustible substances such as paper, clothes, etc.

Non-combustible substances - Substances that do not burn easily are called non-combustible substances, such as sand and water.

Chapter 7

Ans 1. a (ii) b. (ii) c. (i) d. (ii) e. (iv)

Ans 2. a. Deforestation increase air and soil Pollution and temperature increased in the atmosphere. This will lead to lower amount of water vapour in the atmosphere. This makes the atmosphere drier and leads to reduced rainfall.

b. We need to conserve forest and wildlife as they are a valuable treasure. the preservation and careful management of plant and animal species is called conservation. They are an important part of our biosphere where living organisms exist or which support life.

c. Deforestation causes desertification because roots of trees bind the soil particles together. Due to deforestation soil erosion can take place due to wind and moving air water. Loss of top soil will reduce the fertility of the soil as it is rich in humus and nutrients. Removal of top layer of the soil exposes the lower hard and rocky layers and over a period of time, fertile soil gets converted into a desert. It is called desertification.

d. As we know, paper is the most throw away material. Paper is made from trees. We should this will help us in saving many trees in a year. This way the amount of harmful chemicals used in paper making will also be reduced.

e. Wild life sanctuary - These are protected areas set up to prevent extinction of animals. They provide protection and suitable living conditions to wild animals. Killing of animals or capturing of animals is strictly prohibited in these areas. Some are as below :

1. Bharatpur Bird Sanctuary - Rajasthan

2. Khaziranga - Assam

3. Gir - Gujarat

Ans 3. a. T b. F c. T d. T e. T

Ans 4. a. Planet b. Biosphere c. Flora d. 400 e. 80

Ans 5. a. We should conserve biodiversity because it is closely related to forest and wild life. Forest and wild life are valuable treasure on the earth. Our life depends on forest in several ways. Biosphere is that part of the earth in which living organisms exist or which support life. The variability of species in different habitats, the diversity of microorganisms, plants and animals is called biodiversity. So, we should conserve biodiversity.

b. The large number of plants living in a particular area are called the flora of a place. The large number of animals living in a particular area are called fauna of a place.

c. Killing of animals or capturing of animals is strictly prohibited in wildlife sanctuaries.

d. Causes of deforestation

- Increases In population
- Overgrazing by cattle and increase in mining activities.

e. Various protected areas have been established to protect the flora and fauna and their natural habitats. These protected areas are called sanctuaries, national parks and biosphere reserves. They were established under the Wild Life Protection Act (1972).

Chapter 8.

Ans 1. a. (i) b. (i) c. (ii) d. (ii) e. (iv)

Ans 2. a. Plant Cell

Animal Cell

- | | |
|----------------------------------|--|
| 1. Cell wall present. | 1. Cell wall absent. |
| 2. Cell membrane present. | 2. Cell membrane present. |
| 3. Central vacuole present. | 3. Large number of vacuoles smaller in size are present. |
| 4. Plastids are usually present. | 4. Plastids are absent. |
| 5. Lysosomes are absent. | 5. Lysosomes are present |
| 6. Centrosomes are absent. | 6. Centrosomes are present. |

b. Some cells are microscopic and can not be seen with a naked eyes. The cell size may vary from a millionth of a metre to a few centimetres. The largest cell is the egg of an ostrich which is 17cm in diameter. The hen egg is also a cell. There is no relation between cell size and organism size. The smallest cell is that of a bacteria which is 0.1 to 0.5 micrometre. The size of a cell is related to its function. The nerve cells are the longest. The single celled organisms are called unicellular. Amoeba, paramecium, euglena and bacteria are unicellular. Multicellular organisms are most of the animals and plants. Red Blood cells are spherical, muscle cells are spindle.

c. Nucleus - It is the most important component of the cell. It is floating within the cytoplasm and located in the centre of the cell. Presence of chromosomes make it very important.

d. Cell membrane - It is outer covering of cell. The cytoplasm and the nucleus are enclosed within it. It is also known as plasma membrane. It separates the cells from one another and also the cells from the surrounding medium. It provides protection to the internal cell organelles.

Cytoplasm - It is a thick jelly-like fluid present between the cell membrane and the nucleus. All life functions take place in the cytoplasm.

e. chromosomes are present in the nucleoplasm. They carry genes which help in inheritance or transfer of characters from parents to the off springs.

Ans 3. a. F b. T c. T d. T e. F

Ans 4. a. (iv) b. (iv) c. (i) d. (ii) e. (iii) f. (v)

Ans 5. a. Cell is a basic structural unit of an organism. Though living organisms differ in their size, shape, colour and structure, but they show a similarity. They are all made of cells. It is a complex living structure.

b. Organelles are found in cytoplasm and nucleolus are found in nucleus.

c. Cells which do not contain a well defined nucleus or a nuclear membrane are called prokaryotic cells. Cells that have a well defined nucleus and a nuclear membrane are called eukaryotic cells.

d. Plastids are as follow : Chloroplast, chromoplast and leucoplasts.

e. Basic components of a cell are cell membrane, cytoplasm and nucleus. The plant cell in addition contains a cell wall.

Chapter 9

Ans 1. a. (i) b. (iii) c. (iv)

Ans 2. a. Amoeba Reproduces by Binary Fission

You have already learnt that amoeba is an unicellular organism. In amoeba the nucleus divides into two nuclei. The body then divides into two parts, each part receiving a nucleus. Further stretching of the body leads to the

formation of two daughter cells. Thus two amoeba are produced from a single amoeba.

BUDDING IN HYDRA

First a bulge is formed on the body of the organism known as the bud. The bud grows to form a baby hydra. The nucleus of the parents body divides and one of it goes into the bud. The baby hydra then separates from the parents. Since in this case new individuals develop from the buds in hydra, this type of asexual reproduction is called budding.

b. The fusion of the male and the female gamete to produce a new organisms is called fertilisation.

MALE REPRODUCTIVE SYSTEM

The male reproductive organs consist of a pair of testes (singular testis), two sperm ducts and a penis.

The testis is made up of numerous coiled tubes that produce sperms which are the male gametes. The testes produce millions of sperms. The sperm is very small in size. Each sperm consists of three parts - head, middle piece and a tail. Each sperm is a single cell.

FEMALE REPRODUCTIVE SYSTEM

The female reproductive system consists of a pair of ovaries (each ovary is of the shape and size of an almond), oviducts or fallopian tubes and uterus. The ovary produces female gamete called ova (egg). When a girl reaches puberty a single matured egg is released into the fallopian tube by one of the ovaries every month. Like the sperms, egg is also a single cell. Uterus is the organ where the zygote matures and develops into a baby.

c. During fertilisation, the nucleus of the sperm and the egg fuse so formed is called a zygote.

Foetus - From eight weeks after fertilisation till birth developing baby is called a foetus.

Ans 3. a. T b. T c. F

Ans 4. a.(iii) b.(ii) c.(i)

Ans 5. a. All organisms reproduce to produce more of their kind. If we do not reproduce young ones of our kind the living world would come to an end.

b. In sexual reproduction two parents are required to produce a new organism, such as man, birds, animals.

In required reproduction single parent is required. In this reproduction, a new individual is formed from cell of a single parent. Such as a moccba, hydra.

c. Matamorphosis - The transformation a larva into an adult through drastic changes is called metamorphosis.

Chapter 10

Ans 1. a.(ii) b.(ii) c.(ii)

Ans 2. a. Changes in human at puberty - (i) increase in height (ii) Change in body shape

(iii) Voice change (iv) Increase activity sweat and sebaceous

(v) Development of sex organs (vi) Emotional changes

b. Endocrine glands and Hormones secreted by them -

(i) The testes secretes the male hormones called testosterone.

(ii) The ovaries secretes the female hormone called oestrogen.

c. To keep healthy one must eat a balanced diet. One must observe personal hygiene and must do regular physical exercise.

Ans 3. a. adolescence b. hardly c. emotional

Ans 4. a.(i) b.(iii) c.(ii)

Ans 5. a. Adolescence - It is the period of transition from childhood to adulthood.

b. There is a growth spurt during puberty. This occurs due to the elongation of bones of the arms and legs in both girls and boys.

c. Personal hygiene is very important during adolescence. the activity of the sweat glands increases during this period and hence teenagers sweat a lot and body may become smelly. The face of the teenagers maybe affected by

pimples.

Chapter 11

Ans 1. a. (iii) b. (i) c. (iii)

Ans 2. a. Effects of Force

(i) A force can change the state of motion or rest.

(ii) A force can change the direction of moving objects.

(iii) A force can change the size and shape of an object.

(iv) Bursting of balloon.

b. Pascal's law states that when pressure is applied to a liquid, it gets transmitted equally in all directions.

Activity - Take a tin can or a plastic bottle. Drill a few holes all around it near the bottom. The holes must be at the same height from the bottom. Fill the bottle with water. We observe that water rushes out from all the holes and falls at the same distance from the can. This shows that liquid exerts equal pressure in all directions at the same depth.

c. The pressure exerted by air around us is called atmospheric pressure. Air always exerts pressure on the human body because of the tall column of air above us. But we do not feel this pressure because the pressure of the blood and that of fluids in our body balances out this atmospheric pressure.

Ans 3. a. F b. T c. F

Ans 4. a. (iii) b. (i) c. (ii)

Ans 5. a. Forces can act from a distance - Magnetic force, electro-static force and gravitational force.

b. By applying pressure we can change the shape of an object.

Ex. - Take a small quantity of dough. Press it down with your hand.

- Take a rubber band, stretch it.

c. In a game of tug-of-war, when two sides pull the rope hard, it does not at times move in any direction because the resultant force acting on it is zero.

Chapter 12

Ans 1. a. Rolling friction b. Friction c. Force of adhesion

Ans 2. a. (iii) b. (i) c. (iii)

Ans 3. a. We can minimise the friction by -

- applying grease on the surface.

- using wheels or ball bearings.

- A sprinkling of a soft, fine powder on the surface.

b. Friction between any two surfaces is caused due to -

- No solid surface is perfectly smooth.

- When two rough surfaces come in contact with each other, there are a few places where the two surfaces meet. The atoms or molecules present at the contact point attract each other due to electrostatic forces. It is the force which opposes the motion of the two objects.

c. There are three kinds of friction :

(i) static friction (ii) Sliding friction (iii) Rolling Friction

(i) static friction comes into action when we try to move an object which is at rest. Thus, the static friction is a measure of the force required to overcome friction to start moving an object.

(ii) Sliding friction is the force required to keep an object moving with the same speed.

(iii) Rolling friction is the force of friction offered when rolling an object on the surface of another object.

Ans 4. a. Sliding friction is the friction when a body slides over another surface.

b. Friction always acts in a direction opposite to the direction of motion.

c. Air exerts frictional force on objects moving through it. Similarly, water and other liquids also exert force of

friction on objects moving through it. The frictional force exerted by fluids is also called drag.

Chapter 13

Ans 1. a. (iv) b. (ii) c. (iv)

Ans 2. a. In humans sound is produced by the voice box or the larynx. It is situated in the neck at the upper end of the wind pipe. The sound produced is controlled by the vocal cords. They are stretched across the voice box in such a way that they leave a narrow slit between them for passage of air. Muscles attached to the vocal cords can make the vocal cords loose or tight. When air from the lungs is forced out through the slit, the vocal cords vibrate to produce sound.

b. Noise Pollution - An unpleasant and unwelcome sound that causes discomfort is called noise pollution.

Harmful effects of noise pollution are as below :

- Prolonged exposure to loud noise can lead to temporary or permanent impairment of hearing.

- Lack of sleep, hypertension, anxiety, etc. are some health problems due to noise pollution.

c. The human ear is made up of three parts - the outer ear, the middle ear and the inner ear.

The outer ear is funnel shaped. Sound waves collected by the outer ear reach the ear drum through a canal.

Eardrum is a thin membrane which is stretched tightly.

The ear drum is like a stretched rubber sheet which vibrates when sound waves strike it and transmits the sound to the middle ear. The middle ear has three bones which move when the eardrum vibrates. They magnify the force of the vibrations and transmit it to the inner ear. From here, the signal goes to the brain. This is how we hear.

Ans 3. a. F b. F c. F

Ans 4. a. (ii) b. (iv) c. (i)

Ans 5. a. Sound is produced by vibrating objects.

b. One difference between musical sound and noise is that musical sound is the one that appears pleasant to our ears whereas noise is an unpleasant one.

c. In 5 seconds a pendulum oscillates = 25 times

In 1 second a pendulum oscillates = $25/5 = 5$ times

Thus, its frequency is 5 Hz

Chapter 14

Ans 1. a. LED b. orbit c. Light emitting diode

Ans 2. a. (ii) b. (i) c. (i)

Ans 3. a. Electrolysis - It is a process of producing chemical reactions in liquids by passage of electric current.

Electrolyte - It is a conducting liquid solution.

- The passage of an electric current through a conducting liquid causes chemical reactions. The resulting effects are called chemical effects of currents.

Electrolytes are substances which when dissolved in water break up into cations (positively charged) and anions (negatively charged). The cations move to the negative electrode (cathode) and the anions to the positive electrode (anode).

b. We know that electric current produces a magnetic effect. When current is passed through a circuit, the needle of the magnetic compass will get deflected, even if the current is very weak. Some liquids conduct electricity while others do not. Some mineral salts are present in sea water and sea water is a good conductor of electricity. So, a compass needle deflects more in sea water than in tap water when it is tested with a conductor.

c. Electroplated objects - bicycle handle, towel rails, kitchen gas burner, water tap, knife, etc.

Ans 4. a. negative b. distilled c. Electroplating

Ans 5. a. Good conductors of electricity -

vinegar and lemon juice.

b. Sea water

c. Distilled water can be used to conduct electricity if some salt is dissolved in the water.

Chapter 15

Ans 1. a. Fur, Hair, Feathers, straw, etc can be charged with static electricity

b. Lightning

c. These weak zones are called seismic or Fault zones.

Ans 2. a (i) b. (iv) c. (i)

Ans 3. a. Electroscope is the device which can be used to test whether an object is carrying charge or not. It is possible to transfer charge from a charged body to another through this device. It is used to measure electric charge.

b. During a thunder storm air currents move upwards and water droplets move downwards. Due to this movement, the charges in the water molecules of the cloud separate in such a way that the positive charges concentrate near the upper edges of the clouds and the negative charges near the lower edges. These charges keep building up. Air is an insulator. But when the magnitude of accumulated charges builds up, the insulating property of air breaks up and it is no longer able to resist their flow. The negative and positive charges meet resulting in the production of streaks of bright light and sound. The process is called electric discharge. A large amount of electric current is produced during a lightning strike. This causes the air to heat up enormously and flashes of lightning are seen.

c. Measures to protect from lightning

- Do not take shelter under a tree.

- Do not carry an umbrella during the thunder storm.

- Stay away from tall trees.

- Do not lie down on the ground.

- Unplug all electrical appliances.

- Do not use wire phones.

- Avoid contact with running water.

- Do not touch metallic objects.

Ans 4. a. T b. F c. F

Ans 5. a. When you gently touch the paper clip with hand, the strips come back to their original places. This is because the foil strip loses charge to the earth through our body. The foil is set to be discharged. Thus, a charged body loses its charge if we touch it by hand.

b. When the plastic refill is rubbed with a polythene piece, it acquires a small electric charge by friction. The object which acquires the charge is called the charged object. Static electricity produced by this method is called charging by friction.

c. The lightning conductor - Lightning conductors are used to protect buildings from the damaging effects of lightning. It is a device which consists of a long copper rod with sharp spikes at its upper end. The lower end of the rod is connected to a large copper piece buried deep inside the earth.

Chapter - 16

Ans 1. a. Reflection of light from a smooth surface is called regular reflection. The reflection of light from a rough surface is called irregular reflection.

b. The ray of light which falls on the reflecting surface (NM) is called incident rays (AO). The rays of light bounce back from the surface of a mirror is called the reflected ray (BO). A line is drawn perpendicular to the mirror at the point is called the normal (Co). We will see that incident ray, reflected ray and normal meet at the point.

Ans 3. a. incident ray b. reflection c. same

Ans 4. a.(ii) b.(iv) c.(v) d.(iii) e.(i)

Ans 5. a. 5 cm away.

b. one.

c. There are no rods and cones at the point where the optic nerves leave the eye, so no vision is possible at this spot. This is called the blind spot.

EVS Class - 5
UNIT - 1 : MY FAMILY
CHAPTER 1

THE CHANGING FAMILIES

TEST YOURSELF

Oral Questions -

- People who migrate are called migrants.
- The emigrants are called immigrants in the country where they settle.
- People displace from one place to another in search of job and better education.

Now-a-days both men and women go out to work.

Answer the following questions -

1. Migration - When people move from one place to another and get accustomed with the new place and its environment is called migration.

2. People migrate, i.e., move from one place to other place along with their families in search of jobs or to get better education.

3. People who migrate from one country to another in search of jobs or to get better education is called immigration and people who migrate from one country to another to settle with their families is called emigration. These emigrants are called immigrants in the country where they settle.

4. Reasons for displacement - Many times people are forced to leave their original places. Such a forced movement is called displacement. Thousands of people are displaced and to settle in new places due to construction works, like factories, dams, flyovers, buildings, roads etc. When slums are demolished people are forced to displace from their living places. In such situation, they face social and economical changes. It takes a long time to adjust them in a new place. They are forced to move to nearby towns and cities and search for work. Many times, natural disasters play a crucial role in the displacement of people from one place to another to people lose their homes and properties in earthquakes, floods, homes from one place to another. People lose their homes and properties in earthquakes, floods, cyclone and become forced to shift their houses with their families.

Many a times, people have to live in the outskirts of cities with out basic amenities like electricity and water.

B write 'Yes' or 'No'.

1. Yes, 2. Yes, 3. No, 4. Yes

C Fill in the blanks

1. job, better education, 2. international, 3. amenities, 4. technology

D tick () the correct option.

1. c Both of these, 2. d. all of these 3. a. festivals, 4. d. Displacement

Fun Time - ARCTIC TERN

Hot Questions

1. Yes, Because very often, many people in a group or families move from one place to another. They have to do so for a number of reasons. Social and economic changes are mainly responsible for this.

Now-a-days, there have been many changes in the structure of families. During olden times, women were supposed to do all the household chores like washing clothes, cleaning utensils, cooking food and taking care of the needs of family members.

Men used to go out to work and earn money. But times have changed now. Many women also go out to work. Now, they have got equal opportunities in the field of education and career, women have established themselves in various distinctive places and position. This clearly shows a change in family structure.

2. No, we all have some relatives who live in different cities for various reasons. We meet them on various special occasions like festivals and weddings. There are some relatives who live in other countries, too far away from us. Their generation may not even be knowing us.

However, due to advanced technology we have been able to be connected with our relatives who are staying outside our country.

Activity - Do yourself.

Chapter 2

PEOPLE WITH SPECIAL NEEDS

TEST YOURSELF

Oral Questions -

- are who cannot see - blind
- one who cannot hear - deaf
- one who cannot speak - dumb
- one who has one leg - lame

A. Answer the following questions -

1. People who are unable to use one or more of their senses are called differently - abled people. When one of their sense gets damaged, other senses become sharper to make up for the loss. For example - Someone cannot see at all but they can identify any food item just by smelling it. He has a keen sense of smelling. He can also recognize his friends by touching their faces with his fingers.

2. Care for differently-abled people - We should be sensitive towards the differently-abled people. We should never call them as physically-challenged or deaf, dumb or blind. Rather we should use the words like they are people with special needs. We should help them whenever we feel such people need our help.

3. Many cretain facilities are being provided to such people by our government.

- Many schools and colleges have been set-up for such children.
- News for people who cannot hear is telecast on T.V. in sign language which they can easily understand.
- Ramps are made at various places like railway stations and shopping malls for the people who are lame.

4. Helen Keller was a lady who was blind and deaf but she overcame her disabilities and became internationally famous.

When she was just six years old, her parents came to know about the Perkins Institution for the Blind in Boston. They asked a teacher from there to come and teach Helen at home. So, a twenty year girl, named Anne Sullivan, who could barely see herself and reached their home. She taught Helen what a word is and that every thing has a name. Helen was a sharp student. She learnt to tap letters of the alphabet within a month.

Anne also taught her to touch the lips of the speaker and understand what is being said. Helen learned Braille and used a special typewriter. In 1904, she graduated with honours. She travelled all around the world and gathered fame.

