

SOCIAL SCIENCE

STANDARD NINE

TERM II

HISTORY

1. BEGINNING OF MODERN AGE

Introduction

The transition from mediaeval “Dark Age” to Modern Age is caused and marked by certain new trends and developments such as Renaissance, Humanism, Spirit of Enquiry, Geographical Discoveries and Reformation.

The ancient period in European history came to an end in 476 A.D. with the collapse of the mighty Roman Empire. The barbarians who pulled down the empire had no taste for the pursuit of classical languages and fine arts. The neglect for learning immersed Europe in ignorance and darkness. But at the beginning of the 16th century, a renewed interest in the study of Greek and Latin brought about the age of reason. The Renaissance marked a reaction against established conventions. A spirit of enquiry developed. People began to doubt, question and challenge instead of blindly believing anything that was taught by the church. This spirit of enquiry stimulated the progress of science, architecture, sculpture, painting, literature, geography, religion, etc.

Renaissance

Renaissance means revival or rebirth. It marks the age of reason and the revival of classical Greek and Roman spirit.

Renaissance signifies, “emancipation and expression”. On the intellectual side, it marked the revival of literature and art, on the political side it marked the death of the universal

authority of Pope, the emergence and the consolidation of well organized nation states. Socially, it marked the spirit of individualism and the recognition of man as an individualism and the recognition of man as an individual in a society. Ecclesiastically, it marked the crumbling of the idea of the universal church and emergence of the national churches.

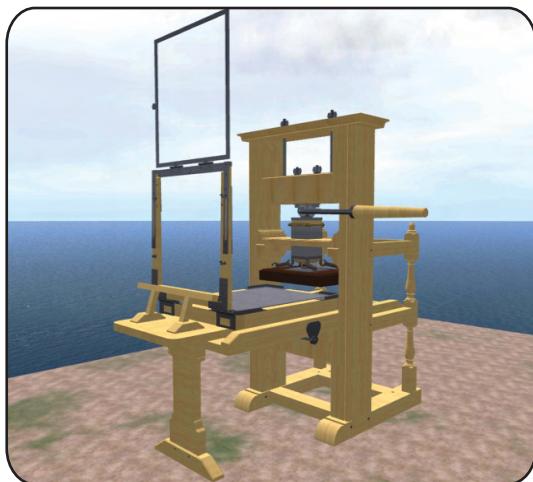
Renaissance in Italy

Italy, “the school of Europe”, was the birth place of the Renaissance. Feudalism failed to take deep roots in Italian soil, in the middle ages. The nobles and the church controlled the activities of the people. In due course, the death knell to feudalism was sounded by the Crusades. The crusades were associated with the invention of gun powder and the growth of nation states and towns with power and independence. Northern Italy was in a position to patronize art and literature. Moreover, Italy was the seat of an ancient civilization which reminded the people of “The Grandeur that was Rome”. The renaissance scholars wrote in the vernacular languages which appealed to the masses. The absence of a strong centralized monarchy in Italy provided excellent opportunities for intellectual outbursts. Renaissance as a movement began in the 14th century with the publication of the “Divine Comedy” by the greatest Italian poet Dante and reached its culmination in the next century.

The Renaissance movement comes under two broad divisions, namely humanistic phase or the revival

of classical learning and literature and the regulation of classical art. The first great pioneer in this line was Petrarch. He collected the classical manuscripts written by Plato, Cicero and others. He gave a new life to the ancient classics. Boccaccio, the disciple of Petrarch followed the footsteps of his master.

The humanistic movement was accelerated by the capture of Constantinople by the Turks in 1453 A.D. The invention of the printing press helped in the production of cheap books. It considerably helped the cause of humanism.



Printing press

Renaissance also left its mark on the artistic side. The barbarians destroyed most of the remnants of culture of ancient Greece and Rome in the middle ages, the Church controlled all the cultural activities of the people. Art was influenced by the church. The works of art were created mainly with the object of perpetuating religion. Renaissance created a spirit of devotion towards the Greek art and literature in the hearts of the people. Gradually Romanist spirit began to find expressions in the arts, even in religious subjects. Leonardo da Vinci was a versatile genius, a writer,

scientist, inventor, engineer, architect and painter. Architecture, sculpture, painting, music and other fine arts progressed tremendously though the influence of Christianity was very visible on the arts of this time.



Last Supper

Michael Angelo, Leonardo da Vinci, Raphael and Titian were the great painters of the time. The most remarkable painting of Michael Angelo was the "Last Judgment".



Mona Lisa

Leonardo da Vinci's famous paintings are "Mona Lisa" and "Last supper", Raphael was famous for his paintings of "Madonnas". Titian was noted for this mastery of colour. Peter

Brueghal, the Elder's genre paintings depicted scenes from robust peasant lives.



Madonnas

Sculpture and Paintings

The sculptors produced works of greater beauty and originality. In architecture, the architects turned to classical models.



St.Peters Cathedral



Michelangelo's Paintings

The best specimen of the architecture of the period was St.Peter's cathedral at Rome. Michelangelo's "Moses" is a remarkable sculptural expression of the time.

Music

Music also made tremendous progress in the fourteenth century. People began to take interest in instrumental music rather than vocal. Various changes occurred in the system of music. Like other arts, Italy led the path in music. Music was liberated from the monopolistic cultures of the church. New song forms and new musical instruments helped the emergence of secular music.

Rise of Humanism

A shift from God centred and Church centred literary activities to human centred literary trends is known as Humanism. The spirit of Humanism was found in ancient Greek and Roman literature. But in the medieval age owing to the influence of church the spirit of spiritualism, escapism and worship of God became quite popular and people began to think more of the other world than this one. Owing to the influence of Renaissance, people began to take an interest in ancient Greek and Roman literature. They also began to take an interest in expression of humanism and their interest in the mediaeval culture and civilization diminished.

Humanism

Petrarch is supposed to have been the original thinker who preached Humanism. Dante and other supporters were his followers. The contemporary ruler of Florence, Lorenzo de Medici was the great patron

of scholars. He provided shelter to various authors of Humanism.



Leonardo da Vinci

Humanism spread from Italy to other countries of Europe. Michelangelo, Machiavelli, Leonardo da Vinci, Donatello, Botticelli, Robbia, Fincino were some significant writers of Humanism. Andrew Vesalius, a doctor to Emperor Charles wrote "Seven Books on the Structure of the Human Body". Leonardo da Vinci drew a sketch of the future airship.



Andrew Vesalius

Human happiness and progress were the core objectives of the ancient

Graeco Roman literature. The church controlled medieval society encouraged and patronized only such literature that was agreeable to the interests of the church. Life was portrayed as devoid of any worth. Pursuit of happiness was treated as a sin. Pessimistic spiritualism found expression in all church sponsored literature. The rediscovery of the Graeco Roman spirit of Humanism inspired a new human-centred literary trend in Europe.

Science

The Renaissance spirit affected the field of science also. Friar Roger Bacon, the Father of modern sciences, was the greatest medieval exponent of observation and experiment. His writings developed a critical and scientific spirit. Notable contributions were made in astronomy, mathematics, chemistry, physics and medicine. Copernicus discovered that the earth revolves round the sun. Galileo perfected the telescope.



Galileo's Telescope.

Both contributed to the heliocentric theory. Earth is the centre of the universe. Newton discovered the “**law of gravitation**”. Kepler laid the foundation, of Mathematical Astronomy.



Kepler

It was also an age that witnessed the invention of printing. Far-reaching results were achieved in geographical discoveries. Columbus, Vasco-da-gama and Magellan were the greatest figures in this field. The invention of mariner's compass (in China) was of immense help to the sailors, especially in their voyages to the south of the Equator.

Results of the Renaissance

1. The study of classical languages developed a spirit of enquiry in the minds of the people. Instead of blindly believing what was written by others, they began to doubt, question and argue which enabled them to arrive at the truth. The quest for truth brought about profound changes in science, art, politics, religion and literature.
2. Renaissance created a passion for reason in the minds of the people.
3. The Renaissance kindled the creative talents of the people and slowly paved the way for many inventions and discoveries.

4. Before the Renaissance the ruins of Greece and Rome had no fascination for the people. But after the Renaissance the people evinced keen interest in the ruins. Thus, the science of archaeology came into existence.

5. The reasoning spirit opened new opportunities for the people to find our loopholes in religious beliefs. The invention of the printing press helped to publish books on a large scale.

6. The new inventions, discoveries and writing of eminent men completely changed the outlook of the people towards the state. It developed a spirit of nationalism and individualism. It resulted in the emergence of nation states such as England, France, Holland, Portugal and Spain.

7. The study of the old classics which ran counter to Christian ideals greatly weakened the church and revived the spirit of Humanism.

8. The study of history became more scientific. The Renaissance resulted in “Humanism” which was noted for its sympathetic and devoted approach to mankind.



Erasmus

9. The Greek and Latin classics were humane in nature. The protagonists of this culture were

called "Humanists", and their subjects "Humanities".

"Humanism, whose seed was sown by Petrarch in the fourteenth century and whose fruit was plucked by Erasmus in the sixteenth century. Humanism still lives in higher education in Europe and America".

Reformation

The term 'Reformation' refers to the religious reform movement in the Catholic Church which led to the rise of a new section of Christians known as Protestants. These Protestants broke away from the Roman Catholic Church in order to form new churches on nationalist lines. Though reformation was a religious movement it was an outcome of the socio, economic and political conditions that prevailed in the sixteenth century.

During the medieval period the Church had developed a powerful hierarchy led by the Pope (Bishop of Rome) and assisted by cardinals, archbishops, bishops and priests. Every Christian had to perform seven sacraments in his life time with the assistance of the priests of the church. Hence, the church had acquired absolute authority to control the personal lives of Christians. The church exploited Christians by all means.

Religious appointments were sold and those who purchased the positions charged high fees for the services they rendered. The new learning promoted by the Renaissance and growth of capitalist tendencies influenced some of the clergymen. The popes and higher clergy lived like princes. They indulged in corrupt practices to amass wealth. They lived a life of opulence, immorality, running gambling houses and keeping mistresses. Dispensations which exempted people

from certain laws of the church were sold. Moreover any opinion or doctrine contrary to the church dogma was considered heretical. Such heretics were burnt at stakes. For example John Huss was burnt at the stake in 1415.A.D.

The growing nationalist sentiment also worked against the church. Powerful dynasties were emerging in Spain, France and in various parts of Europe which resisted the overlords of Rome. The church collected various taxes and a large portion of this was sent to Rome, the head quarters of the Catholic Church. Christians of various countries like Germany, England, and Netherlands etc. disliked this practice. The rulers of various countries resented the control of the church on their royal authority, and the church lands being exempted from royal taxes.

The immediate cause of the Lutheran revolt was the issue of 'sale of indulgences'. A magnificent church known as St.Peter's church was being built by the Pope. A lot of money was



Martin Luther

required for the building of that church. The Pope ordered the subordinate churches to raise funds for the construction of that church Johann Tetzel, a Dominican friar, in order to raise funds, sold indulgences for the remission of the penalty for the sins in the purgatory. The quantum of remission would be in proportion to the amount of money spent for the purchase of 'indulgences'. Such vulgar salesmanship of the clergy shocked Pious clergy like Martin Luther who raised a banner of revolt against the corrupt practices of the Roman Catholic Church.

In 1517, Martin Luther nailed his protest against the indulgences in the form of 95 theses to the door of the Wittenberg church in Saxony. His protest theses were translated, copied, and circulated widely in printed form. In 1520 Luther published three pamphlets

- i.e 1) AN ADDRESS TO THE NOBILITY OF THE GERMAN NATION.
- 2) ON THE BABYLONIAN CAPTIVITY OF THE CHURCH AND
- 3) THE FREEDOM OF THE CHRISTIAN MAN.

In his writings Luther questioned the



Pope Leo X

authority and relevance of the Pope and church councils.

Pope Leo X, through a Papal bull (papal order in a sealed cover) threatened Luther with excommunication if he failed to recant. But Luther was encouraged by the support of the German people and princes, defied the authority of the Pope and burnt in public the papal bull and some books of canon law. This "burning of the books" symbolized the 'declaration of independence' of the German principalities from the control of the Roman Pope.



Charles V

Charles V, the Holy Roman Emperor, summoned Luther to an imperial Diet (Assembly) at WORMS, and asked Luther to recant.

Supported and protected by German princes led by Frederick of Saxony, Luther refused to retrace his step. Lutheranism refused to accept the mediatory role of the Roman Church, reduced the sacraments from seven to three (i.e baptism, marriage and communion) condemned monasticism (and the clergymen were to marry) and adopted native German language for religious and secular

purposes. The German princes and nobles also took possession of the church lands. In 1529 the Lutheran princes defined an imperial edict asking them to suppress Lutheranism - made a formal 'protest' that "they would remain loyal to the God rather than to the Emperor". Hence the Lutherans were called 'protestants'.



Ulrich Zwingli

Ulrich Zwingli in Zurich (Switzerland) and a French clergy John Calvin, who fled to Switzerland similarly raised 'protests' against the papal order and more or less toed the lines of Martin Luther. All of them wanted the church to be restored to its early purity and simplicity. In England the Tudor King, Henry VIII quarreled with the Pope Clement VII, on the question of securing papal sanction for his divorce with Catherine and marriage to Anne Boleyn. He pressurized the English church to break away from Rome in 1533. In the succeeding year the 'Act of Supremacy' of the Parliament made the English king the supreme head of Anglican Church. Thus a clerical protest against Roman Catholic Church resulted in the emergence of non-Latin national states and non-Catholic Christian sects in Europe.

Counter Reformation

The triumphant progress of Protestantism was viewed with great concern and fear by the Roman Catholic Church. The aim of the counter-reformation was primarily to restore the Church to a condition of Pristine purity and sublime holiness. The church stood in dire need of protection from within and without. Before things went out of control, it took drastic measures to arrest the onward march of Protestantism. It also committed itself to the purification of the Church. This movement for reform within the church and the steps taken by it to arrest the growth of Protestantism came to be known as Counter-Reformation.

Society of Jesus

Ignatius Loyola and the Society of Jesus(1491-1556)

Ignatius Loyola, a Spanish nobleman, was born in 1491. He became a soldier and served Emperor Charles V by fighting for the French. He was wounded in a battle, and during the period of treatment he had strange religious experiences. He underwent a great transformation after studying the



Ignatius Loyola

works relating to the lives of Jesus Christ and order saints. He founded a religious order known as the Society of Jesus with papal consent and enrolled sixty members (Jesuits) who were subjected to more religious discipline and training. Each member had to undergo Loyola's spiritual exercises and in 1540, the Pope sanctioned increase in the strength of Jesuit members. The Jesuits, who swore to lead a life of poverty, chastity and "service to god and Christianity", spread themselves throughout the European continent and worked tirelessly with great zeal as missionaries. They spread the message of Christ, and opened schools everywhere. The Jesuits were the agents in propagating the counter-reformation. The Jesuits in their missionary activities achieved remarkable success. The Jesuits did yeomen service for the cause of Catholicism.

The Council of Trent

The Council of Trent (1545 – 63) aimed at reforming the Catholic church. Though it failed to bring about unity in Christendom, it gave a clear definition to Catholic doctrines; the council marked the triumph of populism. After the Council of Trent, the Pope was recognized as the supreme arbiter in religious matters as far as Catholicism was concerned. Evil and unworthy priests were to be removed. Celibacy was enforced. The service-book of the church was completely renewed and the Bible was revised.

The inquisition

In order to root out heresy, the church-court-'inquisition'-meted out brutal punishments to people who wavered in their allegiance to the

Catholic faith. The Spanish inquisition was founded during the time of Ferdinand and Isabella. Torture was used to extract confession.

The Church also prepared an 'Index' of hierarchical books and passages and such hierarchical writings were prohibited for the believers.

Geographical Discoveries

The age of Renaissance has removed all the mediaeval ideas from the mind of the people and it fostered a spirit of adventure among the people of Europe to explore unknown distant lands in various parts of the world.