5. Another such differed from nervous disorders. He is unable to speak and move. He is, today, considered as the greatest scientist of the world. He works sitting on a wheel chair which is equipped with a computer.

B. Match the following -

1. Blind - c. One who cannot see.
2. Deaf - d. One who cannot hear.
3. Dumb - a. One who cannot speak
4. Lame - b. One who cannot walk

C. Fill in the blanks -

1. sign language 2. braille script 3. help, overcomes 4. 1904

D. Tick () the Correct option -

1. b. Lenis Brailley
 2. a. Bnney
 3. a. Speak and moves
 4. a. Physically-challenged
- Fun Time - Do yourself.
Hots questions -

1. No. Because, if one of their senses gets damaged, other senses become sharper to make up for the loss. For example - someone cannot see at all, but he can identify any food item just by smelling it. He has a keen sense of smell. He can recognise his friends by touching their faces with his fingers. People who are blind read Braille script by running their fingers along the raised let so people who are deaf and dumb are sign language to communicate.

2. It happens because their hearing and speaking internal organs are closely interconnected to each other. People who are deaf and dumb use sign language to communicate.

Activity - Do yourself.

UNIT - 2 : GAMES AND WORK

Chapter 3

GAMES WE PLAY

TEST YOURSELF

Oral Questions -

- Carrom is an indoor game.
- football is an outdoor game.
- Hockey is a team game.
- basketball is a team game.
- Hockey is the national sport of our country.

A. Answer the following questions -

1. Importance of playing games - We play games not only because it is a good pastime but it also relaxes our body. It is a good exercise that keeps us healthy. Sportpersons learn to stay focussed and do not involve in unhealthy habits. Games also teach us to interact socially, for example - golf, chess, billiards etc

2. Individual game is played by one player and team games are played by more than one players. For examples - cricket, volleyball, hockey, football, baseball, basketball etc are team games.

3. Team spirit - All the players of team play as one team. They all have a common goal and play in the interest of the team. the cooperation and coordination among the team members is called team spirit.

The performance of each member is important. A team needs to have team spirit so as to win the game. All members should respect each other and work in coordination. They must trust each other.

4. A team leader plays a very important role for the team. He should be dedicated, focussed and passionate. He should be able to motivate the team members. He should stay calm in all circumstances. He should be quick in decision - making.

5. In earlier times, children used to play more of outdoor games like kache, gulli danda, lattu, pithoo etc. they also took part in other activities like embroidery and rangoli making (especially girls). they enjoyed simple pleasures of life and led a healthier life. But now, television has occupied most of the time of the people. television helps us to know what is happening all-around the world. But it has made children lazy. They prefer to sit in front of TV or play video games rather than playing outdoor games. They prefer watching cartoons instead of reading books. Thus they are leading an unhealthy and sedentary lifestyle.

6. Kho-Kho -Kho-Kho is a simple local game. It is a team gamde consisting of twelve members each in two teams. One team kneels on the ground with the alternate members in the raw facing in opposite direction. Two or three members of the other team are sent into the court. The sitting team has to chase and touch the members of the opposite team.

7. Kalaripayattu - Kalaripayattu is one of its oldest martial forms in the world. It involves great acrobatic skills. Kalari is a Malayalam word that means a special gymnasium.

B. Match the following -

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

C. Fill in the blanks -

1. unhealthy 2. judo karate 3. hockey, crickets 4. gymnastics 5. unhealthy, sedentary

D. Tick () the correct option -

1-b tennis, 2 - a 7, 3 - a thang-ta, 4- d All of these.

Fun Time - Do yourself.

Hots Questions -

(1) Changing Nature of Game - In earlier times, children used to play more of outdoor games like kanche, gulli danda, lattu, pithoo, etc. They also took part in other activities like embroidery and rangoli making (especially girls). They enjoyed simple pleasures of life and led a healthier life. But now, television has occupied most of the time of the people. Television helps us to know what is happening all-around the world. But it has made children lazy. They prefer to sit in front of the TV or play video games rather than playing outdoor games. They prefer watching cartoons instead of reading books. Thus, they are leading an unhealthy and sedentary lifestyle.

2. We should learn martial art because these two sports involve self-defence, meditation, fitness and character development. Martial art is a form of mock combat which has been developed into a form of fighting art or beauty.

Activity - Do yourself.

Chapter 4

RESPECT ALL WORK

TEST YOURSELF

Oral Questions -

- A milkman delivers milk.
- More of us can do all the work ourselves.
- Untouchability is a punishable act.
- Mahatma Gandhi renamed untouchables as Harijans.

A. Answer the following questions -

1. There are various people in our neighbourhood who help us in our daily routine. We all need these services. These services are called essential services.

2. Different people do different works to earn their living. This is called division of labour.

3. Respecting means every work and the person who does it is called Dignity of Labour.

4. Many social reformers like Swami Vivekanand, Aurobindo Ghosh, Mahatma Gandhi and many more have worked hard to eradicate the evils of caste system from our society. They believed that educating people is the best way to make them aware that no one is good or bad, big or small etc. They have tried to bring equality amongst human beings.

5. Mahatma Gandhi renamed the untouchables as Harijans. He believed in dignity of labour and respected as fellow beings. He regarded all the works equally important. He was not at all shy to do any work. He wanted to change the attitude of the people towards the so-called untouchables.

B. Write 'Yes' or 'No' -

1. No, 2. Yes, 3. Yes, 4. No, 5. Yes

C. Fill in the blanks -

1. postman, 2. grocery, 3. cobbler, 3. plumber

D. Tick () the correct option -

1. c. Essential services, 2. a. Respect, 3. c. Garbage correction, 4. a. cobbler

Fun Time - No matter how insignificant work one is doing, the fact that he is working, makes him/her important.

Hots Questions

1. If there are no one to clean our streets, our homes or clear the garbage our life will be uncountable. We shall be forced to live in a dirty environment which enables us to breathe in clean or pure air. This can make us sick.

2. Yes, untouchability is a punishable act in our country because no work is big or small. The only fact is that he/she is big or small. The only fact is that he/she is working which makes him/her important.

Each citizen of India is given equal opportunities irrespective of caste they belong to. The Government of India has made laws to protect the fundamental rights of the citizen. Thus untouchability is a punishable act and has been banned.

Activity -

Essential Services

1. A postman brings letters for us.
2. A milkman delivers milk.
3. A newspaper vendor delivers newspaper every morning
4. A maid-servant does the cleaning job of our house.
5. A gardener takes care of the plants in our garden.

Names

Postman
Milkman
Newspaper vendor
Maid-servant
Gardener

UNIT - 3 : PLANTS AND ANIMALS

Chapter 5

THE WORLD OF PLANTS

TEST YOURSELF

Oral Questions -

- Plants reproduce through both seeds and spores.
- The outer covering of a seed is called the seed coat.
- Radicle grows first.

A. Answer the following questions -

1. Reproduction is the process by which living things produce new living things of the same is called reproduction.

2. Plants reproduce in different ways - through seeds through spores, through vegetative parts.

3. Vegetative Reproduction - when plants reproduce from one of their body or vegetative parts, it is called reproduction by vegetative propagation.

For example - A carrot grows from the roots.

- A Bryophyllum plant grows from its leaves.
- A potato grows from the buds present on its stem.
- A rose plant can be grown from stem cuttings.

4. Seed Germination - When seeds get proper amount of air, water and sunlight, they grow into new plant. A germinating seed needs air to breathe, water to soften its seed coat, so that the food stored in the seed changes into a soluble form and is easily used by the baby plant.

Sunlight gives the warmth to the plant so that its cells get activated to grow. When the seed starts germinating, the radicle (root) grows first downwards and then plumule (shoot) grows. After that, the seed dries and falls off once the shoot grows its own leaves.

5. Seed Dispersal - Seed dispersal means scattering of seeds away from the parent plant so that it gets

enough space, air, water and sunlight.

6. Fruits and seeds are scattered with the help of wind, water, explosion and animals. These are called agents of dispersal. These are as following.

(i) wind - Seeds of cotton, dandelion, etc are scattered by wind as these are small and light.

(ii) water - The seeds and fruits of plants that grow near water as dispersed by water coconut and hydrilla are some plants whose seeds are dispersed by water.

(iii) Explosion - Some fruits like that of balsam and pea burst open. Thus their seeds get scattered by explosion.

(iv) Animals - Many a times animals are responsible in the dispersal of seeds. Seeds of some fruits that are eaten by some birds and animals are passed out of the animals body along with the body wastes. Some fruits like Xanthium, spear grass are thorny and have spines. These cling to the fur of animals and are carried to wherever the animals moves. Thus, these are dropped at other places.

B. Match the plants with their origin-

1. Apple - d. Central Asia, 2. Tea - c. China, 3. Potato - a. Peru, 4. Cinnamon - b. Sri Lanka

C Fill in the blanks -

1. Reproduction, 2. radicle (root), 3. ferns, mushrooms, 4. Egypt, 5. balsam, pea.

D Tick () the correct option -

1-d. all of these 2-d. mushroom 3-d. wind 4-c. South Africa 5-d. all of these

Fun Time - Do yourself.

Hot Questions -

1. The coconut grows near water, hence its seeds are dispersed by water.

2. Seeds of some fruits are eaten by some birds and passed out of their bodies along with their body wastes.

Whenever they move they carry these seeds are dropped at other places.

Activity - Do yourself.

Chapter 6

FOREST

TEST YOURSELF

Oral Questions -

- A forest is a large area covered with trees.

- Bhils are tribes of Gujarat.

- Deforestation has many adverse effects.

A. Answer the following questions -

1. A forest is a place where trees grow naturally in large numbers. It is a home to many insects, birds and other animals.

2. Importance of forests - Forests have always been of great importance to man since prehistoric times. Forests are essentially large groups of trees, which provide shelter to many types of animals, birds and insects. The early men obtained food from forests by gathering wild plants and hunting wild animals.

They lived in the forests that provided them with all their needs.

Forests are very important to us even today as they provide us with wood, latex, gum, oils, resins, fruits, food, medicines etc. Forests also reduce soil erosion, keep the air clean and give out fresh oxygen to us for breathing. Forests regulate the temperature and bring rain.

3. Tribes of India - Forests are a home to many people. People who live in the forests are called tribal people or adivasis. Following are a few tribes of India.

The tribal people of India depend a lot on the forests for their livelihood. They collect seeds, fruits, resins, lac, bamboo etc from the forests. They use the wood as fuel. They make baskets from bamboo and cane.

Tribal women make beautiful jewellery using grass, seeds and shells. They make brooms, pipes, containers etc from natural materials like bamboo, grass and leaf.

4. Sacred Groves - An area in the forest, which contains trees and medicinal plants that are on the verge of extinction are called sacred groves. These are sacred as they are said to be associated with some deities. Tribal people protect these groves and do not allow anyone to cut them.

5. Protection of Forests - Trees and forests should be protected by all of us. In 1973, villages in Palkanda valley in Uttarakhand protested against the cutting down of trees. The women of that area hugged the trees and didn't allow any one to cut them. This activity was popularly known as Chipko movement.

Van Mahotsava is organised every year when lakhs of trees are planted every year.

Everyone of us can do our bit to save our forests -

- Prevent trees from being cut.
- Grow more trees.
- Reduce the use of paper.
- Adopt a tree and spread awareness about the importance of trees.

B. Fill in the blanks -

1. Forests, 2. grass fibres, seeds, shells 3. protect, 4. conserve

C. Tick () the correct option -

1- d. All of these, 2- b. Hills, 3- d. All of these, 4- c. Both of these

Fun Time - Do yourself.

Hot Questions -

1. Yes, because forests also reduce soil erosion, keep the air clean and give out fresh oxygen to us for breathing. Forests regulate the temperature and bring rain.

2. Effects of Deforestation - The rapid cutting down of trees without planting the new is called deforestation. It has many adverse effects -

- It makes many animals homeless.
- It has led to natural calamities like landslides and floods.
- It results in soil erosion.
- It affects the climate adversely.

Thus, deforestation leads to global warming.

Activity - Do yourself.

Chapter 7

THE WORLD OF ANIMALS

TEST YOURSELF

Oral Questions -

- Rhino is killed for its horn.

A. Answer the following questions -

1. Human beings can make sense of their world by using their sense organs to see, hear, smell, taste and touch. Animals also have sense organs to know about their surroundings. They use these senses to locate food and to sense danger and protect themselves.

2. Different Animals sleep differently - Animals also require rest and sleep. Different animals sleep differently. Dogs sleep with their eyes closed. Cows sleep with their eyes open. Bats sleep hanging upside down from a branch of a tree. Horses sleep while standing. Dolphins sleep with one eye open.

3. People who depend on animals - These are many people who depend on animals for their livelihood. Some of these are snake charmers, dargis and mahouts.

It is not wrong to use animals to earn a living. But, it is wrong to keep them in cages or chains. They are ever beaten mercilessly. In circus, animals are forced to do dangerous acts. Such things should be banned.

4. Praching - Wild animals are hunted for various things like fur, skin, bones, horns, teeth and other body parts. They sold at high prices. Such illegal killing of animals for their body parts is called poaching and the people who kill the animals are called poachers.

5. Protection of wildlife - Thoughtless killing of animals has put the existence of some animal species in danger. Such animals are said to be endangered animals. If they are being killed at the same rate, the day is not far when they will disappear from the earth and would be extinct. Therefore, we need to protect our wildlife. This can be done by setting up national parks and wildlife sanctuaries, by stopping others from killing animals and putting a ban on the sale of products obtained from endangered animals.

B. Fill in the blanks -

1. antennae, 2. nocturnal, 3. cows, 4. sheep, 5. poaching

C. Match the following - Do yourself.

D. Tick () the correct option -

1-a. Dog, 2-a. Honey bee, 3 - a. Dog, 4-d. All of these, 5-d. All of these

Fun Time - Do yourself.

Hots Questions -

1. Animals Communicate with each other to show their emotions of pains and pleasures in their specific sounds.

2. Thoughtless killing of animals has put the existence of some animal species in danger. Such animals are said to be endangered animals. If they are being killed at the same rate, the day is not far when they will disappear from the earth and would be extinct.

Activity - Do yourself.

REVISION TEST PAPER - i

(Based on Chapter 1 to 7)

A. Answer the following questions -

1. Migration - When people move from one place to another and get accustomed with the new place and its environment is called migration.

2. People who are unable to use one or more of their senses are called differently - abled people. When one of their senses gets damaged, other senses become sharper to make up for the less. For example - Someone cannot see at all, but he can identify any food item just by smelling. He can also recognize his friends by touching their faces with his fingers.

3. Team spirit - All the players of team play as one team. They all have a common goal and play in the interest of the team. The cooperation and coordination among the team members is called team spirit.

The performance of each member is important. A team needs to have team spirit so as to win the game. All members should respect each other and work in coordination. They must trust each other.

4. There are various people in our neighbourhood who help us in our daily routine. These services are called essential services.

B. Fill in the blanks -

1. milkman, 2. useful, 3. bee, 4. night

C. Match the following -

1-c. both, 2-a. Louis Braille, 3-a. Hockey, 4-c. Both, 5-b. Dog.

UNIT - 4 : FOOD

Chapter 8

THE FOOD WE EAT

TEST YOURSELF

Oral Questions -

- Farmers grow crops to raise enough food to meet the needs of their own family.
- Small farmers have a small plot of land.
- Irrigation is the process of watering crops.
- DDT is a pesticide.
- People of Rajasthan love to eat dal-bati Choorma.

A. Answer the following questions -

1. Farmers with a small plot of land are called the small farmers.
2. Factors favourable for Cultivation - There is a favorable climate and fertile soil to grow good field of crops in our country. Good quality seeds, modern farm machinery, good irrigation facilities and proper fertilizers make a good yield of crops. For example - seeds, farm machinery, irrigation facilities, furrow irrigation, basin irrigation, sprinkler irrigation, fertilizers, pesticides, food habits, changing food habits, shortage.
3. Suroor Irrigation - In this kind of irrigation, water is allowed to enter the field through the furrows between the rows of crops.
4. Farmers add fertilizers to the soil to make the soil fertile. Fertilizers that are made from plant and animal wastes are called natural fertilizers, i.e., compost, fertilizers that are made in factories from chemicals are called artificial fertilizers, i.e. area.
5. Changing food habits - Food habits are changing now-a-days because there is so much variety in food items. Food habits have changed because of the following reasons -
 - New varieties of crops have been introduced.
 - Large variety of processed food is available in the market.
 - Packed food is easily available.
 - People love to eat more of junk food items like pizzas, noodles, burgers etc.
6. Food shortage - we might have heard about people not getting enough food to eat and of people dying of starvation. Acute shortage of food leads to famines a condition when people do not get food to eat for a long period of time. There can be many reasons for the shortage of food like natural calamities. These calamities like drought, flood, etc. result in the shortage of food. Food gets spoiled when it is not stored properly. Hence it again leads to its shortage. Another reason for people not getting enough to eat is poverty.

B. Match the following -

1-c. Rajasthan, 2-a. Tamil Nadu, 3-d. West Bengal, 4-b. Punjab

C. Fill in the blanks -

1. Basin, 2. Compost, 3. region, beliefs, customs, religion, culture, 4. shortage.

D. Tick () the correct option -

1-b. food, 2-c. Dairy farmers, 3-d. All of these, 4-a. Urea

Fun Time -

Left to right - Harvesting, ploughing, threshing, wasting.

Top to bottom - Sewing, irrigating, withering

Hot Questions -

1. Farmers remove weeds growing between the crops to allow water to enter the field without any obstruction.
2. We should avoid junk food items like pizzas, noodles, burgers etc because they are unhealthy and can make us sick.

Activity - Do yourself.

Chapter 9

FOOD FOR HEALTH

TEST YOURSELF

Oral Questions -

- We should eat a balanced diet.
- Anaemia is caused due to lack of iron.
- Glucose gives instant energy.

A. Answer the following questions -

1. Balanced diet - Balanced diet contains all the essential nutrients - fats, proteins, carbohydrates, vitamins and minerals in adequate amounts. The diet should also contain water and roughage.

2. Anger and disease are very closely related terms. In our country there are many poor people who are not able to give their children enough food to eat. As a result, these children suffer from malnutrition or undernutrition. Deficiency of nutrients in the body results in deficiency diseases. Thus, disease is a condition when the body does not function properly.

3. (i) Night blindness - Deficiency of vitamin A in the diet causes night blindness. A person suffering from night blindness finds it difficult to see in dim light. The eyes become dull and triangular white patches are seen in the eyes.

To prevent this disease, a diet rich in vitamin A should be taken. For example - green leafy vegetables, carrots, papaya, milk, tomato, mango, pumpkin etc are rich in vitamin A.

(ii) Beri-beri - Deficiency of Vitamin B in the diet causes Beri-beri. In this disease, the symptoms are - low appetite, sore tongue, dry and rough skin of hands, Attacks around the corners of the mouth.

A diet rich in vitamin B should be taken to avoid this disease. We should take unpolished rice, peas, milk etc.

(iii) Scurvy is a disease that is caused due to deficiency of Vitamin C in our diet. It results in swelling and bleeding from the gums. It is accompanied by pain in the joints. One should take more of citrus fruits like oranges, grapes, lemon, amla etc. to prevent this disease.

(iv) Rickets is caused due to deficiency of Vitamin D in our diet. In this disease the legs become bow shaped. One should take a healthy diet rich in Vitamin D like milk, cheese, eggs etc to prevent rickets.

4. Process of digestion in the mouth -

We need to chew food properly to change it into simple and soluble form. The process of breaking down of food into simple form that the body can use it, is called digestion.

The journey of food begins in the mouth. When we put a piece of bread or chapati in our mouth, our teeth help us to break the food.

The tongue is the muscular organ in the mouth which helps us to taste food and to roll it in the mouth. The taste buds present on the tongue help us to identify different tastes - sweet, salty, sour and bitter.

When we chew the food, it mixes with the saliva in the mouth. This liquid is secreted by the salivary glands present in mouth. Saliva makes the food moist and soft. It changes the starch present in the food to sugar. Thus, bread present in the food to sugar. Thus, bread which is rich in starch, taste a little sweet on being chewed for a while. Thus, digestion begins in the mouth.

Glucose is the simplest form of sugar that can be absorbed by the body to give energy. When the sugar level in the body becomes less, we feel lethargic, dizzy and may even lose consciousness.