Knowledge about Earth

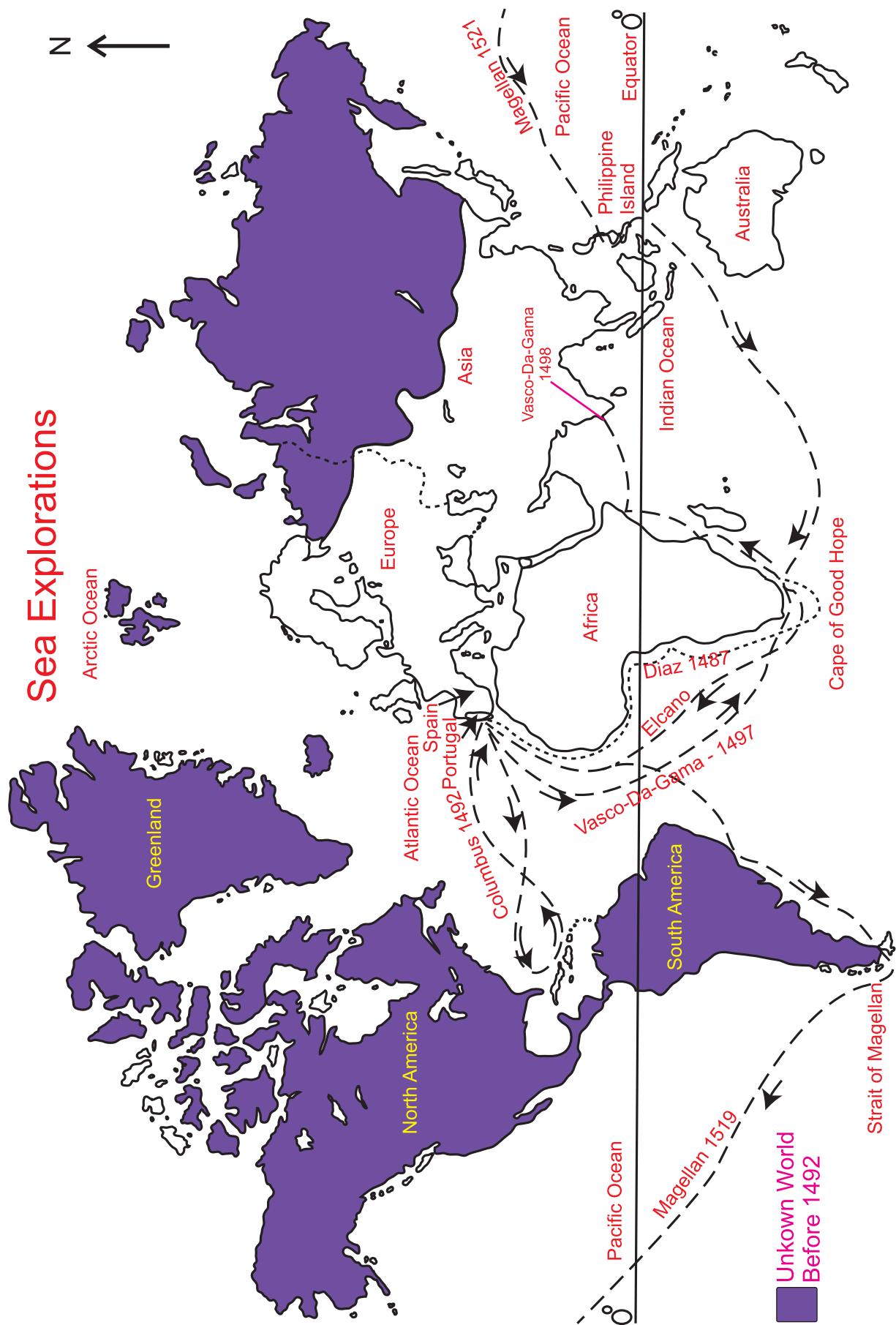
During this period the scientists discovered that the earth is spherical in shape. So the sailors concluded that they might return to the same point from where they began their journey. It encouraged them to travel.

Scientific insertion contributed to development in the modern era. Among all these inventions, the invention of Mariner's compass was the most significant one. It is an instrument meant to know the directions. Its needle always points towards north. It saves the people at sea especially to



15th century ship

Sea Explorations



the south of Equator from getting People dared travel to distant places because they had the correct knowledge of geographical directions.

In the 15th century after the occupation of Canary Islands, the Portuguese began to make efforts to explore the western side of Africa. Prince Henry a Portuguese made great efforts in this direction hence known as Henry the Navigator (1394-1460). He started a school for navigators and encouraged extensive exploration. The sailors were taught how to make use of the Mariner's Compass and astrolabe. His sailors undertook many voyages along the coast line of West Africa. They discovered Azores and Madeira Islands and went as far as Sudan and Senegal.

After the fall of Constantinople in 1453 to the Ottoman Turks, it had become impossible to travel to Asia from Europe. It endangered the spice trade of the Europeans; Until then the Arabs were the intermediaries in spice trade. Hence the Europeans had to search for new sea routes in order to reach Asia and to amass wealth. They sought royal patronage to undertake long voyages to find our new routes to India and Cathay (China).

The geographical imagination of Europe was enormously stimulated by the Mongol conquests. The desire for foreign travel and commerce was greatly encouraged by the Crusaders. The overland journey of a small party of Venetians, of which Marco Polo's travel to Cathay (China) at the end of the thirteenth century was a bold undertaking.

Remarkable discoveries were made during the second half of the 15th

century. Bartholomeo Diaz a Portuguese, reached the southern most tip of Africa, which came to be called the 'Cape of Good hope'. In 1497, Vasco da Gama, a Portuguese explorer, sailed across the India Ocean and reached Kerala's coastal town Calicut in 1498. His discovery of new sea route to India was a remarkable achievement.



Vasco da gama

Christopher Columbus, was an Italian but his voyages were financed by the Queen of Spain. He was the first to sail across Atlantic Ocean in 1492, with three ships-The Santa Maria, the Nina and the Pinta with 88 crew members.



Columbus

He reached America on 11th October 1492 after great difficulties. This was the most significant discovery of Columbus and it came to be known as 'The New World'.

Fernando Cortez, a Spanish adventurer made an expedition to explore the coast of Central America and discovered Mexico and Peru surrendered to Pizarro in 1530. The discovery of Mexico and Peru caused a steady stream of gold and silver to flow across the Atlantic to Spain.

Ferdinand Magellan, a Portuguese in the service of Spain, reached and named the Pacific Ocean.

Amerigo Vespucci, Italian adventurer, made four voyages to the region visited by Columbus. He gave a detailed description about the land and its people.

Martin Wald Muller, a German cartographer was drawing a map of the world and he named the New World-America after Amerigo Vespucci.

For commercial prosperity and imperialism both Portugal and Spain divided the world between them with the help of the Pope. Africa, Asia and Brazil were given to Portugal and Spain established control over parts of Northern and Southern America and Spaniards poured there in great numbers, in search of gold and silver. Spain amassed a lot of wealth. It lured the other countries of Europe to establish their colonies in the New world especially France. England and Holland the countries began to fight among themselves for territories in the American Continent.

EXERCISE

I) Choose the correct answer.

- 1) The birth place of the Renaissance was _____.
a) Italy b) Germany c) England d) Austria

- 2) _____ was responsible for the Reformation.
a) John Huss b) Martin Luther King c) Zwingli d) Calvin

- 3) Constantinople was captured by the Turks in _____.
a) 1452 A.D. b) 1553 A.D. c) 1453 A.D. d) 1353 A.D.

- 4) Mona Lisa was painted by _____.
a) Micheal Angelo b) Raphael
c) Titian d) Leonardo da vinci

- 5) The religious order known as the society of Jesus was founded by _____.
a) Martin Luther b) Charles-V
c) Zwingli d) Ignatius Loyola

- 6) Vasco da Gama reached Calicut in _____.
a) 1498 b) 1497 c) 1496 d) 1499

II) Match the following.

- | | |
|----------------------|--------------------------|
| 1) Dante | Father of modern science |
| 2) Michael Angelo | New scientific invention |
| 3) Roger Bacon | America |
| 4) Mariner's Compass | Last judgment |
| 5) Amerigo Vespucci | Divine comedy |
| | Last supper |
| | New sea route |

III) Write Short Answers.

- 1) Define – Renaissance.
- 2) What were the two broad divisions of the Renaissance movement?
- 3) Write a short note on Painting during the Renaissance period.
- 4) What were the important scientific inventions during Renaissance period?
- 5) Write a note on indulgence.
- 6) The council of Trent – Define.
- 7) Write a note on Henry the Navigator.
- 8) What were the effects of the new voyages?

IV) Answer all the questions given under each caption.

- 1) Renaissance in Italy
 - a) Which Country was known as the school of Europe?
 - b) Who was the first great Pioneer of classical art?
 - c) Name the author of "Structure of the Human Body".
 - d) Who was noted for his mastery of colour?
- 2) Reformation
 - a) What was the immediate cause of the Lutheran revolt?
 - b) Who were the 'Protestants'?
 - c) What were the Sacraments that were reduced from seven to three?
 - d) Who was Johann Tetzel?

3) Society of Jesus

- a) Who founded the Society of Jesus?
- b) In which year it was founded?
- c) How many members enrolled in the Society of Jesus?
- d) Who were the agents propagating the Counter Reformation?

4) New discoveries

- a) Who named the Cape of Good Hope?
- b) What was the name of Christopher Columbus's discovery?
- c) Name the three ships used by Christopher Columbus.
- d) Which Portuguese explorer named the Pacific Ocean?

V) Answer in a Paragraph.

- 1) Write a paragraph on Humanism during the Renaissance period.
- 2) What were the Results of the Renaissance?
- 3) What were the services of Martin Luther against the corrupt practices of the Roman Catholic Church?
- 4) Write a note on 'The inquisition' and 'Index'.
- 5) What were the causes for the Geographical Discoveries?

FORMATIVE ASSESSMENT

- 1) On an outline map of the world trace the routes taken by
 - a) Christopher Columbus.
 - b) Magellan.
 - c) Vasco da Gama
 - d) Bartholomeo Diaz.
- 2) Collect pictures of the famous paintings of
 - a) Michael Angelo
 - b) Leonardo da vinci
 - c) Raphael
 - d) Titian and paste them in your scrapbook.
- 3) Find out more information on the Society of Jesus and their work in India.
- 4) Choose any one painting of Leonardo da vinci or Michael Angelo and write a paragraph on why you think it is so famous.

2. THE INDUSTRIAL REVOLUTION

The Industrial Revolution which took place in England fundamentally changed the industrial, commercial, political and social life of the western world. The term Industrial Revolution is used to express the adoption of system of making things on large scale in factories. **The term Industrial revolution refers to the shift from an agrarian, handicraft, labour intensive economy into one dominated by machine manufacturers, factories and a free flow of capital.** The capitalist procured raw materials and supplied it to the artisans and craftsmen who manufactured products in their houses. New inventions were taking place in different areas, which gave birth to machines. The machines changed the entire method of production. The revolution was completely economic in nature. There was no violence, no bloodshed, it was a peaceful process of industrial transformation. The French writer Blanqui first coined the term Industrial Revolution.

Factors responsible for Industrial Revolution

In the 18th century many innovations in agricultural methods and organization has brought about far-reaching changes. The traditional patterns of farming were breaking up. Agriculture became more and more a capitalist enterprise. Peasants freed from manorial obligations joined the ranks of entrepreneurs and tenants. The demand for English goods went on increasing. The expansion of commerce was the result of the discoveries of new lands and new sea routes. The population in European

countries expanded rapidly due to factors. More efficient agriculture and better food distribution reduced malnutrition which meant more births. The progress of science revolutionised the methods of production. These conditions and many natural advances were favourable for the beginning of an Industrial Revolution.

The widespread production of rural handicrafts provided the foundation for the rapid expansion of trade. This expansion resulted a search for new markets. The capitalists encouraged the scientists to invent machines. Further, the European countries exploited the colonies and their exploitation gave birth to capitalism. The capitalists wanted production of more goods in order to gain more profits and for this they required factories. With the help of newly invented machines, the people produced goods on large scale. These factors helped the rapid industrial changes in Europe. Before the Renaissance scientific knowledge was not put into practice, but now there was awakening all around.

England in the 18th century was in a most favourable position for an Industrial Revolution. It had become the leading maritime and colonial power of the world. Here colonial and naval supremacy provided an incentive for the development of industries as the colonies provide raw materials as well as markets. Britain also possessed many natural advantages, her coast line and climate promoted trends towards industrialisation. The role played by private enterprises in England's economic developments

was extraordinary and unique. The engines of the industrial revolution made England rich and powerful. Many protestant artisans of Spain and France migrated to England due to religious persecutions. The English government provided them shelter and monetary help and in return made full use of their skills. It gave an impetus to industrialization England.

Scientific Inventions and Technological Developments – Revolution in the Textile Industry

The industrial revolution brought a change from handicrafts to machine manufacture and from human or animal power to other forms of energy such as steam. The cotton textile industry was the first to gain momentum from the outburst of inventions. **John Kay's** (1733) "Flying Shuttle" speeded up the process of weaving and thus increased the demand for thread. **James Hargreaves's** "Spinning Jenny" and **Crompton's** "Spinning Mule" (1779) supplied the demand for thread. **Cartwright's** "power loom" (1785) improved weaving methods. **Whitney's** "cotton gin" (1793) made a large and cheap supply of raw cotton for spinning. **Elias Howe** invented the "sewing machine" (1846).

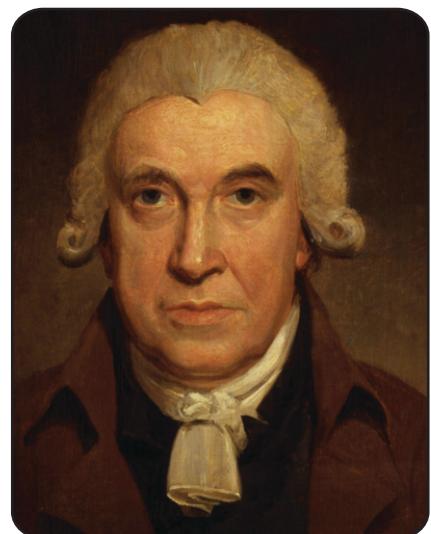
Inventions of Power

The most important invention of the Industrial Revolution was the steam engine. **James Watt** studied Newcomen's steam engine and invented a new steam engine in 1769. Steam replaced horse and water power in the textile industry. **George Stephenson** invented the steam locomotive engine in 1825. In 1830, the first passenger railway between Manchester and Liverpool was

operated. The steam printing press in 1814 decreased the cost on printed materials. Later on **Faraday** invented the dynamo.



George Stephenson



James Watt
'An Improver of the Steam Engines'

Abraham Derby experimented to substitute coke for charcoal for smelting iron ore. In 1760, **John Smeaton** improved the "Derby process" with the addition of water power. **Humphrey Davy** invented the miner's safety lamp which enabled the miners to do their work safely. In 1784, **Henry Cort** introduced the puddling process for the purification of pig iron.

In 1855, **Bersemer** invented a new method of making steel. From this time onward coal and iron went hand in hand with steam as the foundation of industrialisation.

Revolution in Transport

Changes in mining and metallurgy speeded changes in other industries especially transportation and communication. **John Metcalfe and John McAdam** made tremendous improvements in road making. McAdam devised the method of making pucca roads, which were called "macadamised" roads. **James Brindley** constructed a network of canals in important towns like Birmingham, London, Liverpool, Manchester, etc., any they were soon linked by canals.



Steam Engine

Revolution in the means of Communication

'Sir Rowland Hill' invented the 'penny post system' by which the business men were able to carry on their correspondence with their customers and clients from far and near. **Morse** invented the method of sending messages through telegraph wires. In 1835 the first electric telegraph came into existence. Point for Discussion- present state of Electric Telegraph in India.



Electric Telegraph

Revolution in Agriculture

The revolution in agriculture had started before the industrial revolution. New farm machinery included the steel plough and the harrow for breaking the ground, the mechanical drill for seeding and the horse drawn cultivator to replace the hoe. There were also machines for reaping and threshing. The practice of crop rotation was adopted to maintain soil fertility. **Clover**, one of the plants which add fertility to the soil was cultivated. Land owners in England began to enlarge their farms. The strips that lay scattered about the village were also consolidated so that they could hold all their lands in one piece thereby increasing the production.

Effects of Industrial Revolution-Social Effects

The industrial Revolution left a deep impact on all facets of European life. The changes in agricultural production, business organisation and technology had revolutionary effects in society and politics. People were drawn from the country side into cities thus during to a number of industrial towns. The overcrowded towns lacked sanitary amenities. Air, water and noise pollution affected the health of people. The Industrialists found it more profitable to employ women and

children in their factories. Mass underemployment became one of the greatest social problems. It also destroyed the old division of the society and created two distinct classes, the 'capitalists' and the 'Labours'. The division of people into 'haves' (rich) and "have nots" (poor) became pronounced. As industries developed in many of the European countries, they were forced to set up their colonies in other continents to get raw materials and to sell their goods. This search for colonies led to colonial imperialism.

Political Effects

The emergence of big towns necessitated parliamentary reforms. A number of parliamentary reforms were introduced. The factory acts were passed in 1819, 1833 and 1837 to improve the condition of labourers and to give them protection from the exploitation of capitalists. In 1825, trade unions were organized to fight for their rights. It also gave rise to ideas of rationalism and internationalism through means of communication and transport. This also gave rise to the demand for democratic government on an economic basis ie. Socialism.

Economic Effects

The industrial Revolution changed the economic face of England. England became the most advanced country in the world. It developed its trade relations and this increased the national income. Cottage industries could not compete with the factories and they met their natural death in course of time. The establishment of factories saw the rise of many new industrial towns like Manchester, Lancashire, Birmingham and Sheffield. The birth of new classes the Capitalist and the Labour class made the poor

poorer and the entire capital of the country went in to the coffers on the capitalist. It was therefore as someone said "The Industrial Revolution made the rich richer and the poor poorer".

New Idealism

The Industrial Revolution gave birth to many political terminologies which are frequently used. Capitalism was born out of the mass production of goods which led to the owners of the big industries amassing wealth. The large scale factories began to develop mercantile capital, this was the beginning of capitalism.

Socialism

The slogan of socialism was raised by the labour classed against capitalism. The motive behind socialism was that there should be a just distribution of wealth and to narrow the gap between the rich and the poor. Nobody should starve and everybody's needs must be met. Industrialization sharpened the distinction between the middle class and the labour class. Socialistic demands were meant to narrow this gap. Robert Owen was the first person to coin the word "socialism".



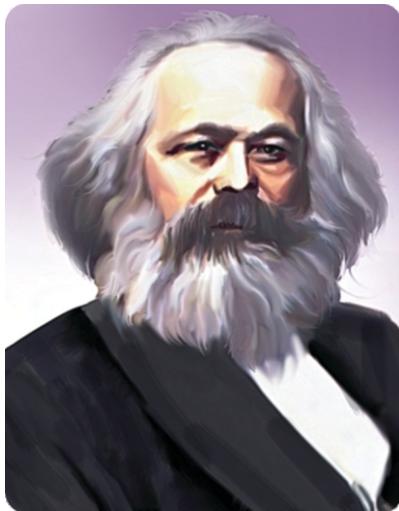
Robert Owen

Inventions during the Industrial Revolution

INDUSTRY	NAME	INVENTIONS	YEAR
1.TEXTILE	John Kay	Flying Shuttle	1733
	James Hargreaves	Spinning Jenny	1764
	Samuel Crompton	Water Frame	1769
	Edmund Cartwright	Spinning Mule	1779
	Eli Whitney	Power Loom	1785
	Elias Howe	Cotton Gin Sewing machine	1793 1846
2. STEAM	Thomas Newcomen	First steam engine	1712
	James Watt	Redesigned Newcomen's steam engine.	1769
	George Stephenson	First Iron ship First Locomotive called Rocket	1790 1814
	Robert Fulton	First Railway	1825
	Robert Stephenson	Steam Boat called Clermont Flying Rocket	1807 1829
	Faraday	Steam printing Press Dynamo	1814 1831
3.Iron and Steel	Abraham Derby	Substitution of coal from charcoal	1709
	John Smeaton	Improved Derby Process	1760
	Humphrey Davy	Safety lamp	1816
	Henry Cort	Pudding process for purification of iron	1784
	Bersemer	Method of making Steel	1855
4.Transport	John Metcalfe John McAdam James Brindley	Road making Macadamised Roads Networking Of Canals	1761
5.Communication	Sir Rowland Hill	Penny Post system	1835
	Samuel Morse	Sending messages through telegraph wires. First electric telegraph	1836
	Cyrus W field	Trans Atlantic under Sea Cable Connectivity	1858

Marxism

Marxism is a theory developed by **Karl Marx** who was a socialist from Germany. His theory is based on the assumption that production and physical forces have an intimate relationship, and the surplus value of products should go in favour of the working class. The industrial revolution gave birth to Marxism and philosophies which are sufficiently advanced these days.



Karl Marx

Theory of Laissez-Faire

It was a result of Industrial Revolution that the theory of Laissez-Faire or “free trade” came to the forefront. By this theory capitalist

and traders pleaded that the state had no right to interfere in the affairs of the factories and trade.

Impact of Industrial Revolution

The Industrial Revolution led man to become a slave of the machines. The owners of the factories ruthlessly exploited their employees. The hours of work in the factory varied between fourteen to sixteen hours a day. The women and children were employed at low wages and were also required to work on dangerous machines. It also created serious problem of under employment. The people began to live an unnatural life.

The industrial Revolution had both good and as well as evil effects. But it is undoubtedly clear that these effects were far reaching. **Davies** says, “The Industrial Revolution was not however an unmixed blessing. The domestic system of industry which it brought to an end was in many respects ,more conducive to the happiness of the workers”. It bestowed great material benefits to mankind. In brief the industrial revolution has made the modern world what it is today.

EXERCISE

I) Choose the correct answer.

1. During the Industrial Revolution Production became _____.
a) faster b) slower c) very slow d) no change
2. _____ was the birth place of the Industrial Revolution.
a) USA b) France c) England d) Germany
3. Great Britain is an _____.
a) Peninsula b) Island c) Desert d) Mountain

4. Cotton gin was invented by _____.
a) James Hargreaves b) Eli Whitney c) Samuel Crompton d) Elias Howe
5. In _____ the First Passenger Railway was operated in Britain.
a) 1830 b) 1850 c) 1779 d) 1900

II) Match the following.

- | | |
|------------------|---|
| 1. John Kay | Road |
| 2. James Watt | Dynamo |
| 3. Faraday | Flying Shuttle |
| 4. MC Adam | Spinning Jenny |
| 5. Humphrey Davy | New Steam Engine
Safety Lamp
Cotton Gin |

III) Answer all the questions given under each caption.

1. Textile Industry
 - a) Which industry gained the first momentum from the outburst of Invention?
 - b) Who invented the “Flying Shuttle”?
 - c) Who invented the sewing Machine?
 - d) When was the Cotton Gin invented?
2. Invention in Power
 - a) Who invented a new steam Engine in 1769?
 - b) Who invented the safety Lamp?
 - c) What did Bersemer invent in 1855?
 - d) Who introduced the Pudding process? What is it used for?

IV) Answer Briefly.

1. What is meant by the term 'Industrial Revolution'?
2. What were the results of the expansion of Commerce?
3. Write a note on Revolution in Agriculture
4. What is the motive behind socialism?
5. Who is Karl Marx? What was his Theory?

V) Answer in Detail.

1. What were the Causes for the Industrial Revolution?
2. What were the effects of the Industrial Revolution?
3. Mention some Important scientific Inventions that were made during the Industrial Revolution.

FORMATIVE ASSESSMENT

1. Discuss the effects of the Industrial Revolution in the society.
2. Collect the pictures of inventions and inventors in Textile Industry and in Power. Paste it in your scrapbook and write hints about them.
3. Assume you as a man of Industrial Revolution and write how was your life style changed after the invention of Steam Engine.

GEOGRAPHY

1. TAMIL NADU - MANUFACTURING INDUSTRIES

Industry refers to the secondary type of occupation. It is the booming sector of Tamil Nadu. Tamil Nadu is ranked as third industrial state next to Maharashtra and Gujarat. The act of converting the raw materials into finished and usable products is known as **Manufacturing**. A single manufacturing unit is termed as a **Factory**. Multiple units of same kind, which are spread over a larger area are termed as an **Industry**. Lakshmi Mills and Madura Coats are example of industrial units. About 34% of the state's income comes from the industrial sector.

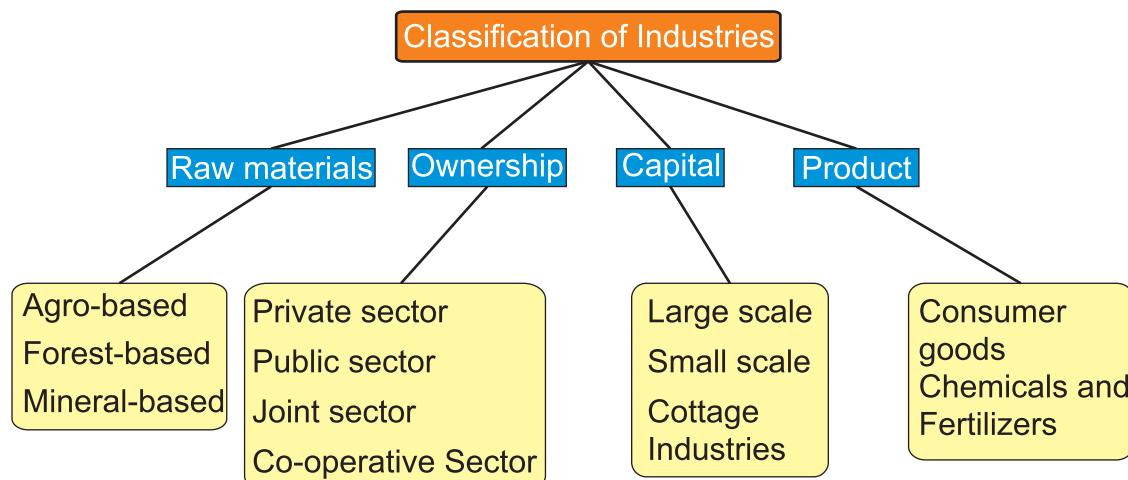
Activity

List the manufactured items you see in the classroom. For each item, try to find the raw materials used and try to classify and group the industries, accordingly (Blackboard, desk, chair, watch....)

Classification of Industries

Industries can be classified on the basis of:

- a) Raw materials.
- b) Ownership.
- c) Capital involved and
- d) Product.



Classification on industries based on raw materials

An industry that uses agricultural products for manufacturing is termed as **Agro-based industry**. Cotton textiles, sugar industry and food processing industries are **Agro-based industries**.

An industry that uses forest products as raw materials are known as **Forest-**

based industry. Example: Paper and Pulp industry, Honey and Sandalwood product.

Industries using minerals for production are called as **Mineral-based industry**. Iron and steel industry, ceramics industry and cement industry are some of the mineral-based industries.

Classification of industries based on ownership

A **Private industry** is one which is owned by an individual or a group of people. TVS Motors is one of the notable private industries of Tamil Nadu.

All Government-owned industries come under the **Public sector**. Tamil Nadu Newsprint Paper Limited (TNPL) is state owned public sector industry.

Co-operative sector is one which is owned by a group of co-operative members who supply the raw materials for that industry. Most of the sugar factories in Tamil Nadu are in the co-operative sector.

When an industry is functioning under the partnership of two organizations it is said to be **Joint sector**. The nuclear power station at Kudangulam near Thirunelveli is a joint sector between Indian Government and the Russian Government.

Classification of industries based on investment

The industry which has huge investment in terms of capital and infrastructure, along with huge labour and production are known as **large scale industries**. Iron and steel industry is an example for a large scale industry. A **medium-scale industry** is one that runs with investment of Rs.10 million (1-crore) to Rs.100 million (10-crore). A **small-scale industry** has been defined as the unit that has investment up to Rs.10 million (1-crore).

Small scale industrial units are those which are engaged in the manufacturing, processing or preservation of goods. Goods such as clothes, toys, furnitures, edible oils and

leather goods are produced by small scale industries.

A **Cottage industry** is one wherein very little investment is involved. The family as a whole works without any paid labourers. Locally available raw materials are used to produce the handicrafts. Volume of production and cost of production are low. Mats from grasses, (**Pattamadai mat**) toys from wood, Palm leaf containers are unique examples of goods from cottage industries of Tamil Nadu.

Classification of industries based on products

Consumer goods are those goods, which reach the consumers straight from the production unit. All perishable goods like food products and dairy products are examples of consumer goods.

Intermediate goods are products that are produced by another manufacturer. For instance, fabrics produced from cotton is an intermediate good, the clothing made from the fabric is a consumer good.

Basic goods are those goods which are produced on a large scale both for export and local consumption. For example : Iron and steel industry, chemicals and textiles.

Factors determining the location of Industries in Tamil Nadu

Location of industries in a particular place normally has many reasons for its localization. These reasons are the factors influencing the location of industries and are listed below:

- Raw materials • Transport and
- Energy • Market
- Capital • Labour

Activity

Name a major industry in your area?
List the reasons for its location.

Natural resources like water, minerals and energy resources determine the location of an industry. Textile industry, leather industry and paper industry require large quantities of water and so are located close to water sources. Industries like the cement industry, ceramic industry, and petro-chemical industry are located very near to the source of the raw materials. Aluminium industry highly relies on electricity and are located near the power stations or places with adequate supply of energy.

Distribution of Major industries in Tamil Nadu

The Major industries of Tamil Nadu are Textile industries, Sugar industries, Paper industries, Leather industries, Cement industries, Electrical equipments, Automobiles, Information Technology, Tourism industry and so on.

Textile industry of Tamil Nadu

Tamil Nadu plays a major role in the Indian textile industry in terms of production and export of yarn, fabrics, knitwear and garments. Tamil Nadu contributes nearly 25% of India's share in the export of cotton, yarns and fabric. Tropical climate, availability of raw materials, demand for cotton in market, power supply from numerous power projects and abundant cheap labour are favorable factors for widespread distribution of textile industries in Tamil Nadu.

Coimbatore, Pollachi, Udumalapettai, Thiruppur, Karamadai, Erode, Bhavani, Dindigul,

Thirumangalam, Madurai, Palayamkottai, Papanasam and Theni are important centres for textile industry. Maximum units are concentrated in and around Coimbatore region. This is why Coimbatore region. is known as 'the Manchester of South India'.

Districts of Coimbatore, Thiruppur and Erode contribute much for the state's economy; therefore, they are referred to as 'Textile Valley of Tamil Nadu'. Thiruppur alone contributes 70% of export of knitwear of Tamil Nadu. Erode specializes in garments and bedspreads. The city of Karur is known as the Textile Capital of Tamil Nadu.

Silk Textiles

Tamil Nadu occupies the fourth place in silk textile production in our country. Kancheepuram silk is unique in its quality and is known for its traditional value all over the world. Arani, Rasipuram and Thirubuvanam are other silk centres of Tamil Nadu. Sericulture Training Institute in Hosur trains farmers to adopt sericulture along with farm work to accelerate rural industrialisation. Mettur, Madurai, and Ramanathapuram are specialized areas for manufacturing synthetic clothes.

Sugar Industry

Tamil Nadu produces about 10% of total sugar in India. Suitable climate and soil, for high yielding varieties, continuous irrigation facility, good transport, marketing facility and regularized co-operative sector are favourable factors for the widespread sugar mills in the state. A majority of sugar units in Tamil Nadu are functioning under the co-operative sector. At present Tamil Nadu has 42

Sugar Mills, out of which 16 are under the co-operative sector, 3 owned by public sector and 23 as private mills.

Sugar factories are concentrated in Villupuram, Cuddalore, Vellore, Erode, Coimbatore, Thiruvannamalai, Thiruchirappalli, Thanjavur and Madurai districts. Jaggery, kandasari, and sugar are products from the sugar industry. The by-product bagasse (the crushed stem of sugarcane after extracting juice) is used as a raw material for paper industry. Tamil Nadu government has set up new integrated sugar complexes with different options of co-ethanol production, tissue culture lab, soil testing lab, fuel energy and bio-composting. Names of such units are given in the table.

cooking are manufactured and marketed locally as well as exported. Snacks items and biscuits are marketed on a large scale. Tamil Nadu with its long coastline offers opportunities for industries based on marine products.

Paper industry

Tamil Nadu stands second next to Andhra Pradesh in paper production in our country. The state produces about 12% of the paper in our country. Bamboo, grass, and Bagasse from sugarcane are raw materials for paper industry. Soda, sodash, chlorine, sulphur, woodpulp, and plenty of water are other requirements for setting up of paper industries.

Table: Distribution of integrated sugar complexes

Name of the Mills	Taluk	District
Kothari-Sathamangalam	Ariyalur	Ariyalur
Rajshree- Semmedu	Gingee Sankarapuram	Villupuram
Dharani- Kalaianallur		
Sakthi-Modakurichi	Erode	Erode
Empee Sugars-Idaikal	Ambasamudram	Thirunelveli
Shree Ambika-Manjini	Attur	Salem
Dhanalakshmi Srinivasan-Udumbiyam	Veppanthattai	Perambalur
Bannariamman- Kolunthampattu	Thandarampattu	Thiruvannamalai

Activity

Find out the location of integrated sugar mills of the state, in your area and mark it in a map.

Food and Beverage Industry

Food and Beverage based industry flourish well in Tamil Nadu. Mango pulp is processed and exported. Instant food varieties and ingredients for

Pukkathurai in Kancheepuram district, Bhavanisagar, Pallipalyam, Pugalur, Paramathi, Vellore, Coimbatore, Uduvaliapettai, Thoppampatti, Nillakkottai, and Cheranmadevi are centres of paper mills in Tamil Nadu.