Glucose gives us instant energy.

5. Food Preservation - Food preservation is the process that involves, storing of perishable food material, so that they do not spoil for a long time and can be used later. There are different methods of food preservation-

- Drying - We can preserve some foods by drying them in the sun. In this method, the water content present in the food items is reduced by drying i.e., papad, fish and bananas are preserved by drying.

- Boiling - Food items like milk is boiled to prevent it from getting spoiled. Boiling kills the germs present in

the milk.

- Freezing - Food items are kept in a refrigerator or in the freezer, i.e., at very low temperature to preserve them. This is because germs cannot grow at low temperature. We can preserve milk, fruits, vegetables and eggs by refrigerating and meat and peas by freezing.

- Canning or Bottling - Some foods get spoilt in the open. Flour, biscuits, mixture, sugar etc, remain fresh when they are kept in a dry can, tin or jar with a tight lid. Some foods like fruits and vegetables are stored in air-tight containers. This is called vacuum packing.

- Pickling - Pickling involves the preservation of food stuffs like mango, lemon, chilly in edible oils with salt and spices. Here salt acts as a preservative.

6. Pasteurization - Louis Pasteur was the man behind the process of pasteurization to preserve milk. In this method, milk is first heated and then cooled down to kill all the germs present in it.

B. Write 'Yes' or 'No' -

1. No, 2. No, 3. Yes, 4. Yes, 5. Yes

C. Name these diseases, their causes and their cures -

- Disease - Rickets.

Causes - Rickets is caused due to deficiency of vitamin D in our diet. In this disease, the legs become bow shaped.

Cures - One should take a healthy diet rich in Vitamin D like milk, cheese, eggs etc to prevent rickets.

- Disease - Goitre.

Causes - Deficiency of iodine in our diet causes goitre. People suffering from goitre develop a swelling in the neck.

Cures - One should take iodized salt and more of sea food in his/her diet to prevent this disease.

- Disease - Scurvy.

Causes - Scurvy is a disease that is caused due to deficiency of vitamin C in our diet. It results in swelling and bleeding from the gums. It is accompanied by pain in the joints.

Cures - One should take more of citrus fruits, like oranges, grapes, lemon, amla etc to prevent this disease.

- Disease - Anaemia.

Causes - Lack of iron in the diet causes anaemia. In such a condition, the body gets pale and sick. It gets tired easily.

Cures - To avoid these diseases, one should take a diet rich in items like apple, carrot, spinach, egg, meat and other green leafy vegetables.

All these deficiency diseases are non-communicable diseases, i.e. these do not get transferred from sick person to a healthy person.

D. Tick () the correct option -

1-b. Egg, 2-d. Roughage, 3-b. Vitamin B, 4-d. All of these, 5-c. Iodine, 6-d. boiling

Fun Time -

1. Take food as much as you require.

2. Cook food only as much as required.

3. Do not leave food on your plate.

4. Store the food properly.

Hot Questions -

1. Milk is called the complete food because it contains most of the nutrients.

2. Orange, lemon and amla are called citrus fruits because these carry vitamin C and are sour in taste.

Activity - Do yourself.

Chapter 10

PLANTS AND ANIMALS FOOD

TEST YOURSELF

Oral Questions -

- Only living things on the earth that can make their own food are the plants.

- All food chains begin with producers.

A. Answer the following questions -

1. Most of the plants make their food in their green leaves by a process called photosynthesis. The equation for photosynthesis -

Water + Carbon-dioxide sunlight Sugar + oxygen
 chlorophyll

2. Carnivorous or Insectivorous plants - Some plants trap insects and digest them. They do so because they grow in soil that is deficient in nitrogen. They capture insects to fulfill their nitrogen requirements.

(i) Venus Flytrap - Venus flytrap has long, pointed hair on its leaves that are sensitive to touch. As an insect sits on the leaves, the leaves snap shut and the insect gets digested.

(ii) Pitcher Plant - Pitcher plant has leaves in the shape of a pitcher which is partially filled with digestive juices. As the insect sits on the pitcher, its lid gets closed and the insect drowns in the digestive fluid and gets digested.

(iii) Sundew - Sundew plants can trap and digest insects to obtain extra nutrients.

3. (i) Herbivores - Animals that eat only plants are called herbivores. They are also called primary consumers, i.e., cows, goats, buffaloes, deer, giraffe, horse etc.

(ii) Carnivores - Animals that eat the flesh of other animals are called carnivores. They are also called secondary consumers i.e., lion, tiger, cheetah, leopard, wolf etc.

4. Scavengers - Animals that eat the flesh of dead animals are called scavengers. They help to keep that environment clean. Hyenas and vultures are scavengers. Scavengers are eco-friendly.

5. Food Chain - All living things depend on other living things for their food requirement. The process of eating and being eaten forms a food chain in nature. There is a flow of energy in a food chain in nature. There is a flow of energy in a food chain from one organism to other. For example - Plant - Zooplankton - Fish - whale are the example of aquatic food chain.

6. Food web - Many food chains are linked to form a food web.

Consumers do not rely on just one type of food. They can eat variety of foods. One type of food can be eaten by a large number of animals. This results in the formation of a food web.

B. Write 'H' for herbivores, 'C' for carnivores, 'O' for omnivores and 'S' for scavengers. H, S, O, C

C. Fill in the blanks -

1. roots, 2. scavengers, 3. energy, 4. food web, 5. sunlight

D. Tick () the correct option -

1-d. All of these 2-a. Mushroom, 3-d. All of these, 4-c. Producer

Fun Time - Do yourself

Hot Questions -

1. Scavengers are eco-friendly because they eat the flesh of dead animals. They help to keep that environment clean. Hyenas and vultures are scavengers.

2. In the absence of sun in the universe no one can survive because every animal gets food from plants and plants make their food in the presence of sunlight.

Activity - Do yourself.

UNIT - 5 : SHELTER

Chapter 11

SHELTER FOR ALL

TEST YOURSELF

Oral Questions -

- A hut is a common kutcha house.
- Bungalows are seen in cities.
- Eskimos live in igloos.
- A housboat is a floating house.
- Ants and bees both are social creatures.

A. Answer the following questions -

1. People live in different houses depending upon the climate of the place, materials available and resources. Houses vary from region to region. In rural areas and villages, people live in kutcha houses. These are temporary houses made up of mud, straw, bamboo, grass etc. In cities and urban areas, people live in pucca houses. These are permanent houses made up of bricks, cement, tiles marbles, stones, metals, etc.

2. Kutcha houses - Kutcha houses are also called temporary houses made up of mud, straw, bamboo, grass etc. These houses are weak-houses and cannot withstand strong winds and rains.

- Pucca Houses - Pucca houses are also called permanent houses made up of bricks, cement, tiles, marbles, stones, metals, etc. These are strong houses and can withstand strong winds and heavy rains.

3. Still houses - Special houses called stilt houses are made in areas where it rains a lot, these are houses that are constructed on raised platforms, few feet above the ground. These houses have a ladder to go up into them.

4. Many families live close to each other and form a neighbourhood. People who live in neighbourhood are called neighbours. They depend on each other for various needs.

People in a neighbourhood share some common facilities like parks, schools, roads, hospitals, markets etc. It is the responsibility of each person in neighbourhood to look after one another.

5. Advantages of living together - There are several advantages of living together. A few of these are as following -

- People exchange ideas and beliefs with each other.
- It provides opportunities to find a livelihood.
- It provides moral support and security.
- It provides support to elderly people as well as children
- People meet each other on different festivals and enjoy themselves.

B. Write 'Yes' or 'No' -

1. Yes, 2. No, 3. Yes, 4. Yes, 5. No

C. Fill in the blanks -

1. rural, 2. wood, sloping, 3. neighbours, 4. floating, 5. five

D. Tick () the correct option -

1-d. All of these 2-d. still houses, 3-c. tent, 4-c. Both (a) and (b), 5-b. Beehive

Fun Time - Do yourself

Hot Questions -

1. Houses on hills are made up of wood and have sloping roofs so that the rainwater and snow slide down easily.

2. Ants and honeybees are animals that exhibit social nature. They live in groups (colonies) and follow division of labour. That is why they are called social insects.

- Ants - An ant colony consists of underground nests with chambers connected to each other by tunnels. They divide their work amongst the members of their colony. There are three kinds of ants-queen ants, male ants and female worker ants.

Queen ant is a large female ant that lays eggs and the worker ants look after the eggs and also find food.

Male ants are winged ants, which just help the queen to produce eggs and then die.

Most ants make nests in soil. Ants may build a hill of mud over the entrance of their underground nest. This is called an ant-hill.

- Honeybees - Honeybees live in a nest called hive. It is a home to approximately 50,000 bees. Bees are of three kinds - queen bee, male bee and female worker bees. The queen bee lays eggs. The male bees help the queen bee to reproduce. The worker bees collect nectar from flowers and store it in the combs of the beehive. They also feed the young ones and defend them from enemies.

So, we can say that like us, ants and bees prefer to live in colonies and work collectively.

Activity - Do yourself.

Chapter 12

TIMES OF EMERGENCY

TEST YOURSELF

Oral Questions

- Earthquake is shaking of the earth.
- Landslides are very common in hilly areas.
- First aid is the immediate help given to the injured person before the proper medical help arrives.
- A fracture is a break in the bone.
- Take the victim of dog bite for an anti-rabies infection.

A. Answer the following questions -

1. Natural Disasters - Many a times, we hear about events that cause damage to human life and property. Such situations that pose threat to life and property are called emergencies. When such emergencies are caused due to natural phenomena, they are called natural calamities or natural disasters.

We have no control over natural calamities. We can only reduce the effects of these disasters by preparing ourselves to face the situations. Some of the common natural calamities i.e., natural disasters are - earthquakes, tsunami, floods, volcanic eruptions, landslides, cyclones, droughts etc.

2. Volcanic Eruption - A volcanic eruption occurs when the hot magma under the earth's surface is forced out of the cracks. It can burn everything around.

3. Earthquake - An earthquake is a series of shocks that result from sudden movements below the surface of the earth.

Some earthquakes are mild and cannot be felt, while some are so strong that they can cause heavy damage to life and property in just a few minutes.

Following measures should be taken in case of an earthquake -

- Keep calm and walk out of the building.
- move to an open area.
- Do not enter the building immediately after the earthquake has stopped.
- Do not stand near hanging pots or windows after an earthquake.
- Keep away from electric poles and trees.

4. Our government provides help to the victims of natural disasters in the following ways -

- Government provides relief materials to the victims of natural disasters.
- Many NGOs provide aid and support to the affected people.
- The government supplies essential items like food, water, clothes, blankets etc to the people in the disaster zone.

- Doctors are put on special duty.

- People from across the country donate generously for the victims.

- Soldiers and volunteers help in rescue work. They help to remove people trapped under the collapsed

building.

5. First-aid - The immediate help given to the injured people before the proper medical help arrives is called first-aid. Timely first aid can save the life of the victim. It contains band-aid, dettol, antiseptic lotion, tablets, scissors etc.

B. Match the following -

1-c. Shaking of the earth, 2-c. Strong rotating windstorm, 3-a. Sliding down of big rocks, 4-b. Water level rises, 5-d. long, dry spell without rain.

C. Tick () the correct option -

1-d. Nuclear explosion, 2-c. magma, 3- c. Both (a) and (b)

Fun Time - Do yourself.

Hots Questions -

1. Prevention is better than cure means if we remain alert, chances of getting injury will be minimised.

2. NGO means non-government organisation. Many NGO's provide aid and support to the affected people of natural disasters.

Activity - Do yourself.

UNIT : 6 WATER

Chapter 13

WATER FOR LIFE

TEST YOURSELF

Oral Questions -

- Rain is the main source of water.
- Only 0.3% of fresh water is available for us.
- A tubewell is the best method to draw underground water.
- Irrigation means supplying water to the crops.
- Sprinkler is a very good method of irrigating fields.

A. Answer the following questions -

1. Sources of water - We get water from different sources such as rain, rivers, lakes, ponds and wells. Rain is the main source of water. The other sources of water are lakes, ponds, rivers, seas and oceans. In older days, people had to walk long distances.

2. Underground water - The water under the earth's surface is called underground water. This water can be drawn out in different ways -

- Wells - A well is a deep hole in the ground where water is available. A pulley is used to lift water from the well using a bucket that is tied to a string. The string goes around the grooves of the pulley to make the bucket go deep in the well and then come up again.

- Tubewells - When the water is found deep under the ground, a tube well is the best method to draw out that water. The bore is dug deep and pipes are sunk in it. The water is brought out through these pipes using an electric pump.

- Handpumps - A handpump is used to take out underground water. Now-a-days we have electric pumps to pull the ground water.

3. Baoli or step well - A baoli is like a big tank which has steps on all its sides. In earlier times, baolis were built to collect and store rainwater. This water was used by the people for drinking and other activities. Thus, baolis provided a constant supply of water. Most of the baolis today are in ruins.

4. Water for irrigation - Irrigation means supplying water to the crops. In India, most of the farmers rely on rains for irrigation. But, it is not possible to depend on rains throughout the year. So, artificial means are made to water the crops timely.

Different crops require different amount of water. For example - rice crop requires plenty of water, millets do not require much water, wheat requires a moderate amount of water. Crops like sugarcane, rubber and tea require very less water.

Devices used for irrigation - crops are irrigated by different means like wells, tubewells, canals and tanks. Scine of the devices used for irrigation are as following -

-Sprintclers - sprinkler is a very good method for irrigating field because by this method water is distributed through the pipes at regular intervals. It seems like as if rain is the source of irrigation.

- **Water wheel** - A water wheel has a large wheel mounted vertically on a horizontal axis. A number of blades or buckets are arranged on its outside rim forming the driving surface. When the flowing water strikes the buckets, the wheel rotates. The water from the buckets falls on the other side and is directed to irrigate the fields.

- **Water pump** - A water pump is an electric pump that is used to draw underground water which is directed into water channels to irrigate the fields.

5. Windmill - A windmill is a device that uses wind energy.

B. Match the following -

1-b. plenty of water, 2-a. moderate amount of water, 3- c. Less water.

C. Fill in the blanks -

1. 0.3%, 2. rain, 3. sugarcane, rubber, 4. water wheel

D. Tick () the correct option -

1-a. Rain, 2-b. underground water, 3-b. Tubewell

Fun Time - Do yourself

Hots Questions -

1. Tea and coffee plantations can be seen along hilly slopes because tea and coffee plantations require very less amount of water.

2. No, human beings cannot survive without water. Because we need water on every walk of life to do different works in our daily life.

Activity - Do yourself.

REVISION TEST PAPER- II

(Based on Chapters 8 to 13)

A. Answer the following questions -

1. **Furrow Irrigation** - In this kind of irrigation, water is allowed to enter the field through the furrows between the rows of crops.

2. **Balanced diet** - Balanced diet contains all the essential nutrients - fats, carbohydrates, proteins, vitamins and minerals in adequate amounts. The diet should also contain water and storage.

3. Photosynthesis - Most of the plants prepare their own food in their green leaves by a process called photosynthesis.

The equation for photosynthesis -

water + carbon -dioxide sunlight sugar + oxygen
chlorophyll

4. Food Chain - All living things depend on other living things for their food requirement. The process of eating and being eaten forms a food chain in nature. There is a flow of energy in a food chain from one organism to other.

For example - plant - zooplankton fish whale are the example of aquatic food chain.

B. Fill in the blanks -

1. Basin, 2. iodine, 3. scavengers, 4. floating.

C. Match the following -

1. Crow -d omnivores, 2 Cow -e. Herbivores, 3. Pitcher plants - a. Insectivorous,

4. vultures - b. Scavengers, 5. Mushroom - c. Non-green plants.

D. Tick () the correct option -

1-a. food, 2-b. Roughage, 3-a. crow, 4-c. Both

Chapter 14

AQUATIC LIFE

TEST YOURSELF

Oral Questions -

- Duckweed is a floating plant.

- Dolphins are mammals.

- Malaria is caused by female anopheles mosquito.

A. Answer the following questions -

1. Aquatic plants - Aqua means water. Plants that live in water are called aquatic plants. There are three kinds of aquatic plants - floating plants, fixed plants and underwater plants.

2. Floating plants- Plants that float on water are called floating plants. They are small in size. They have spongy, air-filled leaves and stems. For example - duckweed, water hyacinth etc.

Underwater plants - Plants that grow underground are called under water or submerged plants. These plants are fixed to waterbed. They have narrow thin leaves with no stemata. For example - hydrilla, vallisneria etc.

3. Aquatic Animals - Animals that live in water are called aquatic animals. For example - fish are animals that live in water. They have a streamlined body to easily swim in water. They have scales on their skin. They breathe air dissolved in water through gills.

Lobsters, turtles and crabs are aquatic animals that have shells on their bodies. They have special limbs that help them to swim. They also breathe with the help of gills.

Ducks, geese and swan are all known as waterfowl. They have webbed feet to swim in water. They have a coating of oil on their feathers.

Whale and dolphins are mammals that live in water. They have a streamlined body like that of a fish but breathe with the help of lungs.

4. Methods to prevent malaria -

- Do not allow water to stagnate.

- Change the water in coolers every 4-5 days. Put a few drops of kerosene in it.

- Use mosquito repellents at home.

- Use mosquito nets while sleeping.

5. A substance that dissolves in water is known as soluble substance. A substance that does not dissolve in water is known as insoluble substance.

B. Write 'Yes' or 'No' -

1. Yes, 2. No, 3. Yes, 4. Yes, 5. No

C. Fill in the blanks -

1. aquatic, 2. gills, 3. soluble, 4. density

D. Tick () the correct option -

1-c. Duckweed, 2-b. Floats, 3-d. All of these, 4-a. Water, 5-a. Mosquito

Fun Time - Do yourself

Hot Questions -

1. If we add sugar to water and stir it well sugar will dissolve in water. Here we get a solution. When a substance dissolves in a liquid we get a solution. The substance that dissolves in water is called solute. Here sugar is a solute. The liquid in which a solute dissolves is called a solvent. Here water is a solvent.

Activity - Do yourself.

UNIT - 7 : Fuels

Chapter 15

FUEL FOR VEHICLES

TEST YOURSELF

Oral Questions -

- Fuel is used to run vehicles.

A. Answer the following questions -

1. Fossil fuels - Coal, petroleum and natural gas are obtained from the dead remains of plants and animals that got buried under the earth millions of years ago. Hence these are called fossil fuels.

2. Uses of Coal - Coal is formed when huge plants got buried under the earth and decompose because of heat and pressure of overlying rocks and soil in the absence of oxygen. Coal is used for cooking, heating and generating electricity. Steam engine runs on coal.

3. Formation of Petroleum - Petroleum was formed from the remains of dead plants and animals that got buried under the sea millions of years ago. These remains were subjected to high pressure and temperature and they got compressed and formed petroleum. Petroleum is the source of petrol, diesel and kerosene.

4. Natural Gas - Natural gas is often found along with oil under the layers of rocks. It is used in the form of Liquefied Petroleum Gas (LPG) or as compressed Natural Gas (CNG). It is an eco-friendly and clean fuel. The entire public transport fleet comprising buses, taxis and autorickshaws have been converted to use CNG. Liquefied Petroleum Gas (LPG) is a byproduct of petroleum refining and is used to cook food. It is stored in gas cylinders. It burns with a blue flame.

5. Alternate fuels - Materials other than fossil fuels that can be used as fuel are called alternate fuels. Fossil fuels are non-renewable sources of energy as they take millions of years to be formed. They cannot be regenerated in a short time. The rate at which these are used, soon we shall face a shortage.

Hence, we should switch over to alternate fuels. Some of the alternative sources of fuel for vehicles are hydrogen, biofuels like alcohol fuels and bio diesel, battery, electricity, etc. Wind, solar and water energy should be used as these are always available and are non-polluting.

2. Write 'Yes' or 'No' -

1. No, 2. Yes, 3. No, 4. Yes, 5. No

3. Give the uses of the following -

- Coal - Coal is formed when huge plants got buried under the earth and decompose due to heat and pressure of overlying rocks and soil in the absence of oxygen. Coal is used for cooking, heating and generating electricity. Steam engine runs on coal.

- petroleum - Petroleum was formed from the remains of dead plants and animals that got buried under the sea millions of years ago. These remains were subjected to high pressure and temperature and they got compressed and formed petroleum. Petroleum is the source of petrol, diesel and kerosene.