Tamil Nadu Newsprint and Paper Limited (TNPL) was set up with aid of World Bank in 1979 in Kakithapuram near Pugalur in Karur district. It is the

largest producer of Bagasse based paper in the world with the annual consumption of bagasse terms 1 million tonnes per annum. It caters to the need of newsprint papers throughout Tamil Nadu. It produces 600 tonnes of newsprint paper per day. Other than newsprint, papers for telephone directory, computers, offset printing papers, copier machines are also produced and marketed by the TNPL.

Leather industry

Tamil Nadu accounts for 70% of national tanning factories and 60% export of India. Leather industry occupies an important place because of its wide dispersal, sizeable employment and export potential. Leather industry depends on cattle wealth. It is concerned with the treatment of raw pelt of animals to make them suitable for the manufacture of various articles.

Do you know?

The pelt of large animals and cattle are known as 'hide' and those of smaller ones like sheep and goats are called 'skin'.

Tanning is a process of making leather, from the skins of animals, with the use of tannin, an acidic chemical compound. Tanning makes the skin become flexible, less water-soluble and more resistant to bacterial attack. Tannery is the term given to place where animal skins are processed.

If tanning is done with vegetative matter, it is known as vegetable tanning process. Vegetable tanned hide is flexible and is used for making furniture. If tanning is done with chemicals like chromium and fatty matter, it is known as mineral tanning process or wet blur process. Chrome

tanning is faster than vegetable tanning and it produces stretchable leather which is excellent material for making handbags and garments.



Tanning

Chennai, Vellore, Kancheepuram, Thiruvallur, Thiruchirapalli, Dindigul and Madurai districts have widespread centres for leather industry. Chennai, Vellore, Ambur, Ranipet, Vaniyambadi, Dindigul and Thiruchirappalli are the main centers of leather industry.

Activity

List other leather products.

Cement industry

Tamil Nadu stands fourth in cement production. It accounts for 10% of the country's cement production. Tamil Nadu Cements Corporation Limited (TANCEM) is wholly owned by the Government of Tamil Nadu and manufactures Ordinary Portland Cement (OPC) and Super Star Cement exceeding the requirements prescribed under the Indian standards.



Tancem-Ariyalur

Activity

Name a few brands of cement produced in Tamil Nadu like Chettinad cement, Dalmia cement.

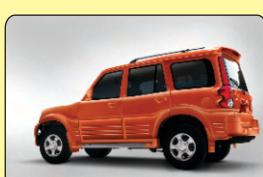
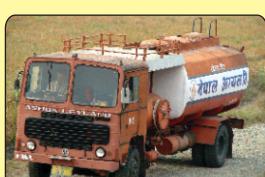
The new materials required for cement production are limestone, dolomite, gypsum, clay and coal. All of these are mined in Tamil Nadu. Major centres of cement industry are Sankari, Madukarai, Puliyur, Kunnam, Sendurai, Ariyalur, Dalmiapuram, Manamadurai, Thulukapatti, Allankulam, Sankarnagar and Thazhaiyuthu.

Automobile industry

Tamil Nadu earns 8% of its GDP from automobile industry. This industry contributes for about 21% of passenger cars, 33% of commercial vehicles produced in India. Chennai city is the base for 30% of India's automobile industry and 35% of its auto components. This industrial supremacy has resulted in Chennai being known as the “Detroit of Southern Asia”.

Activity

Find out the model of the vehicles and name the manufacturer of the vehicle.



Major global automobile companies

BMW, Ford, Renault-Nissan, Caterpillar, Hyundai, Mitsubishi Motors, and Michelin.

National automobile companies

Ashok Leyland, Bajaj, Hindustan Motors, TVS Motors, Royal Enfield, MRF, Apollo Tyres and Hero Honda, TAFE Tractors, Mahendra Tractors, Atlas bicycle, Hero bicycle.

Chemical industry

Chemical industry includes, production of chemicals, drugs, fertilizers, petrochemicals, soaps, detergents, cosmetics, medicines, synthetic rubber and plastics. Most of

the chemical industries are clustered around Chennai (Manali), Cuddalore, Panangudi (Nagapattinam) and Thuthukudi. The notable chemical industries of Tamil Nadu are SPIC (Southern Petrochemical Industries

Corporation Ltd) and Manali Petrochemicals Limited. SPIC is the largest producer of fertilizers in India and covers 12 states and caters to the customers through 4,000 outlets. It produces around 2 million tons of fertilizers annually.

Pfizer pharmaceutical company and Dow Chemicals are important chemical units which have research and development facility in Chennai.

Electrical and Electronics Industry

Electronics is a growing industry in Tamil Nadu. Many major global telecommunications like the Nokia, Flextronics, Motorola, Sony-Ericsson, Foxcon, Samsung, Cisco, Moser Baer and Dell have chosen Chennai as their South Asian manufacturing hub. Products manufactured include circuit boards and cellular phone handsets.

Bharat Heavy Electricals Limited located at Thiruchirppalli is one among the six large units of India. It produces boilers generators and turbines used in the production of hydro-electricity.

Software Industry Infosys' campus at Mahindra World City near Chennai

Tamil Nadu is the second largest software exporter (by value) in India. It has the leading BPO sector in the country next to Karnataka. Major national and global IT Companies



Infosys-Chennai

such as Verizon, Hewlett-Packard, IBM, Accenture, Ramco Systems, Computer Sciences Corporation, Cognizant Technology Solutions, Tata Consultancy Services, Infosys, Wipro, HCL, Tech Mahindra, Polaris, Aricent, Mphasis Acme Technology Pvt Ltd., Covansys, Ford Information Technology, Xansa, iSoft, iNautix, Electronic Data Systems, Bally and many others have established their branches in Chennai.

India's largest IT Park is in Chennai, jointly constructed and maintained by Ascendas India Ltd, a Singapore-based company engaged in providing business space solutions, with Tamil Nadu Industrial Development Corporation.(TIDCO).

Other notable industries of Tamil Nadu

Perambur Integral Coach Factory (ICF) is the largest in Asia to produce railway coaches in Tamil Nadu. “Armoured Vehicles and Ammunition Depot of India” (**Avadi**) is about 23km northwest of Chennai. The Heavy Vehicles Factory produces battle tanks. Salem Steel Plant is a Public Sector company undertaken by the Government of India. Sivakasi is a big industrial centre in Virudhunagar district. It is world famous for its fireworks and safety match boxes. Sivakasi produces 90% of India's fireworks. It is also known for offset printing. Sivakasi is known as '**Little Japan**'. Neyveli, apart from the production of thermal power, has a fertilizer unit and a ceramic unit attached to it. Thanjavur and Kumbakonam are specialized in the production of bronze statues and musical instruments.

"Tamil Nadu is the first State in the country to develop a well-defined Biotechnology Policy and to set up an All Women Biotechnology Park.

Chennai is second to Mumbai for its vibrant and innovative film industry.

Tourism industry

Tourism is considered as an industry because of its enormous potential in creating employment for a large number of people and for its substantial foreign exchange. Tamil Nadu's tourism industry is the second largest in India, with an annual growth rate of 16%. Presence of ancient monuments, pilgrim centres, hill stations, a variety of natural landscapes, long coastline, along with rich culture and heritage makes Tamil Nadu the best destination for tour lovers.



Recent attraction for Tourism

Tourism in Tamil Nadu is promoted by Tamil Nadu Tourism Development Corporation (TTDC), a Government of Tamil Nadu undertaking. Health/Medical tourism which is part of tourism industry is hosted by the leading health care centres in Chennai.

Do you know?

State Industries Promotion Corporation of Tamil Nadu (SIPCOT) Limited, a fully government owned

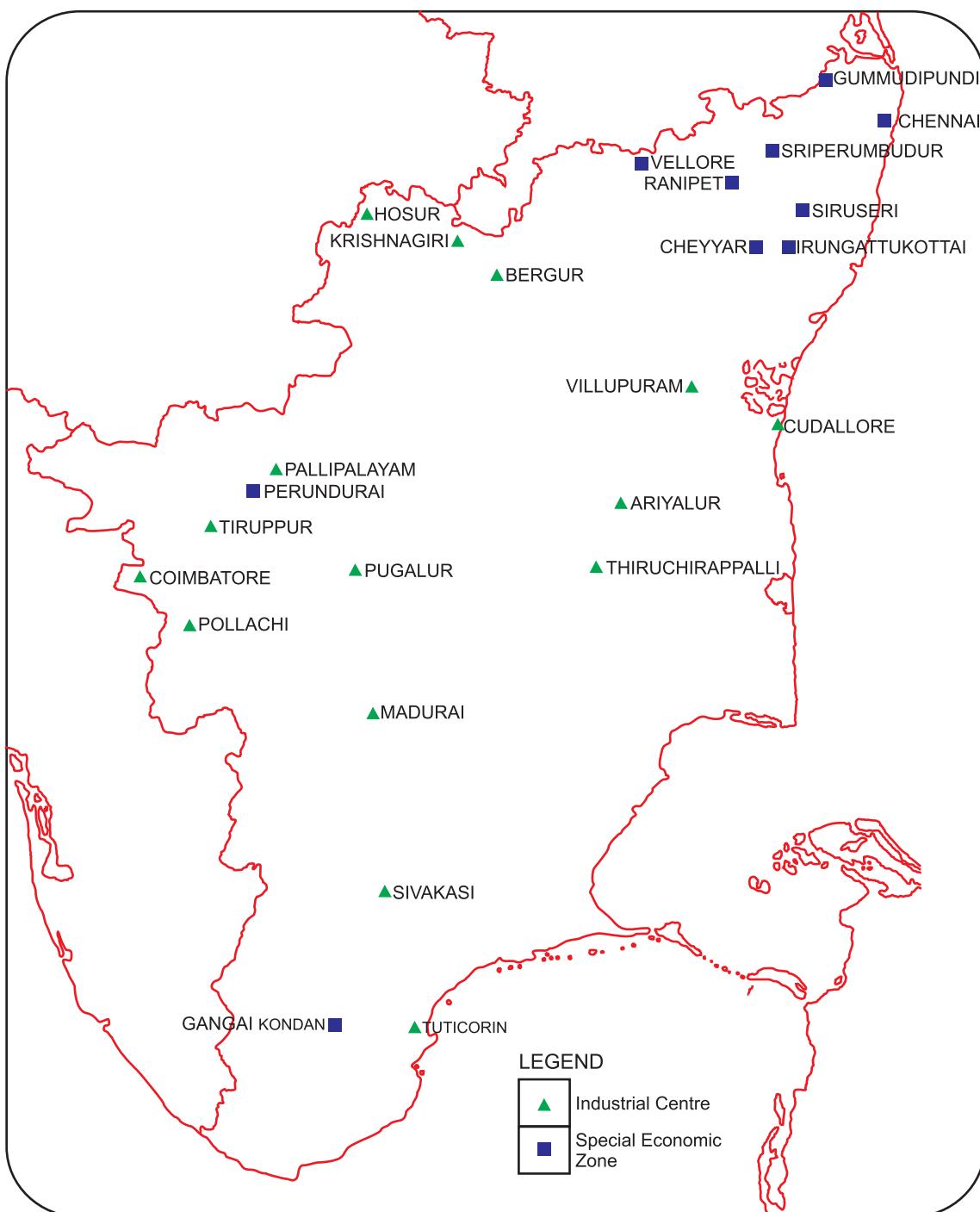
premier institution, established in the year 1972, has been a catalyst in the development of small, medium and large scale industries in Tamil Nadu.



In order to promote an industrial base for export, the state government has setup special regions as Special Economic Zones (SEZ). These regions have ample facilities for manufacturing. They are capable of attracting foreign investor, and aim at promoting trade at the international level. Tamil Nadu has set up SEZ in the following places: Sriperumpudur Industrial Park, Irungattukottai Footwear SEZ and Oragadam Industrial Growth Centre in Kancheepuram district, Ranipet Leather Sector SEZ, Perundurai Engineering products SEZ, Cheyyar Automobile/Auto Ancillary SEZ, and Gangaikondan Transport Engineering Goods SEZ.

**TAMIL NADU
MAJOR INDUSTRIAL CENTRES AND SPECIAL ECONOMIC ZONES**

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EXERCISE

I) Choose the correct answer.

1. Tamil Nadu Newsprint Paper Limited (TNPL) is _____ Industry in Tamil Nadu.
a) joint sector b) private sector c) public sector d) Co-operative sector
2. The by-product Bagasse is used as a raw material for _____ industry.
a) sugar b) paper c) chemical d) Automobile industries.
3. SPIC is the largest producer of _____ in India.
a) chemicals b) fertilizers c) petrol d) Sugar
4. _____ is one wherein very little investment is involved.
a) Large industry b) small-scale industry c) Cottage industry
d) Medium Scale industries
5. _____ silk is unique in its quality and is known for its traditional value all over the world.
a) Kancheepuram b) Arani c) Salem d) Thirubuvanam

II) Match the following.

- | | |
|---------------|--|
| 1. Chennai | The Manchester of south India |
| 2. Sivakasi | Detroit of Southern Asia |
| 3. Perambur | Textile Capital of Tamil Nadu |
| 4. Karur | Little Japan |
| 5. Coimbatore | Integral Coach Factory
Chemical Industries
Special Economic Zone |

III) Answer in brief.

1. How are industries classified?
2. What are the factors determining the location of Industries?
3. Name the products and by-products of sugar industry?
4. List down the raw materials for paper industry?
5. What do you mean by consumer goods?
6. Write a short note on Cottage industry.
7. Give reasons for the widespread distribution of textile industry in Tamil Nadu.

8. Distinguish between Factory and Industry.
9. Distinguish between agro-based industry and mineral based Industry.
10. Distinguish between vegetable tanning and mineral tanning.

IV) Answer in a paragraph.

1. What do you understand by Classification of industries based on ownership?
2. Give an account for the distribution of Textile industry in Tamil Nadu.
3. Write about the paper industry in Tamil Nadu.
4. Write a note on the Sugar industry in Tamil Nadu.

V) Mark the following places on a given map of Tamil Nadu.

1. All centres of special Economic Zone in Tamil Nadu.
2. Mark one centre for each of the following.

Textiles industry

Sugar industry

Iron industry

Cement industry

FORMATIVE ASSESSMENT

1. Collect and paste pictures of the various products made by the industries of Tamil Nadu.
2. Prepare a travel brochure to increase the Tourism industry in Tamil Nadu.
3. Collect samples of the various types of paper made by TNPL and stick it in your scrap book.
4. Visit any industry in your locality and find our details like what it produces, reasons for its location, how many workers, any exports etc.

2. TAMIL NADU TRANSPORT AND COMMUNICATIONS

Transport and Communications play a vital role in the economic development of Tamil Nadu. Transport system helps with the easy movement of human beings and materials. It acts as the arteries and veins of national development. The transport system is of four types. **Roadways, Railways, Waterways and Airways.**

Roadways

Of all the States of India, Tamil Nadu has a sound network of roads. All economic sectors of the State is interconnected and interlinked by roadways. The State Transport Corporations operate the public transport system along with private transport organizations. Compared to other States of India, Tamil Nadu State Transport Corporations operate bus services in a fullfledged, facilitating manner. Roadways may be classified into four types. They are:

- National Highways;
- State Highways;
- District roads; and
- Village Roads.

There are 24 National Highways covering a total distance of 4,500km. Golden Quadrilateral Project. To meet the ever increasing demand from public, there are seven transport corporations functioning in the State. They are given below with their area of operation:

1. Metropolitan Transport Corporation-Chennai and sub urban areas-Chennai as head quarters.

2. Tamil Nadu State Transport Corporation-Villupuram (Cuddalore, Vellore, Tiruvannamalai, Kanchipuram, and Tiruvallur districts with Villupuram as head quarters).

3. Tamil Nadu State Transport Corporation-Kumbakonnam (Thanjavur, Thiruvarur, Nagapattinam, Karaikal (Pudhucherry) Thiruchiapalli, Karur, Perambalur, Sivagangai, Ramnad and Pudukkottai districts with Kumbakonam as head quarters).

4. Tamil Nadu State Transport Corporation-Salem (Salem, Dharmapuri, Namakkal and Krishnagiri districts with Salem as head quarters).

5. Tamil Nadu State Transport Corporation-Coimbatore (Coimbatore, Tirupur, Erode and the Nilgiris districts with Coimbatore as head quarters).

6. Tamil Nadu State Transport Corporation-Madurai (Madurai, Viridhunagar, Dindigul and Theni districts with Madurai as head quarters).

7. Tamil Nadu State Transport Corporation-Thirunelveli (Thirunelveli, Thuthukudi, Kanyakumari districts with Thirunelveli as head quarters).

Table: Length of roads in km

Length of roads	(in km.)
1) National Highways	4,500
2) State Highways	5,525
3) Corporation and Municipalities	17,161
4) Town Panchayat Roads	15,591
5) Village Panchayat Roads	63,538
6) Panchayat Union roads	32,791
7) Forest Roads	3,930

Tamil Nadu Roadways



Apart from these the State has vehicular transport in the form of two and three wheeler vehicles which constitute about 83.9%. The number of registered vehicle population in Tamil Nadu had increased to 10.064 million in 2007-08. There are 64 vehicular zones in the States. Among the Regional Transport Offices, Chennai is the largest one which has – 61 centres.

Activity

Answer the following on the road map of Tamil Nadu.

- Find the districts through which NH 45 runs.
- NH 208 passes through _____, _____, _____ centres.
- Name two districts through which NH 68 runs.
- Which NH goes through your native district?

Recent Developments in Road Transport

- Conversion of single lane of State Highways into double lane and multilane.
- The widening and improvement of road from Madhyakailash in Adyar to Siruseri on Old Mahabalipuram Road (OMR) for about 24 km was laid. This is referred to as IT Expressway and it serves as connectivity to all IT companies.
- The East Coast Road (ECR) that is built along the coast of the Bay of Bengal connects Chennai and Cuddalore via Pondicherry. It gives rise to spectacular scenic views with beaches and fishermen hamlets. Presently, the East Coast Road has been extended to Thuthukudi via Chidambaram, Nagapattinam and Ramanathapuram.

- The Golden Quadrilateral Project of the National Highway Development that runs for about 1,232 km in Tamil Nadu has been completed.

- Most of the mofussil traffic had been diverted on to the bypass roads to avoid traffic congestion.

- CMBT (Chennai Mofussil Bus Terminus), which is the largest modern bus terminus in Asia, Koyambedu, Chennai has been established.

- Bridges and flyovers have been constructed in many districts of Tamil Nadu along the National Highways. Some of the notable ones may be found in Chennai City-Chennai Airport Flyover, Perambur Flyover, Anna Flyover and Kathipara junction Flyover. In Vellore, Tindivanam and Ulundurpettai flyovers have been constructed to ease vehicular traffic congestion.

- Ring roads that encircle urban areas to divert vehicular traffic to avoid traffic passing through the centre have been implemented.

- SETC operates a variety of buses, namely, semi-deluxe, super-deluxe, video coach, ultra-deluxe, Volvo and air suspension buses within Tamil Nadu and adjacent States.

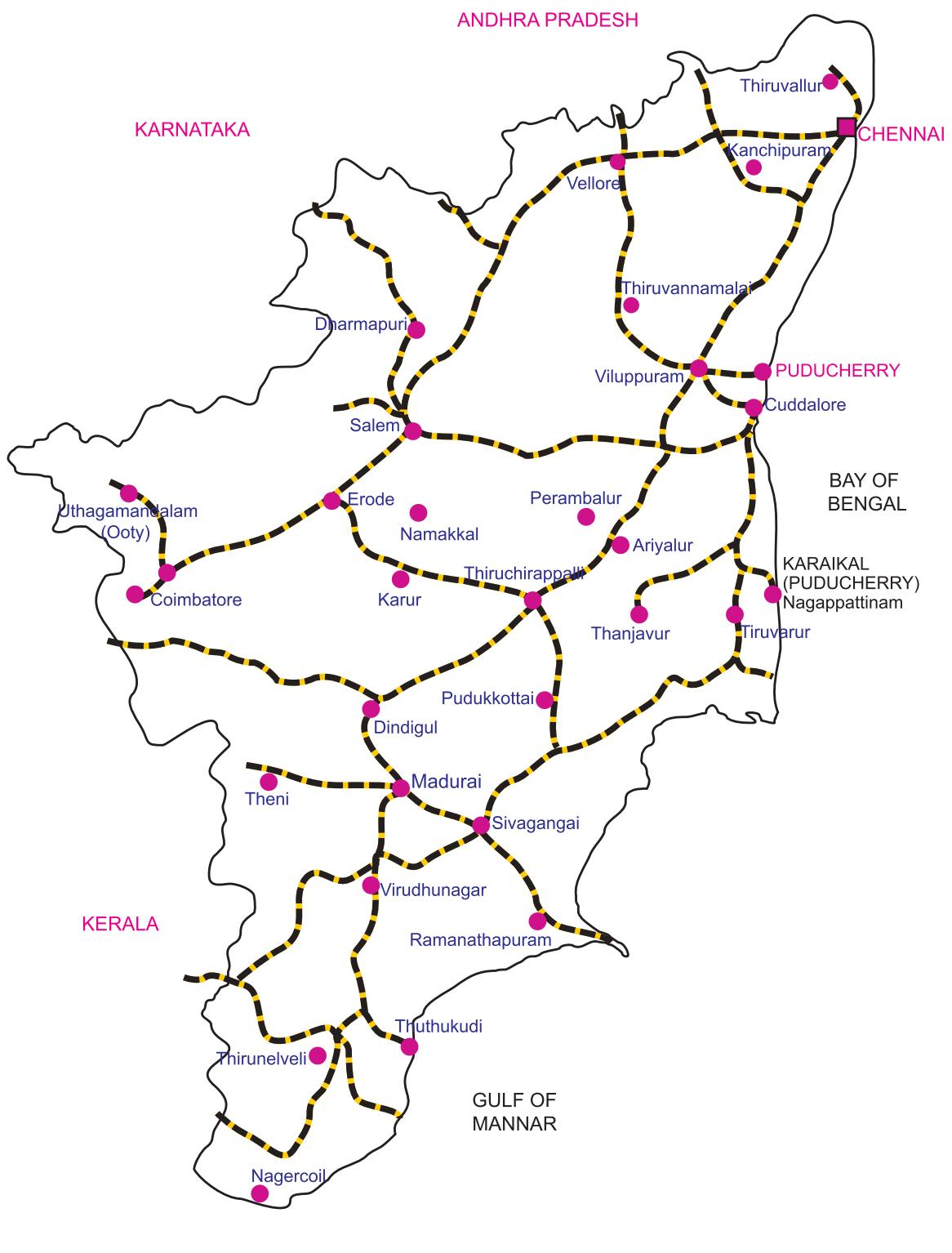
Railways

Tamil Nadu is well served with a good network of railways as part of the southern Railways with headquarters at Chennai. Rail tracks are classified into:

- ▶ Broad gauge;
- ▶ Metre gauge;
- ▶ Narrow gauge; and
- ▶ Suburban Railway.

In Tamil Nadu the total length of railway tracks is about 5,952 km and total number of railway stations is 532

Tamil Nadu Railways



to connect all the major cities of Tamil Nadu. The Southern Railways zones have been demarcated into six divisions, namely, Chennai, Madurai, Salem, Palakkad, Thiruvananthapuram and Thiruchirappalli. Main rail junctions in the State are:

Chennai, Erode, Coimbatore, Thirunelveli, Madurai, Thiruchirappalli and Salem.

Chennai has a well established suburban railway network, with three different lines connecting Chennai with Arakkonam, Gummidipoondi and Chengalpattu, MRTS Railway line connects Chennai Beach to Velachery.



Chennai Suburban Railway

Activity

Here, names of a few express trains are given. Find out the places connected by these trains. Find out whether they are weekly or daily trains.

1. From Chennai Central or Chennai Egmore Station to your native place.
2. Tamil Nadu Express.
3. Chennai-vijayawada Jan Sathabdi Express.
4. Chennai-Hubli Express.
5. Chennai-Howrah Mail
6. Chennai-Tuticorin Pearl City Express.
- Chennai-Guruvayur Express.

Recent developments in railways

The metre gauge rails are being converted into broad gauge of which 26% of the length had been electrified.

Gauge conversion project has also been taken up from Chennai Beach to Tambaram, Chengalpattu and other suburban areas.

Waterways

Waterways are the cheapest means of transport. It may be divided into inland waterways and seaways. The State has 1,000 km of coastline. The three major ports of Tamil Nadu are Chennai, Thoothukudi and Ennore. They play a crucial role in the provision of infrastructural support in the State. Minor Ports are anchorage ports where cargo is transshipped from the vessel to the shore. Some of the minor ports are Cuddalore, Nagapattinam, Kolachel and Rameswaram.



Chennai Port Trust

Cargo handled by major ports

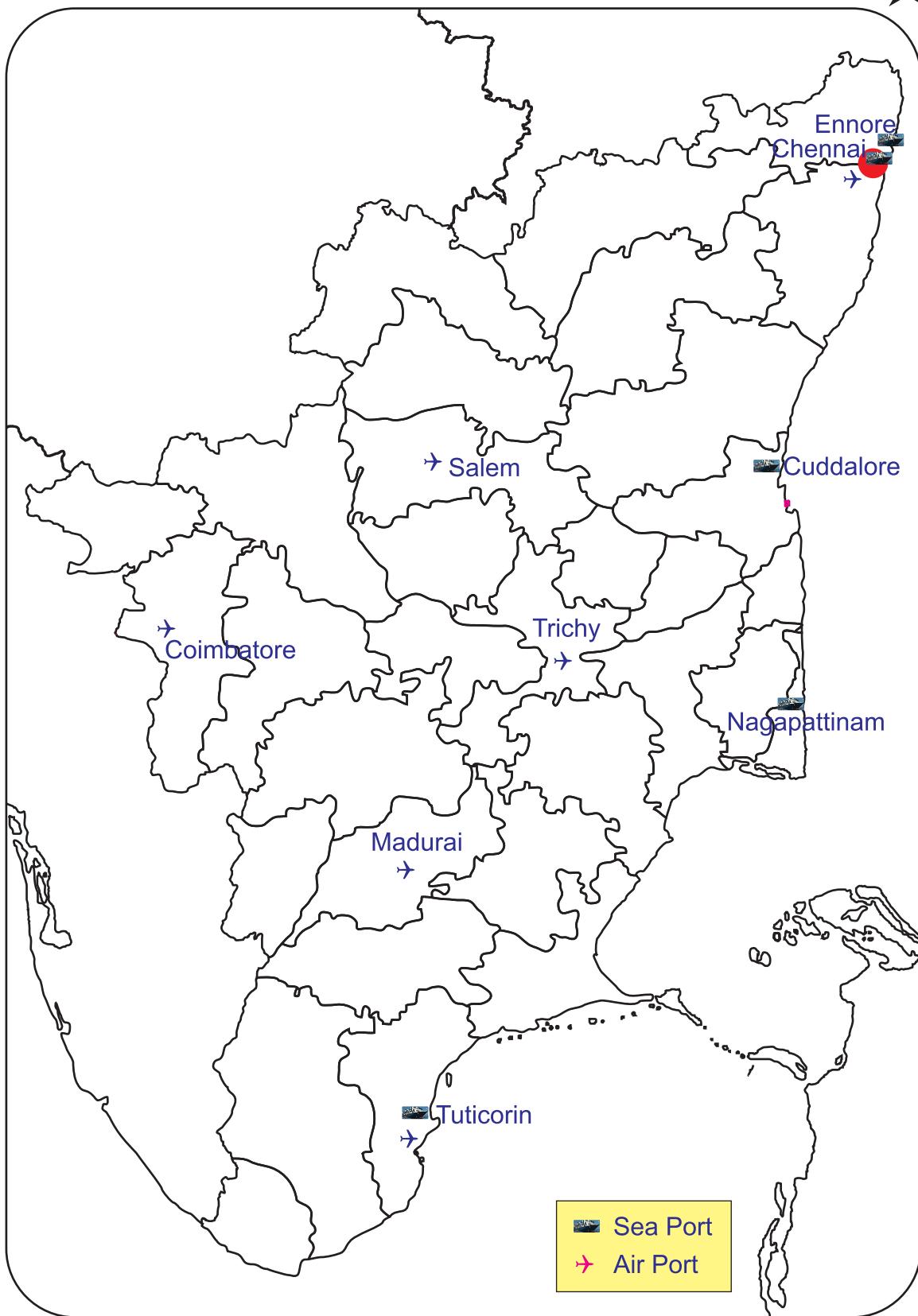
		(in million tonnes)
1.Chennai		57.15
2.Tuticorin		21.62
3.Ennore		11.56

Projects Under Progress Sethusamudram Shipping Canal Project (SSCP)

It aims at creating a navigation channel from the Indian ocean to the Bay of Bengal through Gulf of Mannar,

**Tamil Nadu
Major Seaports and Airports**

N
↗



Adam's Bridge, Palk Bay and Palk Strait within the Indian Border. This project is of strategic importance as it connects the neighbouring continents and countries. It also acts as a catalyst for industrial development, super trade and commerce advance coastal shipping and generate employment.

Do you know?

- 1) Buckingham canal that once connected Marakkanam in Villupuram with Vijayawada in Andhra Pradesh has lost its importance.
- 2) Vedaranyam canal that connects Vedaranyam and Nagapattinam and has also lost its importance.

Airways

Airways is the fastest and costliest means of transport which can carry passengers, freight and mail. They connect local, regional, national and International cities. Tamil Nadu has a major international airport, which is named as Anna international Airport. It

is connected to 19 countries and operating more than 169 direct flights every week. This is currently the third largest airport in India after Mumbai and Delhi.

Chennai has direct air services to Sri Lanka, Dubai, Germany, Indonesia, Malaysia, England, Maldives, Saudi Arabia and Singapore. The air services that operate between Chennai and Coimbatore through Salem promote the industrial development of Salem and Mettur.

International Airports

1. Chennai (Anna)
2. Coimbatore
3. Thiruchirappalli

Domestic Airports

1. Chennai (Kamarajar)
2. Madurai
3. Salem
4. Tuticorin

Airports	Cargo handled (in tonnes)
1) Anna International(Chennai)	2,27,704
2) Kamarajar Domestic (Chennai)	42,905
3) Coimbatore	1,858
4) Madurai	375
5) Thiruchirappalli	238

Communications

The means through which ideas and information are exchanged are called “means of Communication”. They are Personal Communication and Mass Communication Networks. Personal Communication includes Postal Services, Telegram, Telephone, Internets, E-mail and Fax

Mass Communication Network is carried on by the Government agencies. They are:

Print Media (books, Journals, magazines and newspapers) and Electronic Media (Radio, Television, Telecommunications, Mobile phone, E-mails, E-Commerce and Teleprinter).

Postal Network and Telegraph

Tamil Nadu has four postal districts, namely:

Zone / Districts	Headquarters
Chennai	Chennai
Western	Coimbatore
Central	Thiruchirappalli
Southern	Madurai

The postal Department has allocated the Postal Index Number (PIN) to facilitate faster delivery of letters in the form of Air Mail Service, Railway Mail Service and Speed Post.

PIN code of Chennai Nungambakkam is 600034.

Find out the PIN code of your area.

Postal and Telegraph offices in Tamil Nadu

Number of Post Offices alone: 12,115 Number of Post and telegraph offices: 3,504.

In India the BSNL is a major service provider. Direct calls can be made across the country and the world with STD (Subscriber Trunk Dialing), PCO (Public call office) and ISD



(International Subscriber Dialing) facilities respectively. Today, Tamil Nadu has:

Telephone exchanges- 2,408

Telephone subscribers- 33,46,906

There is no Telegram service at present.

The private basic telecom services are provided by Bharati Infotel, TATA, Reliance, Airtel, Aircel, Vodafone, Uninor.



Telecommunications

Telecom growth has intimate relationship with the IT sector. The State has witnessed a boom in the number of PCOs and the landline segment. Rapid expansion in the telecom sector is accompanied by simultaneous significant technological



changes. Cell phones are one such advancement in the field of technology. Even the internet can be accessed using cell phones. The world is shrinking with increasing spread of the communication network. The following are the services provided by the BSNL:



CELLULAR SUBSCRIBERS (CUMULATIVE IN LAKHS)

Year	Tamil Nadu	All India	Percentage share to All India
2002-03	6.15	126.88	4.85
2003-04	16.28	261.5	6.2
2004-05	33.53	410.2	8.17

The total number of cellular phones in use in Tamil Nadu: 3337087

Internet is provided to subscribers in the name of Data One Broadband.

Both postpaid and prepaid cell phone services are offered through public as well as private service providers.

All India Radio (AIR)

Indian radio broadcasting, which was started in 1927, became All India Radio(AIR) in 1936. AIR has 15 Radio Stations in Tamil Nadu. Private Broadcasters have set up FM Radio Stations and broadcast a variety of programmes on education, agriculture and entertainment.