- Natural Gas - Natural gas is often found along with oil under the layers of rocks. It is used in the form of liquefied Petroleum Gas (LPG) or Compressed Natural Gas (CNG). It is an eco-friendly and clean fuel. The entire public transport fleet comprising buses, taxis and autorickshaws have been converted to use CNG. Liquefied Petroleum Gas (LPG) is a byproduct of petroleum refining and is used to cook food. It is stored in gas cylinders. It burns with a blue flame.

D. Tick () the correct option -

1-d. All of these 2-b. Black gold, 3-d. All of these, 4-d. Coal

Fun Time - Do yourself

Hot Questions -

1. If all the available sources of non-renewable fuels were exhausted, we would have fallen short of fuels leading to big problems for various vehicles because non-renewable sources of energy, i.e. fossil fuels take millions of years to be formed. They cannot be regenerated in a short time. The rate at which these are used, soon we shall face a shortage.

2. No, the cost of fuels keep rising very rapidly. The price of petrol, diesel, kerosene and LPG are revised several times a year. Its cost of fuels keep rising at this rate, soon fuel will be out of reach of common people. CNG and diesel cost less than petrol.

Activity - Do yourself.

UNIT - 8 : SPIRIT OF ADVENTURE

Chapter 16

ADVENTURE AND EXPLORATION

TEST YOURSELF

Oral Questions -

- Bungee jumping is an adventure sport.

- Mountaineering is an adventure act.

A. Answer the following questions -

1. Any activity that involves risk, danger and uncertain experience is called an adventure. The person who undertakes an adventure is called an adventurer. For example - bungee jumping, river rafting, scuba diving, paragliding, hot air ballooning, rock climbing etc are source of the popular adventure sports.

Tracking and mountaineering are also adventure activities.

2. Examples of adventure sports are bungee jumping, river rafting, scuba diving, hot air ballooning, paragliding, rock climbing, tracking, mountaineering etc.

3. Expeditions on Mountains - Mountaineering is an act of climbing mountains. Those who climb mountains are called mountaineers.

Tenzing Norgay and Sir Edmund Hillary were the first to climb Mount Everest (the highest peak in the world) in the year 1953.

Bachendari Pal was the first woman to climb Mount Everest on May 23, 1984. Santosh Yadav is the only woman in the world to climb Mount Everest twice on May 12, 1992 and on May 10, 1993.

When mountaineers conquer a peak, they hoist the flag of their country at the top as a mark of achievement.

A. Training in Mountaineering - A training is very necessary before going on a mountain expedition. In other country, the Himalayan Mountaineering Institute in.

C. Fill in the blanks -

1. adventurer, 2. Tenzing Norgay, Sir Edmund Hillary, 3. Yuri Gagarin, 4. Rakesh Sharma, 5. Artificial.

Darjeeling and Nehru Institute of Mountaineering in Uttarkashi Provide training to the aspiring mountaineer. They are physically and mentally trained to overcome the hurdles which they face during mountain climbing.

4. Satellites are the natural heavenly bodies orbiting ceaselessly around their planets. For example moon is the natural heavenly body of the earth.

5. Artificial Satellites - Artificial satellites are man-made satellites that are sent into space to know more about it. These move around the planets. These are controlled from the earth.

Aryabhata was the first Indian artificial satellite launched in 1975. In 1957, Sputnik I was launched into space by Russia. It was the first artificial satellite that was launched in space.

Uses of Artificial Satellites -

- Help to send messages from one country to another.

- Help in weather forecasting.

- Help us to see live programmes, happening anywhere in the world.

B. Write 'Yes' or 'No' -

1-(v), 2- (x), 3- (x), 4- (v), 5-(x)

D. Tick () the correct option -

1-a. Aryabhatts, 2-a. Yuri Gagarin, 3-c. Neil Armstrong, 4-c. Eight

Fun Time - Do yourself

Hot Questions -

1. Training in Mountaineering - A training is very necessary before going on a mountain expedition. In other country, the Himalayan Mountaineering Institute in Darjeeling and Nehru Institute of Mountaineering in Uttarkashi provide training to the aspiring mountaineering. They are physically and mentally trained to overcome the hurdles which they face during mountain climbing.

2. Yes, Satellites are helpful in viewing T.V. programmes. Artificial satellites are man-made satellites that are sent into space to know more about it. These move around the earth and help us to see live programmes, happening anywhere in the world.

Activity - Do yourself.

UNIT - 8 : OUR RICH HERITAGE

Chapter 17

HISTORICAL MONUMENTS

TEST YOURSELF

Oral Questions -

- The Tajmahal is located in Agra.

- The Qutub Minar is the highest stone tower in India.

A. Answer the following questions -

1. The Taj Mahal - The Taj Mahal located in Agra is said to be one of the seven wonders of the world. It is situated on the bank of river Yamuna. It was built by Emperor Shah Jahan in the memory of his beloved wife Mumtaz Mahal. It took about 22 years to complete its construction. It took around 20,000 workmen and craftsmen to give it a unique and final shape.

2. The Qutub Minar - The Qutub Minar is the highest stone tower in India. It is built of red sandstone. It was started by Qutub-ud-din Aibak and was completed by the sultan's successor and son-in-law, Iltutmish.

3. The Sun Temple - The Sun Temple was built near Puri in Odisha. It depicts the chariot of the God Sun pulled by seven beautifully carved horses, that represent the seven days of the week.

4. The Red Fort - The Red Fort or Lal Quila was also built by Emperor Shah Jahan. It is situated on the bank of river Yamuna in Delhi. It is made up of Red sandstone. The fort marks the peak of Mughal power.

It is our National monument. Every year on the Independence Day, the Prime Minister of our country hoists the national flag and addresses the nation.

5. Protection of the Monuments - It is very important to conserve, protect and restore all our monuments. This involves maintenance and reconstruction as and when required. We all must protect our monuments by not writing or scratching on the walls or causing any harm to them.

B. Write 'Yes' or 'No' -

1. Yes, 2. No, 3. Yes, 4. No

C. Fill in the blanks -

1. Yamuna, 2. 22, 3. Red Fort, 4. Sun Temple,

D. Tick () the correct option -

1-b. Yamuna, 2. -b. Mumbai, 3-Sikh religion

Fun Time - Do yourself

Hot Questions -

1. It is very important to conserve, protect and restore all our monuments because they keep on reminding us about past glory. India is very rich in heritage and culture. Monuments and historical buildings are an important part of our past and of our heritage. These have a great architectural, historical and cultural values.

Activity - Do yourself

REVISION TEST PAPER - III

(Based on chapter 14 to 17)

A. Answer the following questions -

1. Irrigation - Irrigation means supplying water to the crops. In India, most of the farmers rely on rains for irrigation. But it is not possible to depend on rains throughout the year. Therefore, artificial means are made to water the crops timely.

Different crops require different amount of water. For example - rice crop needs plenty of water, millets do not require much water, wheat requires a moderate amount of water. Crops like sugarcane, rubber and tea require very less amount of water.

2. Aquatic Animals - Animals that live in water are called aquatic animals. For example - Fish are animals that live in water. They have a streamlined body to easily swim in water. They have scales on their skin. They breathe air dissolved in water through gills.

Lobsters, turtles and crabs are aquatic animals that have shells on their bodies. They have special limbs that help them to swim. They also breathe with the help of gills.

Ducks, geese and swan are all known as waterfowl. They have webbed feet to swim in water. They have a coating of oil on their feathers.

Whales and dolphins are mammals that live in water. They have a streamlined body like that of a fish but breathe with the help of lungs.

3. Fossil fuels - Coal, petroleum and natural gas are obtained from the dead remains of plants and animals that got buried under the earth millions of years ago. Hence these are called fossil fuels.

4. Examples of adventure sports are bungee jumping, river rafting, scuba diving, hot air ballooning, paragliding, rock climbing, tracking, mountaineering etc.

B. Fill in the blanks -

1. gills, 2. Yuri Gagarin, 3. Rakesh Sharma, 4. Red Fort

C. Match the following-

1. Taj Mahal - e. Agra, 2. Qutub Minar - d. Delhi, 3. The Gateway of India - a. Mumbai, q

4. Golden Temple - b. Amritsar, 5. Charminar - c. Hyderabad.

D. Tick () the correct option-

1-c. Both, 2-a. Eight, 3-b. Odisha, 4- Qutub-ud-din-Aibak and Iltutmish.

E. Do yourself.

MODEL TEST PAPER

A. Answer the following questions -

1. Methods to prevent malaria -

- Do not allow water to stagnate.

- Change the water in cooler every 4-5 days. Put a few drops of kerosene in it.

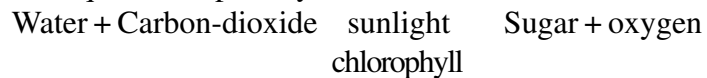
- Use mosquito repellents at home.

- Use mosquito net while sleeping.

2. We get food from plants. Most of the plants make their food in their green leaves by a process called photosynthesis. Plants make food with the help of carbon-dioxide, water, the green pigment chlorophyll and sunlight.

The roots of the plants absorb water from the soil. The stem carries this water to the leaves. The leaves absorb Carbon-dioxide through tiny openings called stomata. Sunlight is trapped by Chlorophyll present in the leaves. A chemical reaction takes place in which water combines with carbon-dioxide to form oxygen and sugar.

The equation for photosynthesis is-



The sugar produced by the plant is used for its growth and to repair the damaged cells. The extra sugar is stored as starch in different parts of the plants which humans and animals eat as food.

3. Food Chain - All living things depend on other living things for their food requirement. The process of eating and being eaten forms a food chain in nature. There is a flow of energy in a food chain from one organism to another.

For example- plant - zooplankton - fish - whale form an aquatic food chain.

4. Uses of Artificial Satellites -

- Help to send messages from one country to another.
- Help in weather forecasting.
- Help us to see live programs, happening anywhere in the world.

B. Fill in the blanks -

1. aquatic, 2. rain, 3. water, 4. earthquake

C. Match the following-

1. Duck - c. Water fall,
2. Hydrilla - d. underwater plant,
3. Duckweed - e. floating plant,
4. Mosquito - b. Malaria,
5. Dolphins - a. Mammal.

D. Tick () the correct option-

1-c. Both, 2 -c. both, 3- b. coal, 4- a. Konark.

End of D.E. 5

CLASS - 4
DISCOVERING ENVIROMENT
UNIT -1 : FAMILY AND FRIENDS

Chapter 1

MY FAMILY

TEST YOURSELF

Oral Questions -

- Mother loves us.
- Mother stays at her home
- A nuclear family is a small family.

- A joint family is also known as extended family.

A. Answer the following questions-

1. Mother is special because is a special gift of God. She plays a very important role in our life. She loves us and care for us.

2. A family is a group of people living together under one roof. It can be big or small. In a nuclear family father, mother and their children live together.

3. In a joint family, more than two generations live together under one roof. Joint family is also known as extended family. It is a family where father, mother and their children live with their uncles, aunts and grandparents.

B. Fill in the blanks -

1. loves, cares, 2. big, small, 3. nuclear

C. Write 'Yes' or 'No' -

1. No, 2. Yes, 3. No

D. Tick () the correct option-

1-a. special, 2-c. family, 3-c. joint

Fun Time - Do yourself.

Hots Questions -

A family is called a basic unit of society because a group of families make a society as the members of a family make one family.

Activity - Do yourself.

Chapter 2

ANIMALS AND THEIR YOUNG ONES

TEST YOURSELF

Oral Questions -

- Animals produce young ones of their own kind.
- A human baby grows inside its mother's womb.
- The mother can feel the baby kicking inside her womb.
- Parents who adopt a child are his foster parents.

A. Answer the following questions -

1. Reproduction - Animals give birth to their young ones or lay egg so that their kind does not die out completely. This process by which all living produce more of their own kind is called reproduction.

2. Adoptions - Adoption is a legal process by which couples take on the responsibility of bringing up a child who is not born to them. These parents who adopt the child then become his/her parent. Parents who want to adopt a child usually go to an orphanage.

They fill up forms and give their family details. Adopted child is loved and taken care of by these people as their own.

3. Fish and tortoise lay eggs. Young ones hatch out of the eggs.

4. Parents who adopt a child are called his foster parents.

B. Fill in the blanks -

1. mother's, 2. Kicking, wriggling, 3. eggs

C. Write 'Yes' or 'No' -

1. Yes, 2. No, 3. Yes

D. Tick () the correct option-

1-d. all of these, 2-d. all of these, 3-a. birds,

Funs Time -

1. Hen and chick -

2. Bitch and puppy - dog

3. cow and calf - Bull

4. Eve and lamb -

Hots Questions -

Activity - Do yourself

Chapter 3

AN EXTENDED FAMILY

TEST YOURSELF

Oral Questions -

- both maternal and paternal relatives are a part of an extended family.

- family gatherings bring feeling of closeness.

- Social family bond provide us love and security.

- spend time with your family members.

A. Answer the following questions -

1. Immediate family - Family is a group of people living together under one roof. The people who live with us in our home are a part of our immediate family. An immediate family consists of parents, children and sometimes grandparents.

2. Extended family - In extended family more than the generations live together. It includes parents, children, aunts, uncles, grandparents etc. They may or may not live in the same house, city or country. But they are always mentally or physically close to share joys and sorrows of each other. Both maternal and paternal relatives are a part of an extended family.

We meet our extended family members on various occasions like a wedding, birth of a child or festivals. We reach out to them on sad occasions like death in a family. We share our joys and sorrows with our relatives.

3. Family Values - Family gatherings bring feelings of closeness, belonging and respect among family members. They help traditions and values to pass on from the elders to the younger generations. These get-togethers let us share our beliefs and ideas with each other.

Every family follows a set of values and principles. Some of these values keep changing with time. But there are certain values which never change. These are passed on from generation to generation.

The things we should follow to develop family values are -

- Never criticize anyone.

- spend time with your family members.
- Eat meals together.
- Care for each other.
- Be responsible. Always try to do what is right. Exchange your views and ideas with others. to help them.
- Be truthful.
- Respect other feelings.
- Love everyone and share work.

4. Learning from family members - A family teaches us to share work and responsibilities. The family members motivate each other, help us identify our talents and teach discipline. This helps children to grow as well-groomed adults.

Children follow their parents, uncles and aunts and learn many things from them.

B. Fill in the blanks -

1. society, 2. share, 3. values, 4. respect

C. Write 'Yes' or 'No' -

1- (x), 2 - (v), 3 - (v), 4 - (x)

D. Tick () the correct option-

1-b. family, 2 -c. joy and sorrow, 3- b. family members, 4- a. time

Funs Time - Do yourself

Hot Questions -

In an extended family all the family members are strongly connected to one another mentally physically to share joys and sorrows. Both material and paternal relatives are a part of an extended family.

We meet our extended family members on various occasions like a wedding, birth of a child or festivals. We reach out to them on sad occasions. Like death in a family. We share our joys and sorrows with our relatives.

Activity - Do yourself.

Chapter 4

OUR SENSE ORGANS

TEST YOURSELF

Oral Questions -

- A thing having pleasant smell - fragrance
- A thing hot to touch - skin
- Organs that help us to enjoy the world around us - sense organs
- A thing having foul smell - bad odour
- Largest sense organ of our body - skin.

A. Answer the following questions -

1. Human beings have five sense organs. These are eyes, ears, nose, tongue and skin. Sense organs take information from the surroundings and send it to our brain. If we do not have them, we would not be able to see, hear, smell, taste, and feel. Our sense organs help us to enjoy the world

2. Pole of skin - Our body is covered with skin. Skin is the largest sense organ of our body. It is the organ which help us touch. Skin covers and protects everything inside the body. Skin holds our muscles, bones and organs together.

The bottom layer of our skin is filled with many tiny, sensitive nerve endings that give information of the things with which our body comes in contact with. That is why, whenever we touch anything hot, our brain tells our hands to move away. The message travels to brain from different body parts along the nerves.

3. When we touch something hot, we pull back our hand naturally. This happens because bottom layer of our

skin is filled with many tiny, sensitive nerve endings that give information of the things with which our body comes in contact with. That is why, whenever we touch anything, hot, our brain tells our hands to move away. The message travels to brain from different body parts along the nerves.

4. Sense of smell - We smell different things through our nose. When we enter a room where a pot of flowers is kept. We feel pleasant smell. Similarly, when we cross a garbage bin, we cover our nose with our hands. Actually, what we smell are tiny things called odour particles, millions of odour particles float in air and can be sniffed by our nose.

The odour particles enter our nose through their nostrils. After entering the nostrils, the air moves up in the nose. Our nose is covered with special cells. The odour particles stick to these cells and send nerve signals to the brain. The brain identifies these odours as good or bad smell.

5. Differently-abled People - People who cannot see hear or speak, have highly developed sense of smell and touch. The people who cannot see are called blind. They can read and write using their sense of touch. There is a special script called Braille script which is used by blind people to read and write. It is a coding system where six raised dots are arranged in a particular sequence and each sequence represents a letter of the alphabet.

If one of the senses gets damaged, the other senses work better to make up for it. People with damaged sense organs are called special or differently-abled people. They lead a tough life. It is our moral responsibility to be sensitive towards them. We should be very considerate because our little help can make a big difference in their lives.

B. Fill in the blanks -

1. sense, 2. skin, 3. smell, 4. special, 5. braille

C. Write 'Yes' or 'No' -

1- (x), 2 - (x), 3 - (v), 4 - (x), 5 - (v)

D. Tick () the correct option-

1-d. skin, 2-b. touch nerves, 3-d. a touch from a stranger, 4- a. through nostrils

Funs Time - Do yourself

Hot Questions -

A normal person can detect millions of odours. Actually, what we smell are tiny things called odour particles. Millions of odour particles float in air and can be sniffed by our nose.

Activity - Do yourself

UNIT - 2 : WORK AND PLAY

Chapter 5

VARIOUS OCCUPATIONS

TEST YOURSELF

Oral Questions -

- A potter makes pot.

A. Answer the following questions -

1. Different people do different work to earn money. We need money to fulfill our basic needs of food, shelter and clothing. The work done to earn money is called occupation.

2. Professions are those jobs that need special training and education. People who do such jobs are called professionals.

3. Sharing work at home - All of us should lend a helping hand at home. This way, no one is over-burdened and the work gets done faster.

B. Fill in the blanks -

1. sick, 2. earn, 3. clay,

C. Match the following -

1. Tailor - b. Stiches clothes, 2. Doctor - c. treats sick person, 3. Mechanic - a. repair, vehicles,
4. Teacher - a. teaches in a school

D. Tick () the correct option-

- 1-c. earn, 2 -d.cobbler, 3- a. fashion designing

Funs Time -

WATCHMAN, GARDENER, GREEN GROCER

Hot Questions -

This first lady pilot must have faced a lot of tremble in getting a flying licence because earlier jobs were given on the basis of gender. Many jobs like flying an aircraft, driving in auto-rickshaw, etc were reserved only for men. Similarly, Some jobs are done only by women like fashion designing and hair styling.

But, now a days, now both boys and girls get equal educational oportunities and they can do any type of work. Women have reached the topmost positions in our country. Some of the famous Indian women who have attained fame worldwide are kiran bedi, sunita williams, smt. Pratibha Devi singh Patil and susharita sen.

Activity - Do yourself

Chapter 6

GAMES WE PLAY

TEST YOURSELF

Oral Questions -

- Doing something different some from routine is called recreation.
- Ludo is an indoor game.
- Quiz is played in clasroom.

A. Answer the following questions -

1. Most of us work very hard our lives would become dull and boring if we do not take a break from work. We need time to play and relax ourselves. Doing something different from the routine is called recreation. Playing games is a good exercise as well as a good means of recreation.

2. Doing something different from the routine is called recreation.

3. (i) Indoor Games - The games that we play inside our houses are called indoor games. For example ludoo, chess, carrom, snakes and ladder, chinese checker etc.

(ii) Outdoor games - The games that we play outside our houses are called outdoor games. For example - cricket, football, hockey, kho-kho, hide and seek, hopscotch etc.

4. Fair Play - We play games not only for win but for enjoyment. Foul play ruins any game. Sometimes children get into quarrels while playing. If such a thing happens, we should take the help of a teacher or an adult to settle the issues. To avoid this, we should always follow the rules of the game. A good sports person has sprotsman's spirit which helps him/her to overcome all obstacles.