Doordharshan

It is one of the largest terrestrial networks in the world. All the major live telecasts of national and international programmes bring the viewers under one roof. It transmits education all programmes for Schools and Universities through "Edusat".



Internet and Intranet

The present world is networked with the World Wide Web, known simply as the internet and Intranet. Of the two, internet plays an important role in the field of education and transfer on



knowledge. Internet can be accessed by any individual from any part of the world.

An Internet is a private computer network. Intranets are websites that can only be accessed within a company through their internal network.

Satellite

It is the latest means of communication which has brought revolution in communication all over the world. India's communication network is operated through two satellites, namely, Indian National Satellite (INSAT) and Indian Remote

Sensing Satellite (IRS). These two, apart from communications, assist in the prediction of meteorological events and natural resources management.

Print Media

It is another powerful medium to convey information through various news agencies of India that are operating under the umbrella- Press Trust of India, United News of India and Press Information Bureau.

Communication Technology and its advantages

It plays a vital part not only in personal life but also important role in business and education through satellites.

People can send and receive mails using e-mail to get information on job vacancies, admission to Universities and to obtain birth and death certificates.

Shopping via internet (e-commerce) is a trend now-a-days.

Telemedicine makes it possible for people in remote areas to get correct treatment at appropriate times.



Global Village

Online payment of phone bills, electricity bills and online ticket booking can also be made.

D-Mat form of shares for share broking and video conferencing using video chat through webcam are also done using internet.

Communication technology has developed to such an extent that even remote villages are connected to any part of the world, making the world a global village. GPRS (General Packet Radio Service) is a way of sending data through radio waves which is currently being used to transmit voice. GPS (Global Positioning System) looks like a Mobile phone which captures signals from multiple satellites and provides information on the location of a place.

EXERCISE

I) Choose the correct answer.

1. Postal and Telegraph services belong to _____ communication.
a) personal b) professional c) public d) private
2. _____ acts as arteries and veins for national development.
a) communication b) Transport system c) print media
d) Remote sensing
3. The East Coast Road is built along the coast of _____.
a) Arabian sea b) Bay of Bengal c) Indian Ocean d) Andaman Sea

4. The largest terrestrial network in the world is _____.
a) All India Radio b) Doordharshan c) edusat d) internet
5. Minor ports are known as _____ ports.
a) Entrep port b) Tidal port c) Anchorage port d) free port

II) Match the following.

- | | |
|-------------------------|--|
| 1. Golden Quadrilateral | Minor port |
| 2. Cuddalore | Private telecom |
| 3. GPS | Print media |
| 4. Magazine | Location of place |
| 5. Aircel | National Highway
Major Port
Public Telecom Service |

III) Answer in brief.

1. Name the different types of roads found in Tamil Nadu.
2. Name some of the private telecom services.
3. Name the three major ports of Tamil Nadu.
4. What are minor Ports? Give examples.
5. Name the major international airports of Tamil Nadu.
6. Expand STD.
7. Distinguish between internet and intranet.

IV) Give paragraph answer.

1. What are the advantages of communication technology?
2. What are the recent prospective developments made in road transport in Tamil Nadu?

V) Mark the following on a given map of Tamil Nadu.

1. Rail route from Chennai to Thuthukudi.
2. Roadways connecting Chennai to Thiruchirappalli.
3. Mark the Major Sea Ports.

FORMATIVE ASSESSMENT

1. With the help of pictures trace the development of communication from ancient to modern times.
2. Creative skill

Conduct a traffic survey during the peak hours in an important junction/in front of your school and get solutions for the existing problems.

3. Group Activity

Collect pictures and prepare an album on the topic “Transport Versus Pollution”.

3. DISASTER MANAGEMENT

The Earth we live is a dynamic self regulatory system. In the modern world with the best available communication facilities we are informed of extreme events that occur in any part of the world. In many circumstances events like the volcanic eruption, the earthquake and flood become harmful to human society.

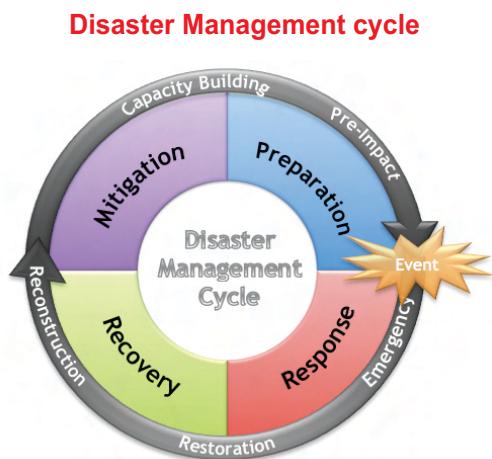
Hazard is a dangerous event, natural or human induced that cause injury, loss of life and damage to property.

A **Disaster** is an event which causes enormous physical damage to property, huge loss of life and drastic change in the environment. The economic, social and cultural life of the people is affected and they need external help for food, shelter, medicine, financial and social support to overcome the disaster. Disaster is classified according to the origin as natural and man-made Disaster.

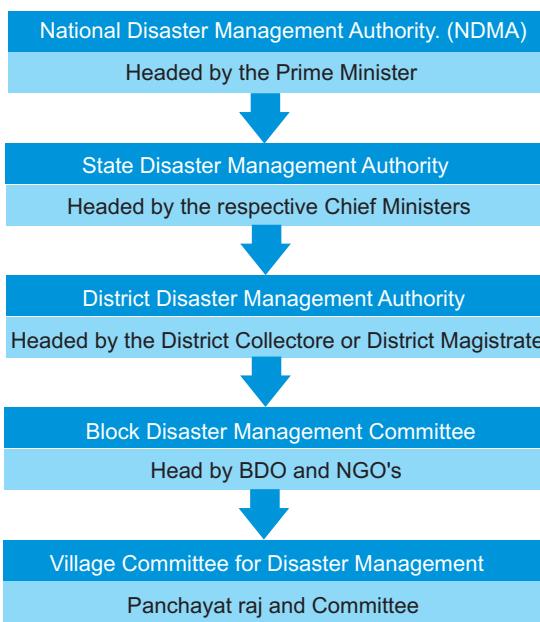
FORCES RESPONSIBLE FOR DISASTER

Type of Disaster	Forces	Events
Geophysical disaster.	Earth's internal force.	Earthquakes, landslides, tsunami and volcano.
Hydrological disaster.	Surface water/glacier flow.	Avalanches, flood.
Climatological disaster.	Atmospheric events, Interaction of atmosphere and ocean.	Extreme temperatures, drought, wild fires, Cyclones, storms, surges, waves.
Man-made disaster.	Human negligence.	Industrial accidents, pollution, acid rain, road accidents, leakage of toxic waste, war.

Disaster Management: Disaster Management involves a continuous process of planning, organizing, coordinating and implementing measures to avoid loss of life and property. The role of the authority is to frame safe disaster management methods to protect people and property. Disaster Management cycle includes four stages namely preparation, response, recovery and mitigation.



Hierarchy of Disaster Management in India



Did You Know?

The Tsunami of 2004 occurred in the Indian Ocean and the earthquake, China 2008 are the examples of the disaster.

The Bhopal Gas (Methyl Isocyanate) tragedy of 1984 in a Carbide plant is also an instance of disaster.

Did You Know? India is prone to natural disasters due to its geological set up. The Indo-Australian plate is still moving at an average of 2 cm every year toward Eurasia, still pushing Tibet upwards. Thus Himalayan zone is vulnerable for earthquakes and landslide. Apart from this, floods and avalanches are also common here. The northern plains are affected by devastating floods during monsoon due to flat terrain and torrential rainfall. On the other hand North western part of India and central part of Deccan are mostly affected by drought, famine, at times flash floods and desertification.

The coastal regions of course are affected by cyclones, storm surge and rarely tsunami.

Preparation

1. First step is to strengthen the basic information about the area like landform, slope, climatic features, population, etc.

2. To list out the types of disaster the area is prone to like earthquake affecting zone, cyclone affecting area and so on
3. To identify the local area which is most vulnerable to such disaster, for instance, the either side of Adyar river and Velachery are flood prone area within Chennai city.
4. Prepare schemes to deal with the disaster. Example
 - a) Identify safe place for the people to be shifted to in case of disaster.
 - b) Form a volunteer group involving local people with their contact number to coordinate at the time of emergency.
 - c) Have a list of phone numbers of the nearest Police station, Fire service and Government hospital for immediate correspondence.

Response

1. Alert people before the occurrence of disaster.
2. Respond to the grave situation at the time of disaster, example, search, rescue and evacuate all the people from the site of incidence.
3. Arrange the essential items for the people; example food, shelter, medicine and others.
4. Assess the severity of disaster.

Recovery

1. Providing temporary housing facility, medical care, counseling, reuniting people with their kin and kith, financial support, etc.
2. Rehabilitation and reconstruction of the damaged property.

Mitigation

1. All activities that reduce the impact of the event is said to be mitigation.

Warning systems in India

The Department of Ocean Development in association with Department of Science and Technology (DST), Department of Space (DOS) and CSIR Laboratories, has set up an Early Warning System for Tsunami and Storm Surges in the Indian Ocean. Generation of disaster warning is a multi-institutional effort.

The table gives the Departments responsible for warning the public of the disaster through proper media.

The following are the agencies of disaster management:

AGENCIES - DISASTER MANAGEMENT

Disaster	Agency
Heat wave/ Cold wave / Cyclone / Earthquake	Indian Meteorological Department (IMD)
Tsunami	Indian National Centre for Oceanic Information System (INCOIS)
Land slides	Geological Survey of India (GSI)
Flood	Central Water Commission (CWC)
Avalanches	Defence Research and Development Organization (DRDO)

Warning systems in Tamilnadu

Hotline between Indian Meteorological Department and the State Emergency Operation Centre (EOC) is established. Dissemination to the districts is done through telephone and fax. IP phones are also available, which connect the State with the district headquarters, taluks and blocks of the State. Wireless radio network; both high Frequency and very high frequency are available in the State.

Flood : Sudden overflow of large amount of water caused by heavy rainfall, cyclones, melting of ice, tsunami, etc., is called as flood. Low lying flood plains, coastal plains and river confluences are prone to flood.

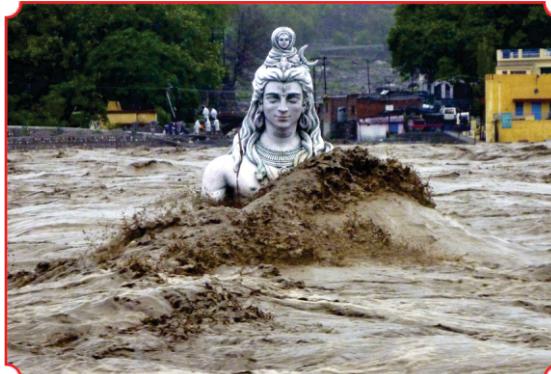
Effects of Flood:

1. Loss of life and property.
2. Displacement of people.
3. Spread of contagious diseases such as cholera, malaria, etc.,



Did You Know?

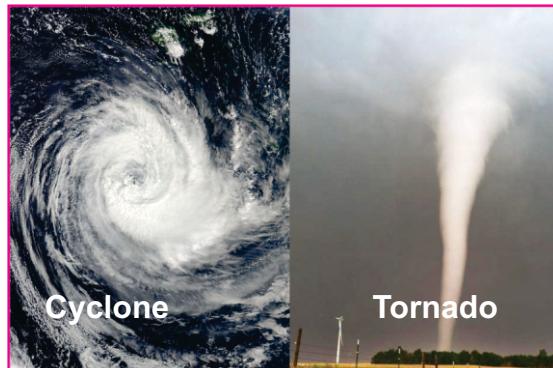
From 14 to 17 June 2013, the Indian state of Uttarakhand and adjoining areas received about 375% more than the normal rainfall during a normal monsoon. This caused the melting of Chorabari Glacier at the height of 3800 metres, and overflow of the Mandakini River which led to heavy floods near Gobindghat, Kedar Dome, Rudraprayag district, Uttarakhand. The heavy rains resulted in large flash floods and massive landslide. Unscientific developmental activities undertaken in recent decades have resulted in high level of loss of property and lives. Roads constructed in haphazard style, new resorts and hotels built on fragile river banks and more than 70 hydroelectric projects in the watersheds of the state led to this disaster.



Flood, June 2013, Uttarkhand

Cyclone:

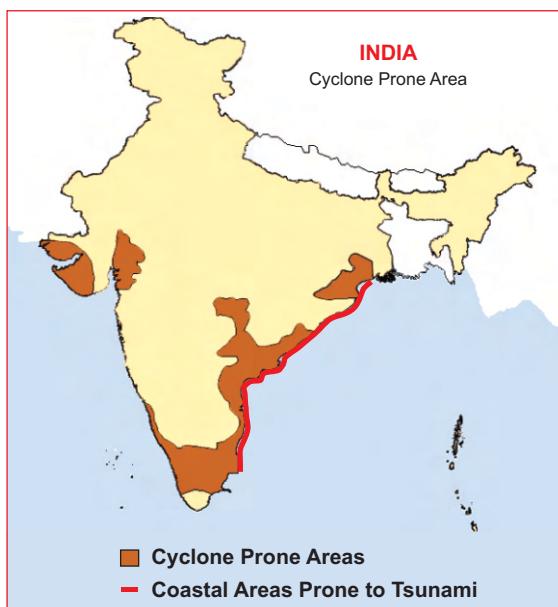
Areas of low pressure surrounded by high pressure is called as cyclone. It is anticlockwise in Northern hemisphere and clockwise in southern hemisphere.



- ✿ The centre of the cyclone called the eye of the storm is calm and clear without clouds.
- ✿ The condensation of vapour releases more latent heat and that gives the energy for the cyclones to enhance further evaporation and formation of clouds.

India with a coast line of 7516 km is affected by 10% of world tropical cyclone. 13 coastal districts of our

state are prone to cyclones. Cyclones occur in the month of May-June and in October-November. Cyclones are associated with strong squall, torrential rain, flood and storm surge. The damage by cyclones can be mitigated by growing shelter belts and restoring the mangrove forests where ever possible.

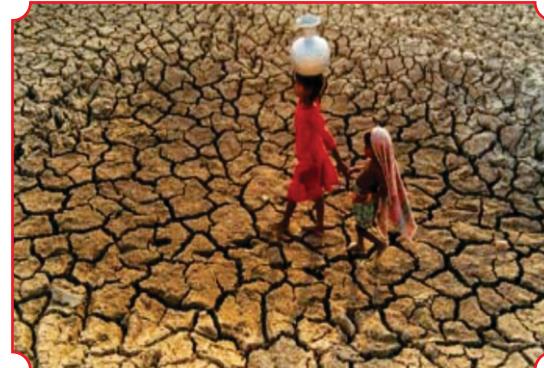


Drought

Long period of rainless weather condition is termed as drought. The severity of the drought depends upon the degree of moisture deficiency, the duration, and the size and location of the affected area.



Crop Damage by Drought



Water Shortage

Did You Know?

IMD has taken initiatives to cover all blocks in Tamilnadu with Automatic Weather Stations Network.

Techniques of conservation of water like sprinkle irrigation, fertigation, pot hole irrigation, precise farming, and selection of suitable variety of crop that can withstand drought are some of the remedies that may reduce the impact of drought when it is possible to predict drought.

Earthquake

An earthquake is a sudden vibration or shake of the earth's crust. It is caused by the circulation of the convection cells and the plate movements.

An earth quake may cause the landslide, avalanche, fire, soil liquefaction and Tsunami.