B. Fill in the blanks -

1. road, 2. top, 3. circus

C. Match the following -

1. ludo - d. Indoor game, 2. cricket - c. Outdoor game, 3. Acrobats - e. Circus, 4. Kabaddi - b. Game of older days, 5. Crossword - a. Classroom game.

D. Tick () the correct option-

- 1-c. in the playground, 2 -a. crossword, 3- d. both (a) and (b)

Funs Time -

Horizontal - FOOTBALL, BAT BALL, RACQUET, HOCKEY

Vertical - DICE, GOLF,

Hot Questions -

No, animals should not be used in circus because it is an attack on their freedom.

Activity - Do yourself.

UNIT - 3 : ANIMALS AND PLANTS

Chapter 7

THE ANIMAL WORLD

TEST YOURSELF

Oral Questions -

- Human being is a social animal.
- Animals live in groups in search of food.
- All animal groups are led by leader.
- Rabbits and lizards are sky animals.
- Cow and dog are friendly animals.

A. Answer the following questions -

1. Human being is a social animal. He lives together in villages and cities. Just like humans, animals also live together in groups.

Animal groups - There are various reasons for which animals live together in groups.

Some of these are as following -

- To protect themselves from enemies.
- In search of food, water and shelter.
- To raise their young ones.

Most animal groups are led by a leader. He takes the major decision of the group. All the members of the group obey the leaders.

2. (i) Shy Animals - Some animals like rabbits, lizards, squirrels, rats, deer, birds, insects etc are very shy in nature. They do not come near to us. They hide or run away on seeing humans. Tortoise and snails go into their shells if we touch them. Hedgehogs and porcupines are also shy animals which roll themselves into prickly balls.

(ii) Friendly Animals - Some animals like dog, cow, cat, hen, buffalo, dolphin etc are very friendly in nature. They are not scared of human beings. They do not hide on seeing humans. These animals can be easily tamed.

3. Animals that help each other - Like humans, animals also help each other. Some species of animals have special relation with the animals of other species.

Some of these animals are as following -

White birds known as cattle egrets which live near big animals like cows, buffaloes and elephants. They do so because they eat the insects that are uncovered by the grazing cattle. Egrets often perch on the back of big animals. If the bird senses any danger, it flies away giving a warning to the cattle.

(i) Egyptian plover is a bird that feeds on lots of decaying meat stuck in the teeth of crocodile. The plover gets its food and crocodile gets its teeth cleaned.

(ii) Oxpeckers are small birds that ride on large animals such as oxen and rhino and peck insects from their bodies.

4. Social animals live in groups or colonies as we humans live. Most animal groups are led by a leader. He takes the major decisions of the group. All the members of the group obey the leader. Different terms are used to describe groups of different animals. Ants and bees are called the social animals.

5. Ant colonies - Social animals live in colonies ants and bees are social animals. Ants dig deep into the soil and make big anthills.

Life in an ant colony is very organized. An ant colony consists of males, workers and queens. Males and queen ants get together to reproduce. The queen ant lays eggs which are taken by the worker ants to special chambers in the anthill. The worker ants take care of the growing larvae (egg) and the queen ant.

They also search for food and fight with the enemies. The queen ant lives the longest. It has a lifespan of upto 25 years.

B. Fill in the blanks -

1. Man, 2. protect, 3. hide, 4. Tamed, 5. queen.

C. Match the following -

1. Cows - e. Herd, 2. Fish - g. school, 3. Birds - a. flock, 4. Lions - h. Prides, 5. Ants - b. colony,
6. Wolves - f. Pack, 7. chimpanzees - c. Band, 8. Bees - d. Swarm.

D. Tick () the correct option-

1-c. prides, 2-d. tortoise, 3-c. friendly, 4- d. ants and bees.

Funs Time - Do yourself

Hot Questions -

Domestic animals are used on farm.

Activity - Do yourself.

Chapter - 8

PARTS OF PLANTS

TEST YOURSELF

Oral Questions -

- stem and leaves and part of shoot system.
- Sunflower has a taproot system.
- Radish has food storing roots.
- Aerial roots grow above the ground level.
- A leaf is often green in colour.
- The stem supports other parts of the plants.

A. Answer the following questions -

1. There are two basic parts of a plant - The shoot system and the root system. Stem, leaves, branches, fruits and flowers that grow above the soil form the shoot system. The part of the plant that grows under the soil is called the root system.

- The Root system - The root system is broadly divided into two systems - the tap root and the fibrous root.
- The shoot system - stem, leaves, flowers, fruits, buds and branches form the shoot system of the plant.

2. Tap Root - The primary or main root which is thick and prominent grows vertically downwards into the soil. This root is called the tap root. Many small branch roots may grow from it, i.e., Mustard, turnip, sunflower, carrot, and radish.

- Fibrous Root - In this system, the primary root usually dies at an early stage. It is replaced by numerous roots that develop from the stems. The small roots grow side ways in all directions. They are called fibrous roots, i.e., grass, wheat, marigold, onion, rice etc.

3. Functions of Roots - Roots play a very important role in the growth of a plant.

- Roots absorb water and minerals from the soil and send it to the other parts of the plants.
- They store food for the plant.
- They prevent soil erosion.

4. Special functions of Roots -

(i) Roots that store food - Plants like radish and carrot store food for their plants in their roots. We eat these roots as vegetables.

(ii) Roots that store water - Water storing roots store water for the plant, i.e., gourd and pumpkin.

(iii) Aerial roots - The roots that grow from the stem above the ground level are called aerial roots. They also help in the process of photosynthesis i.e., Banyan tree. Mangroves produce aerial roots from their branches that go deep into the soil. Some roots like sweet potato, potato etc are termed as famine food. They are eaten by people during famine when nothing else grows. They are easily available and also store starch which gives energy to the people.

5. Leaf - Leaves are called the kitchen house of a plant. A leaves are often green in colour. They take energy from sunlight, carbon-dioxide, from air and water and minerals from soil to prepare food with the help of green pigment (chlorophyll) present in it. This is called photosynthesis. We eat leaves like spinach, lettuce, cabbage etc.

B. Fill in the blanks -

1. Root, 2. wheat, marigold, 3. food, water, 4. getting uprooted, 5. chlorophyll

C. Match the following -

1. Carrot - d. Roots that store food.

2. Pumpkin - a. Roots that store water.

3. Banyan tree - c. Aerial root.

4. Leaves - e. Chlorophyll

5. Onion - b. Fibrous root.

D. Tick () the correct option-

1-d. all of these, 2 -a. turnip, 3- c. both (a) and (b), 4- c. green leaves

Funs Time - Do yourself

Hot Questions -

Grass doesn't come out easily when we pull it because roots fix the plant to the soil firmly and prevent the plant from getting uprooted.

Activity - Do yourself.

Chapter 9

PARTS OF FLOWERS

TEST YOURSELF

Oral Questions -

1. petals, 2. sun flower, 3. cauliflower, 4. stamen, 5. apiculturists, 6. Apiculture

A. Answer the following questions -

1. Parts of a flower - The process of making new seeds is called reproduction. Different parts of a flower are responsible for reproduction of a plant. Petals attract insects like butterflies and honey bees. These insects collect pollen grains from the stamen as food. Then they transfer this pollen grains to the pistil of the same or another flower. This process is called pollination.

It helps the plant to produce seeds. Some flowers dry up and grow into fruits. All the while the sepals prevent petals from falling off. Stamen is the male part of the flower and pistil is the female part.

2. When insects collect pollen grains from the stamen as food, then transfer this pollen grains to the pistil of the same or another flower. This process is called pollination.

3. Uses of flowers - Flowers have many uses in everyday life. They bring joy, beauty, freshness and fragrance in our lives. Here are few uses of flowers-

(i) Flowers of cauliflower, broccoli, pumpkin etc are eaten.

(ii) Flowers are used for decoration. They are used in restaurants for table decoration, in worship places, in lawns during functions, etc. Rangoli are also made on the floor with flowers.

- (iii) People greet each other with flowers on special occasions.
- (iv) Many women wear gajra (made up of flower) in their hair.
- (v) Petals of some flowers are used to make dry colours called gulal during Holi celebrations.
- (vi) The sweet smelling flowers of jasmine, rose, lavender and oranges are used to make perfumes.
- (vii) Dried flowers are used to make potpourri.
- (viii) Honey is made from the nectar produced by flowers.

4. Honey from flowers - we get honey from flowers. Honeybees collect nectar from flowers and carry it to their hive. A beehive is made up of hexagonal cells called honeycombs. These honeycombs are like small rooms where the bees store nectar and pollen grains lay eggs and raise their young ones.

The bees spit out the nectar that they collect from flowers and seal the honeycomb with the wax they produce. Slowly this nectar gets converted to honey. Beekeepers rear honeybees to get honey. This art of beekeeping is called apiculture. The people who rear bees are called apiculturists. The place where bees are reared is called an apiary.

When honeycomb is full of honey, it starts dripping. The apiculturist then knows it is time to extract honey. So a fire is lit under the hive to scare away the bees and the hive is removed. Thus, honey is easily extracted from the combs.

B. Fill in the blanks -

1. Fruits, 2. Pumpkin, 3. Florist, 4. Nectar, 5. Apiculturist

C. Match the following -

1. Petals - d. attract insects, 2. Pistil - e. Female part of flower, 3. stamen - b. male part of flower, 4. sepals - a. hold the petal together, 5. calendula - c. flowers of winter season.

D. Tick () the correct option-

1-a. pistil, 2-c. sepal, 3-a. fascicles, 4- a. apiary

Fun Time - Do yourself

Hot Questions - Do yourself

Activity - Do yourself

REVISION TEST PAPER - i

(Based on Chapter 1 to 9)

A. Answer the following questions -

1. Mother is special because she is the special gift of God. She plays a very important role in our life. She loves us and care for us.

2. Reproduction - Animals give birth to their young ones or lay egg so that their kind does not die out completely.

3. Adoptions - Adoption is a legal process by which couples take on the responsibility of bringing up a child who is not born to them. These parents who adopt the child then become his/her parent. Parents who want to adopt a child usually go to an orphanage.

They fill up forms and give their family details. Adopted child is loved and taken care of by these people as their own one.

4. Family Values - Family gatherings bring feelings of closeness, belonging and respect among family members. They help traditions and values to pass on from the elders to the younger generations. These get-togethers let us share our beliefs and ideas with each other.

Every family follows a set of values and principles. Some of these values keep changing with time. But there are certain values which never change. These are passed on from generation to generation.

The things we should follow to develop family values are -

- Never criticize anyone.

- spend time with your family members.
- Eat meals together.
- Care for each other.
- Be responsible. Always try to do what is right. Exchange your views and ideas with others. to help them.
- Be truthful.
- Respect other feelings.
- Love everyone and share work.

5. Role of skin - Our body is covered with skin. Skin is the largest sense organ of our body. It is the organ that helps us to touch. Skin covers and protects everything inside the body. Skin holds our muscles, bones and organs together.

The bottom layer of our skin is filled with many tiny, sensitive nerve endings that give information of the things with which our body comes in contact with. That is why, whenever we touch anything hot, our brain tells our hands to move away. The message travels to brain from different body parts along the nerves.

B. Fill in the blanks -

1. big, 2. Mother's, 3. Society, 4. clay

C. Match the following -

1. Ears - c. Hearing, 2. Eyes - d. seeing, 3. Nose - e. Smelling, 4. Legs - walking, 5. Hands - a. working.

D. Tick () the correct option-

1-a. birds, 2 -b. family members, 3- a. skin, 4 -a. crossword, 5- b. Pride

E. Do yourself

UNIT - 4 : FOOD

Chapter 10

FOOD GRAINS

TEST YOURSELF

Oral Questions -

-Rice and wheat are cereals.

- Spaghetti is a rich source of iron and calcium.

A. Answer the following questions -

1. All of us need food to stay alive. We get energy from food. Food helps us to grow strong and healthy. There are many sources of food. Most of the food that we eat comes from plants, cereals, pulses, sugar, tea, coffee, oils, spices, fruits, vegetables, etc are all obtained from plants.

2. Food grains - Food grains include pulses also. Cereals are grains such as rice, wheat and maize. Pulse are grains such as gram, urad, arhar, moong etc. We get protein from pulses. They make our body strong and help us grow.

3. Fruits and vegetables - Fruit and vegetable are also obtained from plants. We get vitamins and minerals from them. They keep us healthy. Some of the fruits are mango, banana, cherry, pomegranate etc. Some of the vegetables are onion, carrot, potato, peas, beans, ladyfinger, spinach etc.

4. We get tea and coffee also from plants. Tea leaves are used to make tea, coffee beans are used to make coffee.

B. Fill in the blanks -

1. cereals, pulses, 2. cloves, turmeric, 3. winnowing.

C. Match the following -

1. Preparation of soil - c. Ploughing

2. Cutting of crops - d. Harvesting

3. Removal of husks from grains - e. Winnowing
4. Watering of plants - a. Irrigation
5. Separation of harvested crop - b. Threshing
- D. Tick () the correct option-
- 1-d. rice, 2 -c. spinach, 3- c. irrigating

Fun Time - Do yourself

Hot questions - Do yourself

Activity - Do yourself

Chapter 11

EATING TOGETHER

TEST YOURSELF

Oral Questions -

- Eating together with families strengthens mutual bond.
- Eating together in larger groups is called community eating.
- A wedding is usually arranged in an open ground.
- In some schools, mid-day meals are provided to children.
- Only vegetarian food is served in canteens.

A. Answer the following questions -

1. Community Eating - Eating together strengthens bonds among family members and friends. It promotes the feelings of togetherness. There are occasions when people eat together in larger groups such as in a wedding, religious festivals, school functions etc. Eating together on such occasions is called community eating.

2. Community eating is held on some occasions such as weddings, birthdays, anniversaries, house-warming ceremonies etc.

3. Religious Festivals - The perfect occasions to gather together and enjoy food are religious festivals and ceremonies. Langars and bhandaras are free meals served at religious places where people of any caste, status and religion are free to eat equally. Only vegetarian food is served here. Food is prepared in a common kitchen and anybody can help in cooking and serving. This is called sewa.

4. In some schools, mid-day meals are prepared by the government free of cost to the children. It has many benefits. Some of them are as following.

- It increases the school attendance.
- It improves the health of poor children.
- It brings a feeling of closeness.
- It teaches children about the basic table manners.
- It provides employment to women who cook these meals.

5. The practice of langar was first started by Guru Nanak Dev to break the caste system that prevailed at that time.

B. Fill in the blanks -

1. closeness, 2. Utensils, 3. sewa, 4. attendance, 5. boarding

C. Write 'Yes' or 'No' -

1. No, 2. Yes, 3. Yes, 4. No.

D. Tick () the correct option-

Fun Time - Do yourself

Hot Questions - Do yourself.

Chapter 12

TONGUE AND TEETH

TEST YOURSELF

Oral Questions -

- Our tongue is a unique muscular organ.
- The upper surface of the tongue has tiny bumps contain tastebuds.
- The enamel covers the teeth.
- Canines are sharp teeth on either side of incisors.

A. Answer the following questions -

1. Tongue - Tongue is a unique organ in our body. It extends from the back of the mouth and is attached to the floor of the mouth. This allows a lot of movement area to it. So the food is easily moved in the mouth and then swallowed in.

There are tiny bumps on the upper surface of the tongue. These are the taste buds. Four kinds of taste buds are grouped in certain areas of the tongue. These taste buds can sense sweet, salty, sour and bitter tastes.

2. Humans have two sets of teeth - temporary and permanent. Temporary teeth, also called milk teeth, are 20 in numbers. They begin to emerge around the age of 6 months. These teeth are fully developed by the time a child is two years old.

We gradually lose our temporary teeth by the time we are 6 years old. This is the phase of development of permanent teeth that lasts for many years. There are 32 permanent teeth - 16 in each jaw.

3. Function of teeth and tongue - Tongue and teeth together help us to talk and eat. We chew our food with the help of our teeth. Chewed food is easily digested. Teeth give shape to our face and help us to speak clearly.

Our tongue is a unique organ in our body. It extends from the back of the mouth and is attached to the floor of the mouth. This allows a lot of movement area to it. So the food is easily moved in the mouth and then swallowed in.

There are tiny bumps on the upper surface of the tongue. These are the taste buds. Four kinds of taste buds are grouped in certain area of the tongue. These taste buds can sense sweet, salty, sour and bitter tastes.

4. Kinds of Teeth -

There are four kinds of teeth - Incisors, canines, premolars and molars.

(i) Incisors - The front biting teeth are called incisors. There are four incisors in front of each jaw. These are used for biting food.

(ii) Canines - Canines are sharp teeth on either side of incisors. These teeth help to tear food. The canines lie on either side of the incisors in each jaw. That means tearing or dog teeth.

(iii) Premolars - The broad teeth next to the canines are called premolars or the cracking teeth. They grind and mash food that we eat there 4 premolars in each jaw.

(iv) Molars - Molars lie behind premolars, 6 in each jaw. They are 12 in number. They are used for vigorous chewing. Crown is the visible part of the tooth. The enamel covers the teeth. Root is the anchor of a tooth that extends into the jawbone.

5. Caring our Teeth - It is very important to take care of our teeth as bacteria collect and multiply in the mouth. They break the sugar into acids that cause tooth decay. This makes holes in teeth called cavities. Plaque is also a tooth disease that can form yellow deposits on teeth and can damage them. Plaque also damages gums that hold the teeth. Hence, we should clean our teeth regularly. We should always -

- Brush our teeth twice a day - Once in the morning and once at bedtime.
- Rinse our mouth after every meal to remove the food particles that get stuck in the teeth.
- Brush correctly. Move the toothbrush from the gums towards the edge of the teeth. Move brush back and forth, gently in short strokes.

- Eat plenty of fresh fruits. Avoid junk food.
- use a soft bristle toothbrush. Change it every three months.

B. Fill in the blanks -

1. Muscular tongue, 2. Molars, 3. milk (temporary) teeth, permanent teeth, 4. carnivorous or flesh-eaters.

C. Write 'Yes' or 'No' -

1. Yes, 2. Yes, 3. No, 4. No, 5. No

D. Tick () the correct option-

1- b. 20, 2 - b. canines, 3 -c. Premolars

Fun Time - Do yourself

Hot Questions - Do yourself.

Activity - Do yourself.

Chapter 13

BEAR AND CLAWS

TEST YOURSELF

Oral Questions -

- Beaks are also called bills.
- Eagle has a shredder beak.
- A crow has a swiss-army knife beak.
- Preying birds have talons.

A. Answer the following questions -

1. Birds use their beaks for different purposes. They use it to peck, fight, catch food, search for food, collect things and build their nests. They even use their beaks to clean their feathers. The process of cleaning feathers with the oil taken from their oil glands is called preening.

2. Birds of prey like hawks and eagles have sharp, curved claws called talons to catch and hold on to their prey.

3. Perching Birds - Perching birds like sparrows and crows have three toes in front and one at the back to hold on to a branch. They use their front-toes like fingers and the back toe like thumb. Their toes go around the branch to grip it firmly.

4. Climbing Birds - Climbing birds like wood pecker have two toes which point upwards and the other two toes pointing downwards to climb and cling on the trees.

B. Fill in the blanks -

1. preening, 2. cone, 3. insects, 4. scratch

C. Match the following-

- | | |
|----------------------------|---------------------|
| 1. Shredder beak - | c. Owl and vulture |
| 2. Straw Shaped beak - d. | Humming bird |
| 3. Talons - | b. Hawks and eagles |
| 4. Widely spread toes - a. | Cranes and herons |

D. Tick (✓) the correct option-

1- d. all of these, 2 - d. all of these, 3 -d. all, 4 - a. Humming bird.

Fun Time - Do yourself

Hot Questions - Webbed feet help them to swim in water.

Activity - Do yourself.

UNIT - 5 : TYPES OF HOUSES

Chapter 14

TYPES OF HOUSES

TEST YOURSELF

Oral Questions -

- Houses in villages are called kuchcha houses.
- It is important to keep our house clean

A. Answer the following questions -

1. Kuchcha Houses - Houses in rural areas are very simple. These houses are called Kuchcha houses. These types of houses are made up of mud, stones, cow dung, leaves, bamboo, clay etc. These houses are weak houses which get damaged by strong winds and rains easily. So, they need to be repaired frequently. Hence, these are also called temporary houses. But now-a-days villages are also changing. Many brick houses can also be seen in villages.

- Pucca Houses - We find pucca houses in Urban areas like cities. These houses are made up of bricks, cement, iron rods, glass, metals, tiles, asbestos sheets, marble and many more strong materials.

These are strong houses and do not get easily damaged by rain or wind.

Some of the types of pucca houses found in cities are single - storied, double - storied, flats (multi-storied) and bungalows.

2. Slums - In cities, some people also live in slums. It is a cluster of huts built close to one another because of shortage of space. Slums are totally unplanned, unsafe and unhygienic. They do not have any proper provisions of facilities like water supply and drainage. The government is trying to provide low cost housing with basic facilities for people living in slums.

3. Houses - Now and then - A house is a place that provides safety to its inhabitants. In earlier times, the shelters made by human beings were built of animal hides, straws, stones, etc. With the passage of time mud, bricks, wood and stone came into use. Today the houses are constructed with wide variety of materials like wood, bricks, steel, concrete, iron, aluminium, glass and plastic.

- An Ancestral house - Houses (then) - There were simple houses in earlier times. There was a lot of open space in and around them. The roofs were high. These houses were made up of baked bricks with flat roofs and were almost identical. Most houses had a courtyard. Each home had a private drinking well and its own private bathroom.

The joint family system prevailed and all the women used to carry out household chores together. Earthen lamps were used for lighting as there was no electricity.

- Houses (Now) - The houses have undergone major change with the increase in population, and the change from joint family to nuclear family system. Today, people live in two or three room apartments. Each house today does not have open space around it. Houses now-a-days are designed according to convenience, health, sanitation and economy of people. Whatever the type of house it may be, it is important to keep it clean.

B. Fill in the blanks -

1. Kuchcha, 2. flats, bungalows, 3. slum, 4. pucca houses

C. Match the following -

1. Kuchcha house - d. Rural areas
2. Flats - c. Urban house
3. Largest slum in India - a. Mumbai Dharavi
4. Houses of baked bricks - b. Ancestral house

D. Tick (✓) the correct option-

- 1 - a. mud, 2 - d. all of these, 3 - a. a courtyard

Fun Time -

1. Pucca house, 2. Bungalow, 3. Flat, 4. Kuchcha House, 5. Slum, 6. Hut.

Activity - Do yourself.

Chapter 15

SHELTER FOR ANIMALS

TEST YOURSELF

Oral Questions -

- Arboreal animals,
- nectural animals
- Aquatic animals
- Amphibians animals

A. Answer the following questions -

1. Shelter is very important for all living things we all need shelter to protect ourselves from bad weather and other unwanted elements.

2. Animals living on land are called terrestrial animals.

3. Animals that live in water are called aquatic animals. Water is a home for many animals on the earth. Some of these are fish, whale, dolphin, starfish, octopus, crab, turtle etc. Water animals breathe the oxygen dissolved in water.

4. Animals that live both in water and on land are called amphibians. Some of these animals are crocodile and frogs. They have lungs when on land and they breathe through their skin when they are in water.

5. Animals that we keep in our houses are called pets or domestic animals. We should take care of them and keep their shelters clean. Domestic animals are kept on farms. Here are the shelters of some pets and domestic animals.

B. Fill in the blanks -

1. nests, 2. herds, 3. crocodiles, 4. nectural animals, 5. domestic

C. Match the following -

1. Rabbit - d. Burrow, 2. Lion - a. Den, 3. Ants - b. Anthill, 4. Honeybee - f. Hive,
5. Horse - c. stable, 6. cow - e. Shed

D. Tick (✓) the correct option-

1- d. all of these, 2- c. terrestrial animals, 3- d. stable, 4- a. kangaroo

Fun Time - Do yourself

Hot Questions -

During hibernation small animals go for long sleep/rest.

Activity - Do yourself.

Chapter 16

WASTE AROUND US

TEST YOURSELF

Oral Questions -

- Anything that is useless is waste.
- Polythene bags are non-biodegradable.
- Incineration pollutes the air.
- Biodegradable waste is thrown in greenbin.

A. Answer the following questions -

1. Waste - Anything that is useless and unwanted is called waste. This waste should be disposed in such a way that it does not have any harmful impact on the surroundings.

If the waste is not disposed off properly, it may become a breeding ground for various harmful insects and

germs. Some of the common diseases that spread due to dirty surroundings are typhoid, cholera and diarrhoea.

2. - Biodegradable wastes - Biodegradable wastes are those which rot easily and mix with the soil. For example - peels of fruits and vegetables, natural fabrics, paper, leaves, human and animal excreta, egg shells, left over food, etc.

- Non-biodegradable wastes - Non-biodegradable wastes are those which do not rot easily. They remain in the environment and cause harm. For example - metals, aluminium foil, plastic materials, polythene bags, glass etc.

3. Composting means to throw wastes underground.

4. open dumping is another method of waste disposal. But this is not good method of waste disposal as it pollutes the environment. In this method, the garbage is carried to an open ground outside the time limits and dumped.

5. Three R'S - The first R is for reuse. The second R is for Reduce. The third R is for Recycle. It is a process by which waste materials are used to make new things. Discarded products such as newspaper, magazines etc can be collected and processed into new paper products. Non-biodegradable wastes like plastic, glass, rubber etc can be recycled.

B. Fill in the blanks -

1. harmful, 2. dustbin, 3. composting, 4. reuse, Reduce, recycle.

C. Match the following -

1. Egg shells - c. Biodegradable

2. Polythene bags - d. Non-biodegradable

3. Incineration - a. causes air pollution

4. Manure - e. compost,

5. Newspaper - b. Recycled

D. Tick (✓) the correct option-

1- d. all of these, 2- d. both (a) and (b), 3- d. fruits and vegetables

Fun Time - Do yourself.

Hot Questions - Rural wastes means collection and disposal of waste in urban areas.

Activity - Do yourself.

Chapter 17

MAPPING THE NEIGHBOURHOOD

TEST YOURSELF

Oral Questions -

- landmarks, - physical map,

- cartographer, - north,

A. Answer the following questions -

1. Landmarks - Reference points or places that help us to locate a place are called landmarks. Making a mark on the bark of a tree, piling up stones on the way were some of the ways to locate places in earlier times. There were no house numbers or names of streets. People used to create their own landmarks to find their way back. It can be anything, like a monument, a building, a market, a park or any other structures.

2. Map - A map is a drawing of earth or any part of it on a flat surface. Map of the world shows the entire world. Maps show places in relation to each other. A map which shows different states of a country is called a political map. A map that tells us about the physical features of a place is called a physical map.

3. North, South, west, east are the four way directions.

4. All maps have a key or a legend in which comes the key or the legend explains the symbols used in a map.

Different signs and symbols are used for the maps to show various features like roads toward railway crossings, post offices, dams building etc. These signs are used to avoid cluttering the map with words.

B. Fill in the blanks -

1. landmarks, 2. map, 3. symbols.

C. Match the following -

1. Blue - b. water bodies 2. Green - c. Forest,

3. Brown - d. Mountains, 4. yellow - a. Desert

D. Tick (✓) the correct option-

1- d. both (a) and (c), 2 - b. cartographer, 3 - c. Man-made building

Fun Time - Do yourself

Hots Questions

An atlas is a book containing figures of maps in a hawing.

Activity - Do yourself.

UNIT - 6 : WATER

Chapter 18

SOURCES OF WATER

TEST YOURSELF

Oral Questions -

- Earth is called the blue planet.

- Rain is the main source of water.

- A reservoir is an artificial lake behind a dam.

- The water changes into water vapour by the process of evaporation.

A. Answer the following questions -

1. More than 70% of the earth is covered with water. That is why it is often referred to as the blue planet.

2. The different sources of water on the earth are rain, seas, oceans, ponds, rivers, lakes water, falls etc.

3. Water storage - Rain is the major source of water but it does not rain throughout the year. So, we need to store this rain water in order to use it later. This is done by building, dams, canals and reservoirs.

A dam is a well built across a river to hold back or block the flow of river water. This water is stored and used to generate electricity and for irrigation.

4. Evaporation - A large amount of water is present in the air in the form of water vapour. When water gets heated, it changes into water vapour and goes into the air. This process of changing water into water-vapour is called evaporation.

5. Evaporation is faster on these conditions -

1. Water evaporates faster when it is left in the open.

2. Water evaporates faster when the air is dry.

3. Water evaporates faster when it is spread over a large area.

4. Water evaporates faster when it is windy.

5. Water evaporates faster at high temperature.

B. Fill in the blanks -

1. rain, 2. canal, 3. electricity for irrigation, 4. evaporation.

C. Match the following -

1. Dam - c. A wall built across a river

2. Canal - d. A channel of water

3. Reservoir - a. A man-made lake

4. Earth - b. Blue planet

D. Tick (✓) the correct option-

1- c. water, 2 - d. all of these, 3 - b. high,

Fun Time - Do yourself

Hots Questions

Raindrops change into snow due to the process of condensation when they fall in very cold places like the top of mountains.

Activity - Do yourself.

Chapter 19

KEEP WATER CLEAN

TEST YOURSELF

Oral Questions -

- We should not pollute water.
- Water that is fit for drinking is called potable water.

A. Answer the following questions -

1. Making water dirty that is not fit for drinking and harms our health is called water pollution.

2. Water is getting polluted due to various activities.

- Sewage discharge, - industrial wastes,
- Bathing animals, - Oil spills,
- Garbage disposal - Dead animals,
- Washing clothes etc.

3. Controlling water pollution -

- keep the environment and water clean by disposing the wastes properly.
- Industries should be not be allowed to throw their wastes into the rivers.
- Nobody should be allowed to bathe animals or wash clothes in water bodies.
- create awareness about keeping water sources clean.

4. Purification of water - The pure water that is fit for drinking is called potable water. We cannot drink water directly from any natural resources. It has to be treated before drinking.

Process involved in water treatment -

- coagulation - Dirt and other particles are removed by this method.
- sedimentation - By this process, heavy particles settle to the bottom and clear water moves for filtration.
- Filtration - In this process, water passes through filters made of layers of sand, gravel and charcoal to remove even small particles.

- Disinfection - A small amount of chlorinated is added to kill any kind of bacteria present in the water.

- Storage - Then water is placed in a closed tank. This water flows through pipelines to our homes.

There are several other methods also to make water potable.

For example -

- Boiling - Boiling is one of the best methods of making water safe for drinking is boiling. Boiling kills germs present in water.

- Filtering - Many water filters are available in the market which are used to filter water. Now-a-days, we also have RO's and aquaguards to make water potable.

5. Saving water - We all should use water judiciously. We all can make some contribution to conserve water by following these tips -

- Repair leaky taps and faucets.
- Always turn off the taps tightly so that they don't drip.
- Turn off the water while brushing your teeth.
- Have short showers or use a bucket to bathe.

- Repair any leakage in the toilet tank.
- Do not work fruits and vegetables under running tap of water use a bowl.
- Collect rainwater in buckets and use it for watering plants later.
- Use a bucket to wash your car or bike.

B. Fill in the blanks -

1. harm, 2. purified, 3. RO's , aquaguards, 4. conserve, 5. bucket

C. Match the following -

1. Sedimentation - d. Settling of heavy particles
2. Storage - e. Water placed in closed tanks
3. Disinfection - b. adding chlorine
4. Coagulation - a. removal of dirt particles
5. Filtration - c. removal of smaller particles

D. Tick (✓) the correct option-

1- d. all of these, 2 - d. AIDS, 3 - c. Sedimentation, 4 - a. Chlorine

Fun Time - Do yourself

Hots Questions

The process of storing rainwater is called rainwater harvesting.

Activity - Do yourself.

REVISION TEST PAPER - II

(Based on Chapters 10 to 19)

A. Answer the following questions -

1. All of us need food to stay alive. We get energy from food. Food helps us to grow strong and healthy. There are many sources of food. Most of the foods that we eat come from plant. Cereals, pulses, sugar, tea, coffee, oils, spices, fruits, vegetables etc are all obtained from plants.

2. Community Eating - Eating together strengthens bonds among family members and friends. It promotes the feelings of togetherness. There are many occasions when people eat together in larger groups such as in a wedding, religious functions, school functions etc. Eating together on such occasion is called community eating.

3. Tongue - Tongue is a unique organ in our body. It extends from the back of the mouth and is attached to the floor of the mouth. This allows a lot of movement area to it. So the food is easily moved in the mouth and then swallowed in.

There are tiny bumps on the upper surface of the tongue. These are the taste buds. Four kinds of taste buds are grouped in certain areas of the tongue. These taste buds can sense sweet, sour, salty and bitter tastes.

4. Slums - In cities, some people also live in slums. It is a cluster of huts built close to one another because of shortage of space. Slums are totally unplanned, unsafe and unhygienic. They do not have any proper provisions of facilities like water supply and drainage. The government is trying to provide low cost housing with basic facilities for people living in slums.

5. Shelter is the third need of human beings after food and clothing. It protects us from animals and strangers.

B. Fill in the blanks -

1. teeth, 2. kuchcha, 3. nests, 4. dustbin

C. Say 'Yes' or 'No' -

1. Yes, 2. No, 3. No, 4. No, 5. No

D. Tick (✓) the correct option-

1 - (i) spinach, 2 - (iii) celebrating,

3 - (iii) grass, 4 - (ii) fight, 5 - (i) mud.

E. Do yourself.

UNIT - 7 : TRAVEL

Chapter - 20

ANIMALS AND MEANS OF TRANSPORT

TEST YOURSELF

Oral Questions -

- To carry load in hills - yak
- To carry load in deserts - camel
- To pull a cart - Bullock
- To pull a sledge - Reindeer

A. Answer the following questions -

1. In earlier times, when the wheel was invented, animals were used for transportation. Once wheels were invented, humans made carts that were pulled by animals. Even today we find many animals being used as a means of transport in small cities, towns and villages.

2. Animals that carry load for us and pull carts are called beasts of burden.

3. Some animals like horses, camels, elephants and mules are either ridden by people or used to carry loads.

4. Animals like reindeers, donkeys, horses, bullocks and yaks are used to pull sledges, carriages, carts etc.

5. Care of Animals - We should be kind to animals. We should follow these tips to take care of animals.

- Do not tease or disturb them.
- Take care of pet and domestic animals.
- Keep their shelters clean.
- Take them to a veterinary doctor when they are sick.

B. Fill in the blanks -

1. Carrying loads or riding, 2. tomtom or tong, 3. care.

C. Write 'Yes' or 'No' -

1. Yes, 2. No, 3. Yes, 4. No

D. D. Tick (✓) the correct option-

1 - d. reindeer, 2 - b. Horses, 3 - d. both (a) and (b).

Fun Time - Do yourself

Hots Questions - Horshee is and iron protection which is fixed to its tools with the help of nails.

Activity - Do yourself.

Chapter - 21

CURRENCY

TEST YOURSELF

Oral Questions -

- To buy tickets, we need money.
- In India, we have coins of metal.
- Bank notes are made of special paper.
- There is a watermark on the Indian notes.

A. Answer the following questions -

1. We need money to travel from one place to another.

2. Governor of the reserve bank of India issues Indian currency because every note has the signature of the Governor of the RBI.

3. Currency Notes - Special paper is used to make currency notes. Let us look at a 10 - rupee note carefully.

It has the picture of our 'father of the Nation', Mahatma Gandhi printed on the right side. There is a wider space on the left side. There is a wider space on the left side. There is a wider space on the left side. We can also see a watermark if this note is held against the light. Also we shall see another line that is called the security thread.

The National Emblem of India is imprinted at the bottom left corner. A special code number appears at the top right and bottom left corners of the note. Every note has the signature of the Governor of the Reserve Bank of India. The value of the note appears in the centre as well as on the sides.

B. Fill in the blanks -

1. tickets, 2. money, 3. National emblem of India, 4. Governor

C. Write 'Yes' or 'No' -

1. No, 2. Yes, 3. No, 4. Yes

D. Tick (✓) the correct option-

1 - c. Metal, 2 - c. metro, 3 - d. the governor of RBI

Fun Time - Do yourself

Hot Questions -

When we travel to other countries, we need to change our currency to the currency of that country so that we may fulfil our various needs by staying in that particular country. We also need a passport and visa to travel to other countries.

Activity - Do yourself.

UNIT - 8 : THINGS WE MAKE AND DO

Chapter - 22

BUILDING MATERIALS

TEST YOURSELF

Oral Questions -

- Glass is used indoors and windows.
- Tiles are used on walls and floor.
- wood is used for making furniture.
- Architect makes the plan of the house.

A. Answer the following questions -

1. The basic materials used in the construction of a house are - concrete (a mixture of sand, water and cement), wood (to make furniture, doors and windows), stone (to make floors and walls), steel (it is a major component in buildings), bricks (to make wall), tiles (to decorate walls).

2. Making Bricks - Bricks is the main component in building a house. Bricks are made of clay. Fine sticky clay is baked to make it hard. First the clay is crushed and ground.

Then it is mixed with water to make it soft. The soft clay is put into a brick-making machine which shapes it in the form of bricks. Excess moisture must be removed from the bricks before they are baked in the kiln. Years ago, bricks were allowed to dry in open air. The modern method is to pre-dry the brick in the forward section of the kiln using the waste heat from the hotter section of the kiln.

Then finally, the bricks are baked in a kiln to make them strong, hard and stable. Bricks take about 36 hours in the kiln. These are kept in the holding area till they are cool. Then they are placed on pallets for storage. Finally, trucks are loaded with bricks to take them to construction sites.

3. Construction of a house - Many people are skilled to do different jobs in the construction of a house. Some of these are architect, mason, labourers, carpenter, electrician, plumber, painter etc.

- An architect makes the plan of the house.

- A mason makes the walls and floors.
- A labourer helps the mason on his work.
- A carpenter makes the doors windows and other wooden things of the house.
- A plumber fits water pipls, taps and sanitary woress.
- A painter paints trhe waslla nd doors of the house.

5. Bridge - The structures built ever a river, railway track, road etc are called bridges. They allow people or vehicles to cross over from one side to another. They must be strong enough to safely support their own weight as well as the weight of the people and vehicles that pass over them. Examples of some types of bridges are - beam bridge, Arch bridge, Cantileve bridge, Girder bridge, surpension, bidge, Bamboo bridge, hanging bridge, pantom bridge etc.

B. Fill in the blanks -

1. Romans, 2. Bricks, 3. Bridge

C. Match the following -

1. Concrete - d. a mixture of sand, water and cement

2. Tiles - a. makes walls and floors

3. Plumber - c. Fits pipes and sanitary ware

4. Mason - e. used to make walls

5. Kiln - b. used to make bricks

D. Tick (✓) the correct option-

1 - d. sand, water and cement, 2 - c. kiln, 3 - b. carpenter, 4 - c. architect

Fun Times - Do yourself

Hots Questions -

We call bridges over roads as flyovers because the structures built over river, railway track, road, etc are called bridges. They allow people or vehicles to cross over from one stole to another.

Activity - Do yourself.

REVISION TEST PAPER - II

(Based on chapter 20 to 22)

A. Answer the following questions -

1. Care of Animals - we should be kind to animals we should follow these tips to take care of animals.

- Do not tease or disturb any animal.

- Keep their shelters clean.

- Take care of pets and dometstic animals.

- Take them to veterinary doctor when they are sick.

2. The Governor of the reserve bank of India issues Indian currency because every note has the signature of the Governor of the RBI.

3. The currency of India is Rupee (Rs.)

4. Making Bricks - Brick is the main component in building a house. Bricks are made of clay. Fine sticky clay is baked to make it hard. First the clay is crushed and ground.

Then it is mixed with water to make it soft. The soft clay is put into a brick - making machine which shapes it in the form of bricks Excess moisture must be removed from the bricks before they are baked in the kiln. Years ago, bricks were allowed to dry in open air. The modern method is to predry the brick in the forward section of the kiln wring the waste heat from the hotter section of the kiln.

Then finally, the bricks are baked in a kiln to make them strong, hard and stable. Bricks take about 36 hours in the kiln. These are kept in the holding area till they are cool. Then they are placed on pallets for storage. Finally, tucks are loaded with bricks to take them to construction sites.