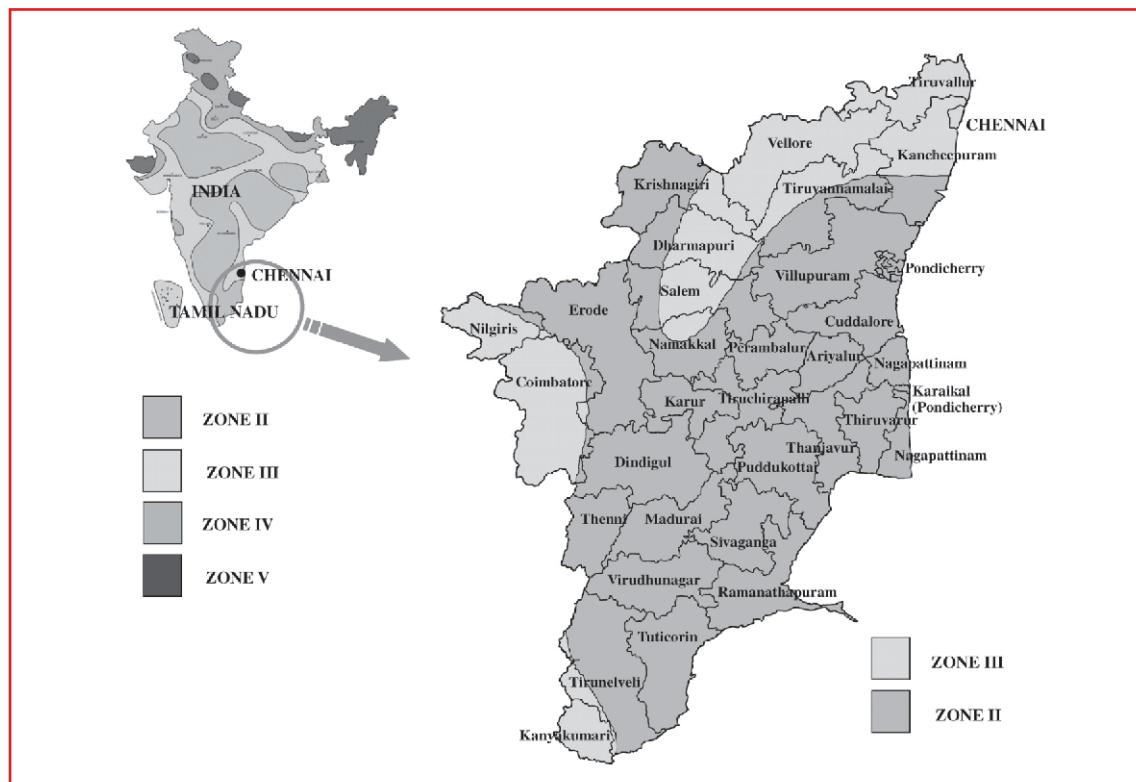
Effects of Earth Quake:

1. Changes in the shape of the earth's surface.
2. Loss of life and property.

Seismic Zones of Tamilnadu

India is divided into four seismic zones, namely II, III, IV and V; Zone V is the high risk zone. TamilNadu falls under moderate and low risk zones. (Zone III and II).

The districts of Nilgiris, Coimbatore, Kanyakumari, Vellore, Thiruvallur, Chennai, Kanchipuram, Thiruvannamalai, Dharampuri, Salem and parts of Thirunelveli districts are classified as moderate risk Zone III. The rest of the districts in TamilNadu comes under low risk zones II.



Seismic Zones of Tamilnadu

Tsunami: An extremely large wave in the sea caused by the earth quake occurring under the ocean floor. Apart from huge loss of life and property the environmental impact of tsunami is tremendous. It affects the quality of fresh water in the coastal aquifers. The salt is deposited on the arable land by sea water and it takes long time to restore the quality of soil.



Facts about tsunami

- ✿ An underwater earthquake, a volcano eruption or a landslide mostly causes a tsunami.
- ✿ Tsunami can travel as fast as 500 miles per hour, without being noticed and can cross the entire ocean in less than a day.
- ✿ When stuck in Tsunami, it is recommended to grab a floating object and allow the current to carry you.
- ✿ The tsunami that occurred in December 2004 in the Indian Ocean is known to be the most powerful tsunami that has occurred till date.
- ✿ Scientists can estimate an almost accurate time as to when and which part is tsunami most likely to occur.



Life threatening tsunami

Man Made Disaster

Fire, industrial, technological, transportation, nuclear accidents, biological disaster and war are all man-made disasters.

Fire

Fire is a disaster caused due to electrical short circuit, accidents in chemical factory, match and crackers factory. handling fire by the side of inflammable materials and near gas cylinders are also causing fire. Forest wild fires are a major disaster all over the world.



Wild Forest Fire

The environmental impact of forest fire includes emission of large amount of carbon dioxide leading to global warming, loss of bio diversity, affecting hydrological cycle, reducing photo synthetic activity, and health hazards to human beings. Safeguarding life and property from fire and forest fire involves three basic

aspects: 1. Prevention 2. Detection and 3. Extinguishing. Public awareness of what to do before fire, during fire and after fire is of critical importance.

Industrial and Technological disasters

These disasters result from accidents, failures, mishap or misuse of some kind of technology.



The Industrial Disaster: The storage and transportation of various hazardous materials used in industries may result in industrial hazard accidents. Recently, major disaster threats have emerged in the chemical and nuclear industries.



Chemical industry faces multiple risks involved with its production, transportation, storage, usage and disposal off the effluents containing residual chemicals.

Did you Know?

Chernobyl nuclear disaster 1986 (former USSR) and Japan, 2011 had experienced the most hazardous nuclear disaster.

General survival techniques

- During flood forecast it is important to stock up on first aid items, non-perishable foods, 3 gallons of water per person for 3 days, battery operated radio for weather reports, extra batteries, personal hygiene necessities. Secure the cattle's in an elevated place and store their fodder and potable water. Listen to the local Radio/ TV for instructions. Cut off all the electrical supply during flood and earthquake.
- During drought period arrange fodder and drinking water for cattle in drought regions. Form hazard and risk management service groups and function effectively as per the advice of scientific community in each village.
- During the earthquake be under the table, chair, kneel to the floor and protect yourself. Go near a sturdy wall, sit on the floor and hold the floor strongly and protect yourself. Use only torch lights, avoid candles and oil lamps because of fire risk, where earthquake occurred. Wear sandals while walking on rubbles.

- In case of fire accident Call the nearby police station, (No.100) or the fire service (No.101) as soon as the firebreak. If caught in a fire or smoke, escape by crawling low to the floor. If clothes are on fire, “Don't Run; Stop, Drop and Roll”.
- In case of Industrial hazards previous knowledge of every aspect of the chemical involved will help us to act promptly to mitigate the disaster. Know the safety measures and follow the rules strictly. Handle the chemicals with care.
- Road accidents can be avoided if only legal licensed person above 18 is allowed to drive. Learn, preach, and practise safety rules during driving and walking along the road.
- At railway crossings pay attention to signal and the swing barrier. In case of unmanned crossing, get down from the vehicle and look at both the sides of the track before crossing the track. Don't touch objects which are suspicious. Never jump from a moving train.
- On boarding the aircraft pay attention to the flight crew safety demonstration. Carefully read the safety briefing card available in the seat pocket.

Source :

1. Disaster Management And Disaster Mitigation Department Chennai – 600 005. Tamilnadu
2. Central Board of Secondary School Education.

Together, Towards a Safer India-I

EXERCISE

I. Choose the correct answer:

1. Geophysical hazards are formed due to _____ force
 - a) Earth's internal
 - b) Earth's external
 - c) Microbes
 - d) Interaction of ocean and atmosphere.
2. National Disaster Management Authority is headed by _____
 - a) Governor
 - b) President
 - c) Prime Minister
 - d) Chief Minister
3. All activities which reduce the impact of the event is said to be _____.
 - a) Preparedness
 - b) Response
 - c) Recovery
 - d) Mitigation.

II.Match the following:

- | | | |
|---------------------------|---|-----------------------------|
| 1. Human negligence | - | Sudden movement of glaciers |
| 2. Warning for Landslides | - | Meteorological hazard |
| 3. Tamilnadu | - | Central water commission |
| 4. Extreme temperature | - | Medium risk earthquake zone |
| 5. Avalanches | - | Manmade disaster |
| | - | Geological survey of India |

III. Write brief answers:

1. Define Disaster Management
2. Write two methods to mitigate the damage by cyclones
3. What are the measures to reduce the impact of drought?
4. Distinguish between hazard and disaster.
5. Mention the environmental impacts of tsunami.
6. Mention the environmental impacts of forest fire.

IV.Answer in a paragraph

1. Describe the Disaster Management cycle.
2. Name the agencies in India responsible for warning Natural disasters.
3. Write about the cyclones.

FORMATIVE ASSESSMENT

1. Name a few tropical cyclones which you have come across so far and find out the Northern Indian Ocean Cyclone names given by World Meteorological Organisation for Tropical Cyclone.
2. Organize a mock drill for earthquake at your classroom.
3. Prepare a chart for emergency service numbers (Fire, Traffic, etc.,)
4. Map Skill.

Mark the following on Tamilnadu map:

1. The cyclone prone area of Tamilnadu
2. A region prone to frequent landslides
3. A district prone to drought
4. Region of formation of tropical cyclone
5. Earthquake prone area in Tamilnadu

CIVICS

1. THE STATE GOVERNMENT



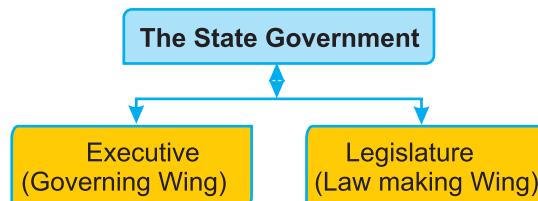
India is a union of 29 States and 7 Union Territories. Among the 7 union territories, "DELHI" is the "National Capital Territory". The States are administered by the State Governments. The Union Territories are administered by the President through Lieutenant Governors or Chief Administrators.

Delhi attained the status of National Capital Territory by the 69th amendment of the Constitution in 1991.

The powers and functions of the State Governments are clearly defined in the Constitution. They are responsible for the administration of the subjects in the "State List" of the Constitution. Like the Government at the centre, the State Government also has its own legislative and Executive wings.

Activity

Do you know the other two lists besides the "State List" mentioned in our Constitution?



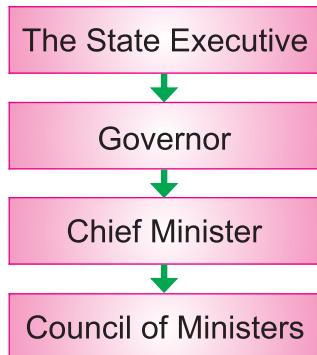
Articles 152 to 237 of our constitution clearly mention about the administration of the states. Articles 153 to 160 deal with the appointment, qualification, powers and functions of the Governor.

Activity

Do you think the separation of powers are needed or any one organ is enough for looking after all the matters?

The Executive

The State Executive in each State consists of the Governor, the Chief Minister and the Council of Ministers.



Activity

What does the State Executive consist of?

The Governor

The entire executive authority is vested in the Governor. He is the nominal and Constitutional head of the State Government. The Council of Ministers with the Chief Minister as the head, is the real executive. The Council of Ministers is collectively responsible to the State Legislative Assembly.

The Appointment of the Governor

The Governor is appointed by the President by warrant under his hand and seal. He /She can be transferred from one State to another by the President. The Governor has to take an oath of office before the Chief Justice of the High Court.

Qualification

- ⇒ He /She must be a citizen of India.
- ⇒ He /She should have completed 35 years of age.
- ⇒ He /She should not be a member of Parliament or of any state legislature.

legislature. if so He /She has to vacate the post.

- ⇒ He /She should not hold any office of profit under state or central government.
- ⇒ He /She should not belong to the same state where He /She is appointed as the Governor.



Raj Bhavan, Chennai

The term of office

The term of office of the Governor is normally "five years". But he /she holds office during the pleasure of the President. The president can remove the Governor before the expiry of his term or can extend his term for another five years. The governor can resign from his post but no impeachment proceedings against him are contemplated in the constitution.

Activity

Name the first woman Governor of Tamilnadu.

Powers and functions of the Governor

According to article 164 of the Constitution, the Governor appoints the Chief Minister and also other Ministers on the advice of the Chief Minister. He also appoints the Advocate General, Chairperson and members of State Public Service Commission, Vice-Chancellors of the universities in the state etc. the Governor has to send

periodical reports to the President regarding the functioning of the State Government. He directly rules the state when there is imposition of President's rule.

The Governor is the part of the State Legislature. He /She nominates 1/6 of the members to the Legislative Council wherever it exists. The Anglo Indian representative in the state Assembly is also nominated by the governor. All bills passed by the State Legislature become "laws" only with his/her assent. He /She can pass "Ordinances" when the Legislature is not in session.

If there is failure of constitutional machines in any state, the President issues a "Proclamation" under Art.356 of the Constitution by which the State Assembly will be dissolved. The Governor under such circumstances gets real administrative powers. This is called as "President's Rule".

Do you know ?

What are ordinances?
It is an official announcement of Governor, when the legislature is not in session. But, the ordinances must be ratified by the State Legislature, within 6 weeks of reassembling State Legislature.

The permission of the Governor is necessary for introducing money bills in the States Legislature. "Demand for Grants" can be made only on the recommendation of the Governor. The "State Budget" is presented in the Legislative Assembly only with his /her permission. The Constitution empowers the Governor to spend money from the "Contingency fund of the State" to meet unforeseen expenditure.

Governor shall have power to pardon, commute or suspend the sentence of any criminal convicted under the jurisdiction for the state (high court) on advice from the state's cabinet/ chief minister. However, he/ she have no powers to increase the punishments. The Governor receives annual report of the State Public Service Commission and submits the same to the Legislature for the consideration and approval.

The chief Minister and the Council of Ministers

Chief Minister

The real executive powers of State Governments are vested in the Council of Ministers, headed by the Chief Minister. In the State, the Chief Minister runs the administration in the name of the Governor. His Position in the state is similar to that of the Prime Minister in centre.

The appointment of the Chief Minister

The Chief Minister is appointed by the Governor of the State. The leader of the majority party or majority group in the State Legislative Assembly is appointed as the Chief Minister. In case no party commands absolute majority in the Legislative Assembly or the majority fails to elect its leader, the Governor can use his power and invite the leader of the other largest party to form the ministry. He has to prove the confidence (majority support) in the Legislative Assembly within the period stipulated by the Governor.

The term of the Chief Minister is not fixed. He may remain as the Chief Minister as long as he/ she enjoys the support of the majority of the members

of the Legislative Assembly. He has to resign when he loses confidence of the majority in the assembly. It is understood that normally he completes 5 years term like other members in the Legislative Assembly.

Powers and functions of the Chief Minister

The Chief Minister is the real executive head of the State administration. He has the following powers and functions.

The primary functions of the Chief Minister are

- i) To form the ministry, (Council of Ministers) by preparing a list of ministers.
- ii) Distribute the portfolios (departments) to colleagues and get them allocated by Governor.
- iii) Ask a minister to resign if he fails in his duties.
- iv) He has the right to change the department of ministers at his will and get it notified by Governor.
- v) The Chief Minister is the head of the cabinet. He /she convenes and presides over its meetings.
- vi) He/ She is link between Governor and Council of Ministers.
- vii) He/ she can advise the Governor for the early dissolution of the State Assembly.

Council of Ministers

Like the centre, the “Council of Ministers” is the real executive. The Council of Ministers is collectively responsible to the State Assembly. All of them must be the members of the state legislature. Those who are not the members at the time of their appointment must secure their seats in the legislature within a period of “Six

months”. All the ministers have to work as a team under the guidance of the Chief minister. As long as the Chief Minister is in offices, the Council of Ministers also will be in power. If a no-confidence motion is passed against the Ministry in the Legislative Assembly, the State ministry led by the Chief Minister has to resign. If the Chief Minister resigns, the whole Council of Ministers have to resign. This is called “collective responsibility”.

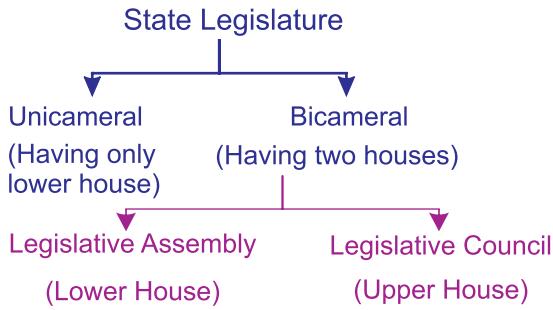
The Legislature

The Constitution provides a legislature for every state. Most of the States have only unicameral legislature i.e only Legislative assembly. Some State have bicameral legislatures. Lower House (Assembly), Upper House (council). (example Bihar, Karnataka, Maharashtra, Uttar Pradesh, Andhra Pradesh and Jammu-Kashmir). The lower house, legislative assembly represents the people of the state. The upper house, legislative Council represents special interests like teachers, graduates and local governments.



Tamil Nadu Assembly

The constitution (61st Amendment) Act of 1988 lowered the voting age from 21 years to 18 years.



The Legislative Assembly (Lower House)

The Legislative Assembly is the real centre of power in the State. It consists of members directly elected by the people on the basis of "universal adult franchise". The strength of the assembly varies from state to state depending on the population. The maximum strength of the assembly is 500 and the minimum strength is 60. Some seats in the assembly are reserved for candidates from Scheduled Castes/ Scheduled Tribes. They are called "Reserved Constituencies". In India a person who is over 25 years of age can contest in the election to the legislative assembly.

The term of office of the legislative assembly is 5 years. It can be dissolved even before the expiry of its term.

Activity

Find out the strength of the Tamil Nadu Legislative Assembly.

Speaker

The Legislative Assembly is presided over by the Speaker. The Assembly elects from among its members a Speaker and a Deputy Speaker. In the absence of the Speaker, the Deputy Speaker performs his functions.

Activity

Do you know who is the speaker of Tamil Nadu now?

The Legislative Council (Upper House)

The legislative council is a permanent house. But it is subject to abolition by Parliament on the recommendation of State Assemblies. 1/3 of the members retire after every two years, and these vacancies are filled up by fresh elections and nominations. It cannot be dissolved.

Its members are indirectly elected. The tenure of elected or nominated members is fixed as six years. And such members are eligible for re-election or renomination. The total number of the members in the Legislative Council of a state shall not exceed 1/3 of the total number of members of the Legislative Assembly of the state. But, it should not be less than 40.

Do you know?

Citizens of India above 30 years of age can contest in the election to legislative council.

Election to Upper House

- ⇒ 1/3 of the members are elected by local bodies.
- ⇒ 1/12 of the members are elected by Graduates of the universities in the State.
- ⇒ 1/12 of the members are elected by Graduate teachers.
- ⇒ 1/3 of the members are elected by the members of the Lower House.
- ⇒ 1/6 are nominated by the Governor who are eminent in the field of literary excellence, art, social service or Co-operation.

On November 1, 1986, the Upper House (Legislative Council) was abolished in Tamil Nadu by an Act.

The Chairman

The Chairman (chair person he/ she) is the Presiding Officer of the Upper house. The Members elect a Chairman and a Deputy Chairman from among themselves. In the absence of the chairman, the Deputy Chairman will officiate the functions of the Legislative Council.

Activity

Which house of the State Legislate is more powerful? Why?

The functions of the State Legislature

The State Legislature, being the law making body of the State makes laws on all subjects mentioned in the "State List" as per the constitution. It can make laws on concurrent subjects also.

The passing of "Bill" into "Law" has the same procedure as in the Central legislature. (5 stages including 3 readings). Then it becomes an Act after the Governor's assent.

The legislature controls the finances of the State. "Money Bills" have to be introduced only in the Legislative Assembly (Lower House). No new tax can be levied without the sanction of the Assembly. The appropriation Bills (Demand for Grants) are also introduced only in the Legislative Assembly.

The Council of Ministers is responsible to the Legislative Assembly. The Ministers have to answer the questions put forth by the members of the Legislature. If the Assembly passes a vote of no confidence against the Ministry, they will be removed from office. Thus, the executive is accountable to the Legislature.

Activity

What do you know about "question hour" in the Legislature? Is it necessary?

The administration in the state, is run by a team of highest officials, consisting of officers from Indian Administrative Service and Indian Police Service, and the subordinate staff recruited through the state public service commission.

EXERCISE

I) Choose the correct answer.

1. India consists of _____.
a) 26 states and 6 union territories.
c) 27 states and 5 union territories
2. The constitution head of the state government is _____.
a) Chief Minister b) President c) Prime Minister d) Governor
3. The Governor is appointed by the _____.
a) Cabinet b) Ministers c) Chief Minister d) President

4. The Chief Minister and other Ministers are appointed by _____.
a) President b) Prime Minister c) Governor d) Judge
5. Ordinances are passed by _____.
a) state Legislature b) Chief Minister c) Prime Minister d) Governor

II) Answer briefly.

1. How many states and union Territories are in India?
2. Which is the National Capital territory?
3. How is Council of Ministers formed?
4. What does the term collective responsibility mean?
5. What are the duties of the state Legislature?

III) Answer in a paragraph.

1. What are the powers and functions of the Governor?
2. What are the primary functions of the Chief Minister?
3. Write a note on the council of ministers. Its composition and their duties.
4. How are the members elected to the upper house of the Legislative council/

FORMATIVE ASSESSMENT

1. Prepare rolling chart showing the Chief Minister's scheme for School Children.
2. Prepare an album on Tamil Nadu Chief Ministers and Governors – 1950-2012
3. Assignment about the schemes announced by the Chief Minister in the legislative assembly.
4. List out the departments of State Government and Central Government and Private Sector
5. Group discussion about the facilities given to the Students.
6. Debate on the responsibilities of the leaders to the youth.
7. Speech competition on duties of a student for the school and society.
8. Make a trip to visit Legislative Assembly.
9. Arrange T.V. Program to watch assembly activities.

2. RIGHTS AND DUTIES OF CITIZENS

The founding fathers of the Indian Constitution were conscious of the need to recognize the basic rights of the people, and to protect these rights from the onslaughts of the transitory aggressions of the executive and legislative wings of the government. A Constitutional guarantee to such fundamental right becomes indispensable for keeping the democratic spirit of a state. Hence the makers of the constitution consciously included a separate chapter. The 'Fundamental Rights' under part III.

In the same way rights if not associated with responsibilities are likely to lead to indiscipline. Hence in 1976, through the 42nd amendment, a separate chapter as Part IV A was inserted in the constitution which enumerates the 'Fundamental Duties' of the citizens. The constitution Makers also wanted to constitutionally indicated to the ruler, their duties towards their people, by way of enlisting the prospective objectives of their governance. Such Constitutionally indicated objectives or directives to the governments are enshrined as "Directive Principles" in Part IV of the constitution. These three parts i.e III, IV and IV A together constitute the basis of a democratic state.

Fundamental Rights

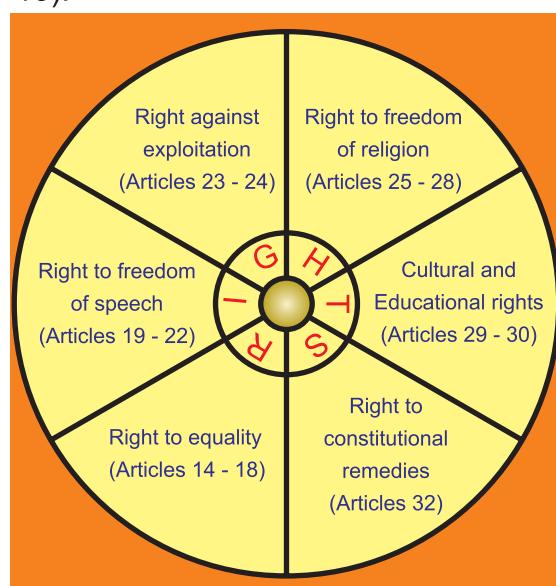
Part III of the Indian constitution (from Article 12 to Article 35) enshrines certain rights known as Fundamental Rights. These are classified under the following heads

- (i) Right to Equality (Art 14 – Art 18),
- (ii) Right to Freedom (Art 19 – Art 22),

- (iii) Right against Exploitation (Art 23 – Art 24),
- (iv) Right to freedom of religion (Art 25 – Art 28),
- (v) Cultural and Educational Rights (Art 29 – Art 30) and
- (vi) Right to Constitutional Remedies (Art 32).

Right to equality

The State should ensure that every person is equal before law and all are equally protected by law. In order to establish equality the constitution enshrines the following rights. (i) Non-discrimination among citizens (Art 15), (ii) equality of opportunity for all in matters of Public appointment (Art 16), (iii) abolition of untouchability (Art 17) and (iv) abolition of all titles except military and academic distinctions (Art 18).



Right to freedom

Article 19 of our Constitution guarantees 'Six freedoms' to all its citizens.

- (i) Freedom of speech and expression
- (ii) Freedom to assemble peacefully without arms.

- (iii) Freedom to form associations or unions.
- (iv) Freedom of movement throughout the territory of India.
- (v) Freedom to reside and settle in any part of the territory of India and
- (vi) Freedom to practice any profession or to carry on any occupation, trade or business.

Article 20 of the Constitution prohibits arbitrary imprisonment of any person. No person shall be prosecuted and punished for the same crime more than once. No one compelled to give a self-incriminating evidence.

Article 21 of the Constitution establishes the right of life and personal liberty to all people. Nobody shall be deprived of his life or personal liberty except according to procedure established by law.

Articles 22 of the Constitution prohibits the State from arbitrarily arresting any person. This article provides safeguards to people from arbitrary arrest. People who are arrested shall have the right to be informed about the reasons for the arrest (ii) to consult a legal practitioner (ii) to be produced before a magistrate within twenty four hours of arrest.

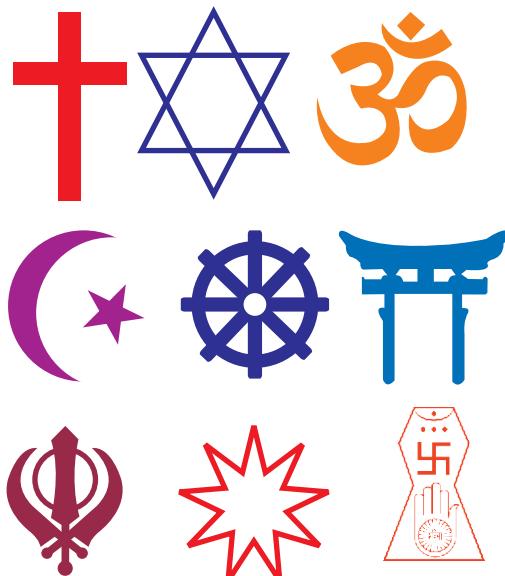
Right against exploitation

Article 23 of the Indian constitution prohibits traffic in human beings and forced labour system. This article prohibits slavery, traffic in women or children or crippled persons of immoral purposes like prostitution or begging.

Article 24 prohibits any child below the age of fourteen from working in dangerous and hazardous employment.

Right to freedom of religion

Indian constitution observes an attitude of neutrality and impartiality



towards all religions. Since India is a secular state, that there is no official religion for the state.

Article 25 of the Constitution ensures freedom of conscience, and freedom to process, practice and propagate religion of ones choice.

Article 26 of the Constitution guarantees the right to establish and maintain institutions for religious or charitable purposes.

Article 27 of the Constitution guarantees the citizen the freedom from payment of taxes for the promotion or maintenance of any particular religion.

Article 28 of the constitution no religious instruction shall be provided in any educational institution would be maintained out of state funds.

Cultural and educational rights

Article 29 of the Constitution protects the right of minorities to safeguard their distinct language, script and culture. Article 30 of the Constitution grants the right of minorities to set up their educational institutions.

Article 32 of the constitution grants the right to move the Supreme court by appropriate writ for enforcement of right conferred by the constitution. The Supreme Court or High court has the power to issue writs or orders in, the nature on 'habeas corpus', 'mandamus', 'prohibition', 'certiorari', and 'quo warranto' whichever may be appropriate.

Activity

Find out meaning of the following words – 1. Habeas Corpus
2. Mandamus

Right education Guaranteed under Act 21 A

The Right to Education Act of 2009 guarantees free and compulsory education to children of the age of 6 – 14 years.

Fundamental Duties

Part IV A of the constitution in Art 51 A enshrines the fundamental duties for all Indian citizens. This part has been inserted by the 42nd Amendment Act 1976. An Indian citizen should

- (i) Respect the constitution, National Flag and National Anthem.
- (ii) Cherish and follow noble ideals that inspired our national struggle.
- (iii) Protect the sovereignty, unity and integrity of India.
- (iv) Defend the country.
- (v) Promote the spirit of common brotherhood amongst all the people of India.
- (vi) Preserve the rich heritage of our composite culture.



- (vii) Protect and improve the natural environment.
- (viii) Develop the scientific temper and spirit of enquiry.
- (ix) Safeguard public property.
- (x) Strive towards excellence in all spheres of individual and collective activity.
- (xi) The parent or the guardian should provide opportunities to educate the ward.

(iii) raise the level of nutrition and improve public health (iv) secure equal distribution of wealth and means of production (v) endeavor to promote international peace and amity.

Directives shaping the policy of the states

The policies of the state shall (i) secure economic rights (ii) secure uniform civil code (iii) provide free and compulsory primary education (iv) prohibit consumption of liquor and intoxication drugs (v) develop cottage industries (vi) organize agriculture and animal husbandry on modern lines (vii) prevent slaughter of useful cattle (viii) organize village panchayats as units of self government (ix) promote educational and economic interests of weaker sections (x) protect and improve the environment (xi) protect and maintain places of historic interest. (xii) to separate judiciary from the executive.

Non Justifiable rights of citizens

(I) Right to adequate means of livelihood (ii) Right of both sexes to equal pay for equal work (iii) right against economic exploitation (iv) right of children and the young to be protected against exploitation (v) right to equal opportunity for justice and free legal aid (vi) right to work (vii) right to public assistance for old age, sick to humane conditions of work and maternity relief (ix) right to decent standard of life for workers (x) right of workers to participate in management of industries (xi) right of children to free and compulsory education.

These principles are just directives to the government which the government has to strive to follow. These principles are not enforceable by legal interventions.

Directive Principles of state policy

The Constitution of India provides certain directives to the government. These directives are known as the 'Directive Principles'. These are enshrined in Part IV of the constitution from Article 36 to Article 51.

These principles strive to create a frame work of socio-economic ideals through which a welfare state can be formed. Most of these directives aim at the establishment of the economic and social democracy pledged for in the preamble. These principles cover a wide range of state activities and lay down objectives in social, economic, legal, educational, administrative, cultural and international fields. The state is required to uphold these directives in their policies and programmes. These principles can be classified under three headings (i) Directives in the nature of ideals of the state (ii) Directives shaping the policy of the state (iii) non justifiable rights of citizens.

Directives in the nature on ideals of the state

The state shall (i) secure social, economic and political justice (ii) secure just and human conditions of work and a decent standard of living

EXERCSE

I) Choose the correct answer.

1. The _____ amendment of the constitution enumerates the fundamental duties of the citizen.
a) 42 b) 45 c) 48 d) 52
2. The fundamental rights are classified under _____ heads.
a) Eight b) five c) six d) seven
3. India is a _____ state.
a) Secular b) Non-secular c) Hindu d) Christian
4. Article _____ of the constitution grants rights to minorities to establish educational institutions.
a) 40 b) 30 c) 50 d) 60
5. Article 19 of our constitution guarantees _____ freedoms' to all citizens.
a) Seven b) nine c) six d) five

II) Answer briefly.

- 1) Write a short note on Fundamental Rights?
- 2) What is the Freedom of Religion?
- 3) What is known as Directive principles?
- 4) Write a note on "writ"

III) Answer in a paragraph.

- 1) Explain the Fundamental Duties as enshrined in our constitution.
- 2) Describe the Directive principles of state policy?

FORMATIVE ASSESSMENT

1. Collect articles from the newspapers to show how the Fundamental Rights of the citizens have been violated or protected.
2. Have a discussion on the topic “Rights and duties of a citizen are two sides of the same coin”.

ECONOMICS

1. INDIAN CURRENCY

Now your bank notes in a new design

RBI issues ₹2000 & ₹500 notes in a new series



Distinctive features of the new ₹ 500 and ₹ 2000 notes:

₹ 2000:

Size: 66mm x 166 mm | Colour: Magenta
Theme: Motif of Mangalyan depicting country's first venture into interplanetary space

For visually impaired :

- i) Horizontal rectangle with ₹ 2000 in raised print on the right
- ii) 7 angular bleed lines on left and right side in raised print

₹ 500:

Size: 66mm x 150mm | Colour: Stone grey
Theme: Indian heritage site – Red Fort

For visually impaired :

- i) Circle with ₹ 500 in raised print on the right
- ii) 5 angular bleed lines on left and right side in raised print

Common features of the new ₹ 500 and ₹ 2000 notes:

Obverse:

- ① See through register in denominational numeral
- ② Latent image of the denominational numeral
- ③ Denominational numeral in Devnagari
- ④ Orientation and relative position of Mahatma Gandhi portrait changed
- ⑤ Windowed security thread changes colour from green to blue when note is tilted
- ⑥ Guarantee clause, Governor's signature with Promise Clause and RBI emblem shifted towards right
- ⑦ Portrait and electrotype watermark

- ⑧ Number panel with numerals growing from small to big on the top left side and bottom right side
- ⑨ Denomination in numerals with Rupee symbol in colour changing ink (green to blue) on bottom right
- ⑩ Ashok pillar emblem on the right

For visually impaired

Intaglio or raised printing of Mahatma Gandhi portrait, Ashoka pillar emblem, bleed lines and identification mark continue

Reverse :

- ⑪ Year of printing of the note on left
- ⑫ Swachh Bharat logo with slogan
- ⑬ Language panel towards centre
- ⑭ Denominational numeral in Devnagari on right

New design notes in other denominations will follow

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'I can, I did'

Student's Activity Record

Subject:

Sl.No	Date	Lesson No.	Topic of the Lesson	Activities	Remarks