5. Three building materials -

- concrete (a mixture of sand, water and cement)
- wood (to make furniture, doors and windows)
- steel (it is a major component in buildings)

B. Fill in the blanks -

1. load carrying, 2. metal, 3. governor, 4. carpenter

C. Say 'Yes' or 'No' -

1. No, 2. Yes, 3. No, 4. No, 5. No

D. Tick (✓) the correct option-

1 - a. Camel, 2 - b. metal, 3 - c. kiln, 4 - a. mason, 5 - c. sand, water, cement

E. Do yourself

MODEL TEST PAPER

A. Tick (✓) the correct option-

1 - b. canines, 2 - a. crow, 3 - d. both (a) and (c), 4 - d. nests, 5 - b. blue bin, 6 - d. composting,
7 - a. north, 8 -d. all of these, 9 - a. chlorine, 10 - a. special paper.

The End of class 4 D.E.

FAMILY

TEST YOURSELF

Oral Questions -

- The people who adopt a child are his/her foster parents.
- Parents of our father are our paternal grandparents.
- Chacha's wife is called chachi.
- Three babies born at the same time from the same parents are triplets.

A. Answer the following questions -

1. Family - A family is a group of related people living together in a house.
2. Small family - A family having father, mother and their one or two children is called a small or nuclear family.
3. Big nuclear family - A family having parents and more than two children a big nuclear family.
4. Adoption - Adoption means taking care of an orphan child who adopt the child are called his/her foster parents. The child who is taken care of is called the adopted child.
5. Family Tree - It is a symbolic tree that records all the people in the family and how they are closely attached to each other. This tree shows closely attached to each other. This tree shows the various generations in the family and how they descend.

6. Joint Family - A family where grand parents, parents, uncles, aunts and cousins live together is called a joint family.

7. Love in the family - It is the love that drives each and every members to live with the family. Everyone helps each others. Children should obey and respect our parents and grandparents. Family members should love and care for each other. Love and care brings happiness to the family. It is fun to celebrate festivals, birthdays and anniversaries with the family members.

Love is a basic need of a man. Everyone wants to love and to be loved. Family is bonded by bond of love. All members of a family work for it gladly, life is not burden for them. But it full of charm and enthusiasm for them. Thus, a family is the first school. where we learn to love each other.

B. Write 'Yes' or 'No' -

1. No, 2. No, 3. Yes, 4. No

C. Fill in the blanks -

1. big, 2. family, 3. Chachi, 4. adopted, 5. love.

D. Tick (✓) the correct option-

- 1 - c. Grandparents, 2 - c. Adopted child, 3 - b. Small family

Fun Time -

1. Grandmother, 2. Sister, 3. Cousins, 4. Daughter, 5. Brother

Hot Questions -

Family is the first school of every child because it is the first place in every child's life where he/she learns to use his/her slowly developing sense organs.

Activity - Do yourself.

Chapter 2

SENSORY ORGANS

TEST YOURSELF

Oral Questions -

- Ears are organs of hearings.
- Blind people cannot see properly.
- An optician is a person who makes spectacles.
- Unpleasant sound is called noise.

A. Answer the following questions -

1. Our body has many parts. Each part has its name and function. Some body parts help us to know the world around us. These are called sense organs. We have five sense organs - eyes, ears, nose, tongue and skin. These are organs of sight, smell, taste and touch respectively.

2. Braille system - Blind people cannot see at all. But it does not mean that they cannot read or write. They use their sense of touch to feel the different patterns of raised dots to read and write. This system used by blind people for reading and writing is called Braille system.

3. Eyes are very important. Eyes help us to see the beautiful world. We should take good care of eyes to keep them healthy. We should get our eyes checked by a doctor. The doctor examines the eyes and recommends the required pair of spectacles. This helps the person to see things properly. Some people also wear contact lenses instead of spectacles.

Eyesight also becomes weak with age. Usually old people wear glasses to see properly. Besides these, we should wash our eyes with cold water with dirty hands.

4. Physically challenged people - Some people cannot see, some cannot hear or some cannot speak. Such people are called physically challenged people. We should try to help them. We should be friendly with them. We should be kind and sensitive to them.

5. Hearing - aid (Problems in hearing) - Some people have hearing problems by birth and some become hard of hearing due to age. Such people may use a hearing-aid to hear sounds loudly and clearly.

Some people who cannot hear at all are called deaf. Hearing-aid is of no use for them. Such people use sign language to communicate.

B. Match the following -

1. Ears - b. Hearing, 2. Eyes - e. sight, 3. Tongue - d. taste, 4. Nose - c. Smell, 5. Skin - a. Touch

C. Fill in the blanks -

1. know, 2. Braille system, 3. hearing-aid, 4. clean, 5. kind, sensitive

D. Tick (✓) the correct option-

1 - c. Any of the two, 2 - c. Ears, 3 - c. Blaring loudspeakers

Fun Time - Do yourself

Hots Questions -

We can help physically challenged people by getting friendly with them. We should always be kind and sensitive to them.

Activity - Do yourself.

UNIT - 2 : OUR NEEDS

Chapter 3

PEOPLE AT WORK

TEST YOURSELF

Oral Questions -

- Children should not help at home. - No

- A doctor treats sick people - Yes

- Every child has the right to study - Yes

- A farmer brings our letters - Yes

- A mechanic repairs cars - Yes

A. Answer the following questions -

1. Work at home - We live together with our family. Everyone helps each other. This not only makes work easier but also faster. Each family member plays an important role at home.

In most families, father earns for the family. Some mothers remain at home and do the domestic works. Grandparents mostly stay at home and help in small works like teaching grand children and playing with them.

2. People have different abilities and choices, therefore, they do different works. The work done to earn money is called an occupation.

3. Social workers - Social workers work for the betterment of the society. Mother Teresa was a great Indian social worker who gave her selfless service to the nation. She even won a Nobel Prize for her efforts. Medha Patkar is another social worker who works for the betterment of our environment.

4. Child Labour - Some children who are below the age of 14 are made to work. It is called child labour.

Many a times, young girls and boys are forced because their parents cannot afford to send them to school for studying. Hence, they do small jobs like shoe polishing, washing cars, washing utensils at people's homes and selling newspaper. Some of them even work in hotels and factories to help their parents so as to get the basic needs like food, clothing and shelter.

B. Write 'Yes' or 'No' -

1. No, 2. No, 3. Yes, 4. Yes, 5. No

C. Fill in the blanks -

1. Needs, 2. abilities, 3. school, 4. family members, 5. child labour

D. Tick (✓) the correct option-

1 - d. Doctor, 2 - a. sweeper, 3 - b. carpenter, 4 - c. Mechanic

Fun Time - Do yourself

Hot Questions -

I will call fire brigade to extinguish fire if there is a fire at my place.

Activity - Do yourself

Chapter 4

IMPORTANCE OF GAMES

TEST YOURSELF

Oral Questions -

- Games help us to keep healthy. - yes
- Snakes and ladder is an indoor game - yes
- Chess is an outdoor game. - No
- There are 12 players in each team - No
- People recreate in the different ways.

A. Answer the following questions -

1. We all should play games everyday because these help us to remain healthy. They keep our body fit and strong. Playing games is a very good exercise.

2. Recreational time - The time spent doing something different from the routine in order to relax is called leisure time or recreational time.

People recreate in different manners such as playing games, watching television, listening to music, going to fairs, movies etc.

3. The games that are played outside the houses are called outdoor games, for example - cricket, basketball, hockey, football, lawn tennis etc.

4. Games as occupation - Some people have taken games and sports as their occupation to earn their living. A few well known sports persons are - Sania Mirza (tennis), Saina Nehwal (Badminton), Vishwanathan Anand (chess), Virat Kohli (cricket).

5. Games of the past - We should play more and more outdoor games to keep physically fit. Earlier the children used to be healthier and more active because they used to play a lot which was a good exercise for their

body. But now-a-days, games are ruled out and instead televisions, computers and play stations have taken their place. Hence, the children are becoming fat and lethargic.

In the past the children used to play games which require a lot of running and exercise like pithoo (a game of seven stones), Kabaddi, hide and seek, hopscotch, langri taang etc.

B. Match the following -

1. Lawn - e. Tennis, 2. Langri - d. Taeng, 3. Hide and - a. seek, 4. volley - c. Ball, 5. Snakes and - b. Radders

C. Fill in the blanks -

1. recreate, 2. team games, 3. chess, 4. healthy, 5. outdoor

D. Tick (✓) the correct option-

1 - b. snakes & ladders, 2 - c. Cricket, 3 - c. Football

Fun Time - Do yourself

Hots Questions -

Team work and cooperation are values of games because each and every palyer give their own important and specific contribution for the victory of their team.

Activity - Do yourself.

REVISION TEST PAPER - I

(Based on chapters 1 to 4)

A. Answer the following questions -

1. Joint family - A family where grandparents, parents, uncles, aunts and courins live together is called a joint family.

2. Sense organs - Our body has many parts. Each part has its own name and function. Somebody parts help us to know the world around us. These are called sense organs- eyes, ears, nose, tongue and skin. These are organs of sight, smell, taste, and touch respectively.

3. Social workers - Social works work for the betterment of the society. Mother Tersi was a great Indian social worker who gave her selfless service to the nation. She even won a Nobel Prize for her efforts. Medha Patekar is another social worker who works for the betterment of the environment.

4. Recreational Time - The time spent doing something different from the routine in order to relax is called leisure tiem or recreational time.

People recreate in different manners such as playing games, watching television, listening to music, going to fairs, movies etc.

B. Fill in the blanks -

1. family, 2. Braille system, 3. School, 4. healthy

C. Match the following -

1. valley - c. Ball, 2. Snakes and - d. Ladders, 3. Langri - a. Taong,

4. Hide and - e. Seek, 5. Lawn - b. Tennis

D. Tick (✓) the correct option-

1 - b. Grand parents, 2 - a. Ear, 3 - a . Sweeper, 4 - b. Carrom, 5 - c. Both

E. Do yourself.

UNIT - 3 PLANTS AND ANIMALS

Chapter 5

PLANTS AROUND US

TEST YOURSELF

Oral Questions -

- Pumpkin is a creeper .
- Shrubs are bushy plants.
- Hydrilla grows in water.
- Trees have a woody stem.

A. Answer the following questions -

1. Creepers - Some plants have very weak stems. They cannot even climb up with any support. They run along the ground and hence are called creepers.

2. Trees - Very big and strong plants are called trees, They have hard and strong stems. They have woody trunks. Many branches come out of their main trunk in most of the trees. Most trees live for many years.

3. Climbers - Some plants have very weak stems. They need support to stand straight. Such plants are called climbers or twiners. They climb on trees or walls.

4. Aquatic plants - Plants that grow in or near water are called aquatic plants.

- Water lily and water hyacinth grow in water. They are fixed to the water bed.
- Duckweed and Wolffia are plants that float on water.
- Hydrilla and tapegrass remain submerged under water.

5. Kiwi has come from New Zealand, Avocado has come from South America, Litchi has come from China, Artichoke has come from Greece, sweet corn has come from Cuba.

6. We get - (i) Paper pulp from bamboo plant, (ii) Cotton from cotton plant, (iii) Medicine from neem and tulsi, (iv) Tea from tea plant, (v) Gum from Acacia, (vi) Sugar from Sugarcane, (vii) Rubber from rubber plant, (viii) Coffee from coffee beans.

B. Write 'Yes' or 'No' -

1. No, 2. Yes, 3. No, 4. Yes

C. Fill in the blanks -

1. digest, 2. survive, 3. rain, 4. fit

D. Tick (✓) the correct option-

1- a. Rain, 2 - d. All of these, 3 - d. all of these

Fun Time - Do yourself

Hot Questions -

We water plants early in the morning or after Sunset because they need water to survive. Above all they make their own food through the process of photosynthesis.

Activity - Do yourself.

Chapter - 6

LEAVES

TEST YOURSELF

Oral Questions -

- Leaf used as a plate to serve food - Banana
- Leaf having red colour - Amaranthus
- Leaf used as paan - Betel
- Leaf used to decorate hands - Henna
- Green pigment present in leaves - Chlorophyll.

A. Answer the following questions -

1. Leaves - Food Makers of Plants - Green plants prepare their own food. They have special pigment in their leaves which is called chlorophyll. Leaves take in carbon-dioxide from the air, water from ground with the help of

roots and the sunlight from the sun to prepare their food. The process of making food in green plants is called photosynthesis.

During photosynthesis, green plants take in carbon-dioxide and give out oxygen. This helps to purify the air around us and also keep our environment clean, green and pollution free.

2. Leaves are made up of special green pigment called chlorophyll.

3. Shedding of leaves - Most of the plants shed their leaves once in a year. This is the period usually before winter called fall.

Fallen leaves and other parts of plants rot out and mix with the soil. These rotten leaves are called humus. This humus makes the soil very fertile and good to grow new plants. Therefore we can say leaves are an important part of every plant.

4. Uses of leaves -

(i) Many leaves like mint, coriander, spinach etc are used as food.

(ii) Banana leaves are used as plants in south India to serve food.

(iii) Mango leaves are considered auspicious and are used in religious ceremonies.

(iv) Palm and coconut leaves are used to make thatch of roof.

(v) Dry leaves are mixed with dried flowers to make pot-pourri.

B. Write 'Yes' or 'No' -

1. Yes, 2. No, 3. Yes 4. Yes 5. No

C. Fill in the blanks -

1. green, 2. food, 3. photosynthesis, 4. humus, 5. medicine

D. Tick (✓) the correct option-

1 - c. spinach, 2 - a. Maple, 3 - c. coconut leaf, 4 - a. Photosynthesis

Fun Time - 1. Tea, 2. Mango, 3. Tulsi, 4. Spinach

Hot Questions -

Because ginger is a herb used and is used for medicinal purposes also juice of ginger when mixed with honey cures the person who has cough.

Activity - Do yourself.

Chapter - 7

THE WORLD OF ANIMALS

TEST YOURSELF

Oral Questions -

- Blue whale is largest animal.

- Giraffe is a big animal.

- A fish uses its tail to swim.

- Tiger is a carnivore.

- A cow gives us milk.

- Crow is an omnivore.

A. Answer the following questions -

1. Domestic animals - Animals that are kept at farms like goat, sheep, horse, cow, buffalo etc are called domestic animals.

2. Scavengers - Animals that eat the flesh of dead animals are called scavengers. Scavengers are also called the sweepers of the jungle as they eat the flesh of dead animals.

3. Chewing the cud - Herbivores have sharp broad teeth to cut grass and leaves. Cows and buffaloes swallow the food without chewing and later on bring it back to their mouth and chew it. This is called chewing the cud.

4. Extinct Animals - Many animals have got vanished and many more are soon going to disappear. So we should save animals and stop killing them for some of the extinct animals are dinosaur, dodo and mommenth.

5. Useful Animals - Animals are useful to us in many ways.

- A goat gives us milk as well as meat.
- A dog guards our house agbainst thieves.
- A cat keeps the mice away.
- A cow gives us milk.
- A sheep gives us wool.
- A silkworm gives us milk.
- We get honey from honeybees.
- A lizard keeps our house free from insects.

B. Match the following -

1. Wild animals - b. live in forests
2. Domestic animals - a. are kept of fermes
3. Elephant - e. biggest land animals
4. Bluewhale - c. largest animals
5. Snakes - d. Do not have legs

C. Fill in the blanks -

1. food, shelter and to escape from predators, 2. love, anger, fear, 3.extinct, 4. thieves

D. Tick (✓) the correct option-

- 1- b. camivores, 2 - a. Domestic animals, 3 - d. all of these

Fun Time - Do yourself

Hots Questions - Octopus.

Activity - Do yourself.

Chapter - 8

CREEPY - CRAWLIES

TEST YOURSELF

Oral Questions -

- No, - Ant, - Housefly, - butterfly, - six, - mosquito

A. Answer the following questions -

1. Creepy crawlies - creepy crawlies are small crawling, creeping and flying animals. These are found everywhere - in our homes, in water and even in the air. All these tiny creatures came under the category of creepy crawlies.

2. Harmful Insects - Some insects are harmful to us. Some insects can bite or sting us. These can cause us pain. Some of the insects are even carriers of discases.

Housefly is a common house insect that is a carrier of many discases. It sits on garbage and carry germs with its feet. These germs are transferred to food items when they sit on them. Germs can cause diseases like food poisoning, dysentery, cholera etc.

Mosquito is another dangerous insect that can bite us and cause malaria and dengue.

3. Social Insects - Social insects like bees, ants and warps lived in calonies. Honeybees collect nector from flowers and sotre it in their names. Here it gets converted into honey which is used by us. Ants live in anthills.

4. Spider - Spiders and scorphians are neither insects nor worms. They have eight legs.

A spider makes a web to live. It catches its prey by tapping it in its web.

5. Worms - Worms are creatures with segmented bodies. They have no bones. Their bodies are tube like worms only crawl or wriggle. They cannot fly.

B. Match the following -

1. butterfly - d. Pollination, 2. Honeybee - a. Honey, 3. Silkworm - e. Silk,
4. Earthworm - b. farmer's friend, 5. Housefly - c. Disease

C. Fill in the blanks -

1. web, 2. housefly, mosquito, 3. pain, 4. tiny

D. Tick (✓) the correct option-

- 1- d. all of these, 2 - d. housefly, 3 - a. antennae, 4 - b. web

Fun Time - 1. butterfly, 2. Housefly, 3. Mosquito, 4. Louse, 5. bug, 6. Ant, 7. Swap, 8. Honeybee

Hots Questions - centipede

Activity - Do yourself.

Chapter 9

THE WORLD OF BIRDS

TEST YOURSELF

Oral Questions -

- An eagle's nest is called eyrie.
- Ostrich cannot fly.
- Birds are called our feathered friends.
- Flight feathers are long strong feathers.
- Humming bird has long curved beak.

A. Answer the following questions -

1. All birds have feathers. They have two types of feathers - Down feathers and flight feathers.

2. Feathers of Birds - Some of the feathers of the birds that make them different from other animals are listed below.

- Birds have feathers and wings that help them to fly. This is the reason they are also called our feathered friends.

- Their bones are light and hollow for easy flight.

- They have a streamlined body that helps them to cut through the air easily during their flight.

3. Carnivorous birds like kites, eagles, and vultures have sharp, hooked beaks called talons. They use it to tear the flesh of animals because these are carnivorous birds.

4. A weaver bird makes a beautiful nest by weaving straw, grass and leaves. It is a beautiful nest with its opening at the lower end. The nest hangs from the branch of a tree.

5. Nests of Birds - Birds, live on trees by making nest. They make nests to lay eggs, bring up their young ones till they are capable of flying, remain safe from enemies and to rest. Different birds build different types of nests. Most of the birds use twigs, dry leaves, straw, threads, cotton wood, wire mesh etc to build their nests. Most of the birds build their nests on trees. Some birds make nests at high places like eating of tall buildings.

B. Write 'Yes' or 'No' -

1. Yes, 2. No, 3. No, 4. Yes 5. Yes

C. Fill in the blanks -

1. duck, 2. owl, 3. fine and short, 4. feathered

D. Tick (✓) the correct option-

- 1- c. both (a) and (b), 2 - b. Strong, 3 - a. Birds,

Fun Time - Do yourself

Hots Questions -

Birds Communicate through chirping.

Activity - Do yourself.

UNIT - 4 : FOOD AND SHELTER

Chapter 10

DIFFERENT SOURCES OF FOOD

TEST YOURSELF

Oral Questions -

- People who eat are called non-vegetarians.
- Food gives us energy.
- Food is the basic need of all living beings.
- We get spices from plants.

A. Answer the following questions -

1. Sources of food - There are two main sources of food-food from plants and food from animals.

- Food from plants - leaves, ie., spinach, mint, etc are eaten as food, stems, ie., sugarcane, potato, etc are eaten as food, fruits, ie., apple, mango etc are eaten as food, roots ie., carrot, radish etc are eaten as food, flowers, ie., broccoli, cauliflower etc are eaten as food, seeds, ie., wheat, rice etc are eaten as food.

- Food from animals - Different animals give us different food items. For example - we get honey from honeybee. We get milk and meat from goat. We get eggs and chicken from hen. We get milk from cow and buffalo. We get flesh from fish.

2. Food items from animals - Different animals give us different food items. For example - We get honey from honeybee. We get milk and mutton from goat. We get eggs and chicken from hen. We get milk from cow and buffalo. We get flesh from fish.

3. Food nutrients - Nutrients are the substances present in food that give us energy, help us to grow, repair our damaged cells and tissues and keep us away from diseases. The different nutrients present in different food items are - carbohydrates, fats, proteins, vitamins, minerals and roughage.

Carbohydrates are energy giving nutrients present in potato, wheat, rice, bread etc. Fats are also energy giving nutrients. They keep body warm.

Proteins help the body to grow and repair the damaged cells. Vitamins and minerals keep us healthy by protecting us from diseases. Vitamins and minerals are present in most of the fruits and vegetables.

4. Balanced diet - A diet that contains all the nutrients in the required quantity is called a balanced diet. For this, we should eat a variety of food to get all the nutrients.

5. Food is the most important factor to live a good life. Food gives us energy and help us to grow. It keeps us healthy and strong by keeping us away from diseases.

B. Write 'Yes' or 'No' -

1. Yes, 2. No, 3. No 4. Yes 5. Yes

C. Fill in the blanks -

1. grow, 2. different, 3. junk, 4. non-vegetarian

D. Tick (✓) the correct option-

1- c. Both, 2 - a. Spinach, 3 - b. Proteins,

Fun Time - a. Breakfast, b. Lunch, c. Snacks, d. Dinner

Hot Questions -

Because they don't have teeth and are unable to eat hard things.

Activity - Do yourself.

REVISION TEST PAPER - II

(Based on Chapter 5 to 10)

A. Answer the following questions -

1. Uses of leaves -

- (i) Many leaves like mint, coriander, spinach etc are used as food.
- (ii) Banana leaves are used as plants in South India to serve food.
- (iii) Mango leaves are considered auspicious and are used in religions ceremonies.
- (iv) Palm and coconut leaves are used to make thatch of a roof.
- (v) Dry leaves are mixed with dried flowers to make pot-pourri.

2. Scavengers - Animals that eat the flesh of dead animals are called the sweeper of forest because they eat the flesh of dead animals.

3. Creepy Crawlies - Creepy crawlies are small crawling, creeping and flying animals. These are found everywhere in our homes in water and even in the air. All these tiny creatures come under the category of creepy crawlies.

4. Nests of Birds - Birds live on trees by making nests. They make nests to lay eggs, bring up their young ones till they are capable of being flying, remain safe from animals and to rest. Different birds build different types of nests. Most of the birds use twigs, dry leaves, straw, threads, caston, wood, wire mesh etc to build their nests. Most of the birds build their nests on trees. Some birds make hosts at high places like ceiling of fall buildings.

B. Fill in the blanks -

1. green, 2. extinct, 3. web, 4. feathered

C. Match the following -

- 1. Wild animals - b. Lived in forests
- 2. Domestic animals - a. Kept in farms
- 3. Elephants - e. Biggest land animals
- 4. Blue whale - c. Largest animal
- 5. Snakes - d. Do not have legs.

D. Tick (✓) the correct option-

1- c. spinach, 2 - b. Antennae, 3 - c. Birds, 4 - c. Both, 5 - a. Sugarcane

Chapter 11

COOKING FOOD

TEST YOURSELF

Oral Questions -

- CNG is a non-polluting fuel.
- Pumpkin can be eaten cooked.
- Bread is baked in an oven.

A. Answer the following questions -

1. Cooking food - Cooking is a process by which food becomes soft, tasty and easily digestible. Cooking also kills the disease causing micro-organisms present in food. Food required to cook before eating them are potato, cauliflower, pumpkin, lady finger etc.

2. Now a days gas stoves use Liquified Petroleum Gas (LPG) and even compressed Natural Gas (GNG) for cooking food. CNG is a non-polluting fuel.

3. Boasting - Chicken and paneer are roasted over direct heat to cook them.

4. Baking - cakes, breads and biscuits are baked in an microwave oven.

5. Solar Cooker - Solar cooker is a cooker that uses sunlight as fuel to cook food. It is a non-polluting medium for cooking food.

B. Write 'Yes' or 'No' -

1. Yes, 2. No, 3. Yes 4. Yes 5. Yes

C. Fill in the blanks -

1. Many food grains, 2. Oven, 3. longer, 4. vessels, 5. food

D. Tick (✓) the correct option-

1- d. All of these, 2 - a. Boiled, 3 - c. CNG

Fun Time -

1. Apple should be eaten - Raw

2. To make idlies we use - steaming

3. Cooking makes food - tasty

4. Cake is made in an - Oven

Hots Questions -

Shallow frying means not to fry for a long time. Deep trying means to try for a long time. And stir frying means to fry the stuff by changing its position frequently.

Activity - Do yourself.

Chapter 12

WATER

TEST YOURSELF

Oral Questions -

- Main source of water - Rain

- Water that goes under the ground - underground water

- Way of cleaning water - boiling and filtering

A. Answer the following questions -

1. Sources of water - Rain is the main source of water on the earth. The rain gets collected in ponds, lakes, rivers, seas and oceans. Some of the rain water also goes under the ground. This is called underground water. The water is taken out by digging wells, tubewells and handpumps.

2. Need of water - All living things need water. We need water for different activities like drinking, bathing, washing, cleaning, cooking and swimming. Water helps to digest food. It maintains our body temprature. It also helps in the excretion of wastes from our body. Plants and animals also need water to survive. We get water from many sources.

3. Some of the water goes under the ground. This is called underground water.

4. Saving water - we should follow the rules to save water because it is precious.

- Takes a bath with bucket and mug instead of shower.

- Use the leftover water from the water bottle to water plants.

- Close the tap while brushing the teeth.

- Check for leaky taps and get them repaired.

- Do not use a nose pipe for washing car. Use mug and bucket.

- Use water left after washing cothes to map the floors.

B. Write 'Yes' or 'No' -

1. No, 2. Yes 3. No 4. Yes

C. Fill in the blanks -

1. digest, 2. Survive, 3. rain, 4. fit

D. Tick (✓) the correct option-

1- a. Rain, 2 - d. all of these, 3 - d. all of these

Fun Time - Do yourself

Hots Questions -

Because plants also need water to grow. They make their own food through the process of photosynthesies.

Activity - Do yourself.

Chapter 13

FORMS OF WATER

TEST YOURSELF

Oral Questions -

- Ice on heating changes into vapour.
- In villages, people store water in earthen pots.

A. Answer the following questions -

1. Water cycle - Water cycle is the continuous circulation of water from land to air and again to land. Water from the water bodies gets evaporated and rises up and mixes with tiny dust particles. This water vapour changes into tiny droplets of water and join to form bigger drops. Together these drops form clouds. These clouds fall as rain to mix back to water bodies.

2. Forms of water - Water exists in three different forms - liquid, solid and gaseous states.

- When water freezes, it changes into ice.
- When ice is heated, it changes into water.
- When water is heated, it changes into water vapour.

Therefore, we can say that the three forms of water are interchangeable.

3. Rainwater Harvesting - Rainwater harvesting is a method of storing water by which rainwater is collected on the roof of houses and stored in underground tanks. The water can be later used for various purposes.

B. Match the following -

1. Three forms of water - b. Liquid, solid, gaseous
2. Water is - a. Precious
3. When ice is heated - e. It changes into water vapour
4. Rainwater harvesting - c. Method of storing water.
5. Water is stored - d. In metal or plastic container.

C. Fill in the blanks -

1. storing, 2. ice, 3. three, 4. water vapour, 5. watercycle

D. Tick (✓) the correct option-

- 1- d. all of these, 2 - a. water vapour, 3 - c. water cycle

Fun Time - Do yourself

Hot Questions -

Water from the water bodies gets evaporated and rises up and mixes up with tiny dust particles. This water vapour changes into tiny droplets of water and join to form bigger drops. Together these drops form clouds due to the process of condensation.

Activity - Do yourself.

Chapter 14

OUR HOUSE

TEST YOURSELF

Oral Questions -

- Kuchcha houses are weak houses. - yes
- Hut is a pucca house. - no
- Houseboats are floating houses. - yes
- A house protects us from heat. - yes

- tents are made up of canvas. - yes

A. Answer the following questions -

1. We all need a house to live. A house protects us from heat, cold, rain, wild animals and thieves. Our house is our shelter. It keeps us comfortable and safe. We take rest and sleep in our house.

2. Kuchcha houses - Kuchcha houses are weak houses made up of straw, bamboo, asbestoes, wood, bamboo etc. Such houses are temporary houses and do not last long. They are easily broken by wind and rain. Hut is a very common example of kuchcha house.

3. Pucca houses - In cities and towns most of the houses are pucca houses. Pucca houses are stronger houses made up of iron, steel, tiles, marbles, stones, bricks, cement and many more things. These houses are permanent houses. These houses do not easily get damaged. For example - single storeyed house, double-storeyed house, bungalow flats etc.

4. Features of good house -

(i) The house should be cleaned, broomed and mopped everyday to keep it clean.

(ii) There should be proper ventilation in the house with plenty of doors and windows. Doors and windows should have netting wire to keep away flies, mosquitoes and other insects.

(iii) The house should have a proper drainage system to carry dirty water out of the house.

5. Houseboat - Houseboats are floating houses found in lakes. These are built on boats and are a great tourist attraction.

B. Match the following -

- | | | |
|----------------|---|--------------------|
| 1. Hut | - | c. weak house, |
| 2. Bungalow | - | a. Pucca house, |
| 3. Stilt house | - | d. House on poles, |
| 4. Igloo | - | b. house of snow |

C. Fill in the blanks -

1. heat, cold, 2. weak, 3. Movable, 4. portable, 5. seat, clean

D. Tick (✓) the correct option-

1- d. all of these, 2 - a. Kuchcha house, 3 - b. Caravan

Fun Time - Do yourself

Hot Questions -

Mud houses are common in desert areas because necessary material required for making other kinds of houses are not available.

Activity - Do yourself.

Chapter 15

ANIMALS HOUSES

TEST YOURSELF

Oral Questions -

- Dog is kept in a kennel.

- Parrot loves to eat chillies.

- Lizard is a pest in the house.

- Cow is kept in a shed.

A. Answer the following questions -

1. Animals need a shelter to live as we all do. Pets and domestic animals need a shelter to protect themselves from their enemies. They also need a place to raise their young ones.

2. Animals living with us in or near our houses on farms are called pets or domestic animals.

3. We must keep our house neat and clean by sweeping and mopping it regularly. Also we should dust the

furniture daily and throw rubbish in a covered dustbins.

4. Wild animals find their homes in the forests.

5. Unwanted Animals in the house - All animals that live in or near our house are not pets or domestic animals. Some of them unwanted are guested called pests. They are lizards, houseflies, mosquitoes, cockroaches, ants, rats, spiders etc. They bother us and spread many diseases. To keep our house free from these pets, we must keep our house neat and clean and spray pesticides regularly.

B. Match the following - Do yourself.

C. Fill in the blanks -

1. shelter, 2. grass, 3. pets or domestic, 4. neat, clean, 5. different

D. Tick (✓) the correct option-

1- b. Cockroach, 2 - d. all of these

Fun Time - Do yourself

Hots Questions -

Mosquitoes breed in stagnant water.

Activity - Do yourself.

Chapter 16

MAPPING NEIGHBOURHOOD

TEST YOURSELF

Oral Questions -

- The sun rises in the east.

- The compass helps us to know the directions.

A. Answer the following questions -

1. The four main directions are North, west, East, South.

2. Plan - A plan is a detailed drawing of a small area. It is drawn on a paper.

3. Map - A map is a drawing of a large area drawn to a scale. A scale helps to represent the distance but at small levels.

4. Sketch - A sketch is a rough drawing of a place having symbols of important landmarks around the place.

5. Directions help us to locate places easily. The four main directions are North, West, East, South.

It is very easy to mark four directions with the help of the Sun rising. Stand in front of the rising sun and open your arms to both sides. The sun rises in the east. So you are facing the east direction. The opposite side to east is west. North is to your left and south is to your right.

B. Write 'Yes' or 'No' -

1 - Yes, 2 - No, 3 - No, 4 - No, 5 - No,

C. Fill in the blanks -

1. compass, 2. symbols, 3. scale, 4. east, 5. north

D. Tick (✓) the correct option-

1- c. Both (a) and (b), 2 - d. all of these, 3 - a. East

Fun Time - Do yourself

Hots Questions -

Trekkers always carry a compass with them to know exact location of direction.

Activity - Do yourself.

UNIT - 5 : TRANSPORT AND COMMUNICATION

Chapter 17

MEANS OF TRANSPORT

TEST YOURSELF

Oral Questions -

- Aeroplane travels in air.
- Trains run on railway tracks.
- Boat is a mean of water transport.
- Air transport is the fastest means of transport.
- In villages, people travel by bullock casts.

A. Answer the following questions -

1. We need different types of transport because we move from one place to another for various reason. Children have to travel to school, youngsters to office, vendors to markets and many more places. The movement of people and goods from one place to another is called transportation.

There are different means of transport used today are land transport, water transport and air transport.

2. Water transport - Transportation of goods and people takes place through water also. The means of transport that move on water are called water transport. The means of transport some of the means of water transport are boats, ships, ferries, yachts, submarines etc. People living along the river banks or along the sea coast travel by boats or ships.

3. Land transport - Land transport is of two kinds - road and rail.

In big cities or towns, people use many types of vehicles like bicycles, rickshaws, auto-rickshaws, cars, buses, trucks, bikes, seeps, scooter, tempes etc. They move on roads. They need petrol, diesel or CNG to move.

In some villages, roads are not good for travelling. The people living in such places use vehicles that are pulled by animals. People travels by bullock-carts, tonger, camel-carts etc.

For all distances of travelling, we need a train. Trains run on railway tracks.

4. Air transport - Air transport is the fastest means of transport. The means of transport that travel in air come under this category. Some of the means of air transport are aeroplanes, helicopters and rockets. People use air transport to travel very long distances in a short time.

B. Match the following -

- | | | |
|--------------------|---|--------------------------------------|
| 1. Air transport | - | b. faster means of transport |
| 2. Trains | - | a. run on roads |
| 3. Ships | - | e. Is a mean of water transport |
| 4. Metro trains | - | c. First started in kolkata in India |
| 5. Water transport | - | d. move on water |

C. Fill in the blanks -

1. move, 2. fastest, 3. sick, 4. wheels, 5. bullock-cart, tonga and camel cart

D. Tick (✓) the correct option-

1- d. both (a) and (b), 2 - b. two, 3 - a. water transport.

Fun Time - Do yourself

Hots Questions -

Animals used as means of transport in desert area and mountainous regions are camels, yaks, meles, ponies etc.

Activity - Do yourself.

Chapter 18

MEANS OF COMMUNICATION

TEST YOURSELF

Oral Questions -

- Mobile phone is a useless thing - No
- People who cannot speak use sign language - Yes
- Television is a means of postal communication - No
- A telegram is used to send urgent messages.

A. Answer the following questions -

1. Communication - Communication is an act of sending and receiving messages. People communicate with each other by talking or writing. Speech is the most important means of communication. The other means of communication are facial gestures, hand movements, symbols, letters etc.

2. Postal Communication - It is one of the oldest and cheapest means of communication. We buy letters, postcards, inland letters etc from a post office.

We just need to write our letters, stamp them, write the address and drop it in the letterbox. The postman collects the letter from here and our letter reaches the desired destination.

A telegram is used to send short and urgent messages. We can also send money orders and parcels through post.

3. Sign language - Some people cannot speak or hear. They find it difficult to communicate. So, they use a sign language that consists of 26 hand symbols, one each for an alphabet.

They communicate with hand gestures and hand movements.

B. Write 'Yes' or 'No' -

1. Yes, 2. Yes, 3. No, 4. No, 5. Yes

C. Fill in the blanks -

1. telephone, computer, 2. telephone, 3. information, 4. sign language, 5. newspapers, television

D. Tick (✓) the correct option-

- 1- d. all of these, 2 - a. telegram

Fun Time - Do yourself

Hot Questions -

Blind people read and write through Braille script of Braille system.

Activity - Do yourself.

UNIT - 6 : THINGS WE MAKE

Chapter 19

CLOTHES AND TEXTILES

TEST YOURSELF

Oral Questions -

- saree, - cotton clothes, - woollen, - clothes, - textiles

A. Answer the following questions -

1. Kantha work - Kantha work is a beautiful embroidery done on cloth using fine colourful threads and beads with needle. It is very famous in West Bengal.

2. Ikat - Ikat is a beautiful way of dyeing thread in different colours and using them for weaving to obtain a cloth with design. It is very famous in Odisha.

3. We need to wear clothes for protecting our bodies from heat, cold, rain and insects. Good and clean clothes make us look smart.

We wear different kinds of clothes. We wear clothes according to the climate of a place, customs and traditions and availability of cloth material.

4. Dresses of women - We wear clothes to give ourselves special appearance. We wear special clothes on

special occasions. The most common dress of women in our country is a saree. But we wear it differently in different states. For example - Women wear salwar-kameez in Punjab, Himachali women wear phiran over their clothes, in Assam women wear mekhla-chadar, in Rajasthan women wear lehenga-choli with odhni etc.

Dresses of men - Men also wear different dresses. For example - In kashmir men wear phiran-salwar with a cap, in Uttar Pradesh wear dhoti-kurta, in Rajasthan men wear Churidar kurta, angarakha and a turban, in Kerala, men wear a lungi called amundu and shirt etc.

Modern dresses of men and women -

Modern dresses of men and women include, skirt-top, teans-t-shirt, pant-shirt, shirt-shorts, leggings-kurta and many more. These dresses make the people look very smart.

5. Knitting - Knitting is done on a knitting machine. At hence, knitting needles are used for the same to knit woollens.

B. Writer 'Yes' or 'No' -

1 - No, 2 - No, 3 - Yes, 4 - No, 5 - Yes

C. Fill in the blanks -

1. Tie and dye, 2. climate, 3. active, 4. dhoti-kurta, 5. knitting machine

D. Tick (✓) the correct option-

1- b. Bihar, 2 - a. knitting machine, 3 - d. all of these

Fun Time - Do yourself

Hots Questions -

Kahmiri people wear phiran due to climatic condition and traditional custom of the place.

Activity - Do yourself.

MODEL TEST PAPER

A. Answer the following questions -

1. Kuchcha houses - Kuchcha houses are weak houses made up of straw, bamboo, asbestoes, wood, bamboo etc. Such houses are temporary houses and do not last long. They are easily broken by wind and rain. Hut is a very common example of kuchcha house.

2. Means of Transport - There are mainly, three means of transport used today. These are land transport, water transport and air transport.

- Land transport - Land transport is of two kinds - road and rail.

In big cities or towns, people use many types of vehicles like bicycles, rickshaws, auto-rickshaws, cars, buses, trucks, bikes, seeps, scooter, tempes etc. They move on roads. They need petrol, diesel or CNG to move.

In some villages, roads are not good for travelling. The people living in such places use vehicles that are pulled by animals. People travels by bullock-carts, tonger, camel-carts etc.

Trains run on railway tracks. Metro trains are now available for lalcal travelling in the city. Metro trains take less time as compared to buses or their own conveyance.

- Water transport - Transportation of goods and people takes place through water also. The means of transport that move on water are called water transport. The means of transport some of the means of water transport are boats, ships, ferries, yachts, submarines etc. People living along the river banks or along the sea coast travel by boats or ships.

- Air transport - Air transport is the fastest means of transport. The means of transport that travel in air come under this category. Some of the means of air transport are aeroplanes, helicopters and rockets. People use air transport to travel very long distances in a short time.

3. Water cycle - Water cycle is the continous circulation of water from land to air and again to land. Water from the water bodies gets evaporated and rises up and mixes with tiny dustparticles. These water vapour changes into tiny droplets of water and join to form bigger drops. Together these drops from clouds. These cloud fall as rain to meix back to water bodies.

4. Map - A map is a drawing of a large area chanen to scale. A scale helps to represent the distance but at small levels.

Fill in the blanks -

1. sick, 2. two, 3. air, 4. needle of

Match the following -

- | | | |
|--------------------|---|------------------------------|
| 1. water transport | - | d. move on water |
| 2. Metro tains | - | c. First started in kolkata |
| 3. Ships | - | a. Means of water transport |
| 4. Hide trains | - | e. Run on roads |
| 5. Air transport | - | a. Fatest means of transport |

D. Tick (✓) the correct option-

1- a. East, 2 - a. Grass, 3 - a. Bus, 4 - a. Surahi, 5 - b. Telegram.

The End of Class 3

- | | | | | |
|--------|---------|---------|---------|--------|
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |
| a (ii) | b. (ii) | c. (ii) | d. (ii) | e. (i) |

End