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1. CONSTRUCTION OF ANCIENT HISTORY

Historical source - It is original source that contain important historical information. Construction of History is based on these sources.

SOURCES	EVIDENCES	INFORMATION
MATERIAL REMAINS:	Radio-Carbon Dating is a method for determining the age of an object. Grand Stone temples of Southern India; Brick Monasteries of the Eastern India; vertical & horizontal excavations of mounds, Megaliths (South India)	 Almost every aspect of lifestyle like, use of pottery type, house construction design, agriculture (grains produced), animals domesticated, type of tools, weapons etc. and burial practices of the time and geography. VERTICAL EXCAVATIONS → provides chronological sequence of material culture. HORIZONTAL EXCAVATION → Gives complete idea of particular culture.
COINS:	The study of coins is called Numismatics. Coins excavated and collected from the surface and catalogued in various museums throughout the country and outside.	 Not many symbols used in earliest coins; Names of the Kings or issuer (guilds/merchants), Gods or dates are mentioned in the coins from later period; help in construction of religious, cultural and economic history with chronology. Local and cross-border transactions that used these coins tell us about various ruling dynasties and extent of their rule. Metal and number of the coins indicates the level of trade, commerce and wealth in a Kingdom. Only few coins belonging to post-Gupta times indicates the decline of trade & commerce in that period.
INSCRIPTIONS	Epigraphy is the study of Inscriptions; Paleography: Study of old writings on inscriptions and other records. Inscriptions carved on seals, stone pillars, rocks, copper plates, temple walls and bricks or images. Earliest in Prakrit (300 BC), later in Sanskrit and further late in regional languages.	 Pictographic Harappan Inscriptions are yet to be deciphered. South India – Inscriptions on temple walls. Inscriptions conveyed various information like royal orders and decisions regarding social, religious and administrative matters (e.g., Ashokan Inscriptions) to officials and people in general. Ashokan Inscriptions: Scripts used - Brahmi, Kharoshti Greek & Aramic. Donations, land grants, and the achievements of Kings and Conquerors (Samudragupta and Pulkeshin 2nd etc.).
LITERARY SOURCES:	The four Vedas , Ramayana and Mahabharata , Smritis and Dharmasutras , Epics , Jain & Buddhist texts, poetry, Sangam Literature, plays etc.	 Tells us about the social, cultural and political conditions of Ancient times. In India oldest manuscripts were written on birch bark & palm leaves. Kautilya's 'ARTHASHASTRA' gives exhaustive coverage of affairs that concern a King and his,

		 economy polity, administration and society at large. Purana provide dynastic history upto Gupta rule. These sources also indicate about the usage of language, script and style of writing. 	
FOREIGNER ACCOUNTS	Accounts of Greeks , Romans or Chinese either as official historians , diplomats , pilgrims or even navigators/explorers .	Alexander's invasion is solely reconstructed based on Greek sources. "INDICA" of Megasthenes provides information about Mauryan period. Trade imbalance between India and Roman empire is accounted in Pliny's "NATURALIS HISTORIA". These travelers were welcomed by Kings of the time and wrote about almost everything that they witnessed be it architecture, social divisions, religious and cultural practices	

PREHISTORIC PERIOD

- It is the period of human history between 200000 BC and 3500-2500 when the first civilisation appeared.
- It is consisting of **5 period** Palaeolithic, Mesolithic, Neolithic, Chalcolithic & Iron Age.

STONE AGE (LITHIC PERIODS):

- Early Indian history begins with Stone Age cultures in which the Human species used stone ('lithos' in Greek) tools for their survival.
- Stone age is broadly divided into **three consecutive periods of time**, namely, Paleolithic (2 million BC 10,000 BC) → Mesolithic → Neolithic period → Chalcolithic Age (4000 BC 1500 BC).

1(a): LOWER PALAEOLITHIC AGE [700,000 BC - 100,000 BC] (Homoeractus)		
EVOLUTION	• Learned to control fire for roasting meat and warding off animals. Hunting and	
	food gathering. Lived on trees and in caves.	
TOOLS	• Simply chopper-chopping i.e., crude and rough tools prepared out of pebbles .	
EXAMPLES (TOOLS)	Hand Axes and Cleavers	
SITES	Bori, Didwana, Bhimbetaka, Attirampakkam, Nagarjunkonda, etc.	

1(b): MIDDLE PALAEOLITHIC AGE [100,000 BC - 40,000 BC] (Neanderthal)		
EVOLUTION	• Language was invented in this period + Remained hunters and food gatherers.	
TOOLS	Refined and lighter tools made of harder stone material like flint.	
EXAMPLES (TOOLS)	Diversified tools based on flakes: blades, pointers, scrapers and borers.	
SITES	Nevasa, Bhimbetaka, Didwana, Belan Valley in UP etc.	

1(c): UPPER PALAEOLITHIC AGE [40,000 BC – 10,000 BC] (Homo sapiens)		
EVOLUTION	• Other hominin species were eliminated by this time.	
TOOLS	• Even more refine and light tools. These were backed blades with two cutting edges .	
EXAMPLES (TOOLS)	• Blades, scrapers, and burins could be fitted in handles; Bone tools like needles, harpoons etc.	

SITES	Renigunta, Bardia, Belan Valley in UP, Patna and etc.
	2. MESOLITHIC AGE [10,000 BC - 8000 BC]
EVOLUTION	• First people to use bow and arrow ; big animals were hunted down easily.
	• First burials are reported and use of stone-ornaments also appeared.
	Domestication of animals: sheep and goats
TOOLS	Microlith tools i.e., tools made of micro-sized stones and were very refined.
	• [Transitional Period between Palaeolithic and Neolithic Age]
EXAMPLES (TOOLS)	• Bow and arrow and other microliths in various shapes like moon, triangular,
	square, rectangle, crescents and arrow-head.
SITES	Bhimbetaka, Mahadaha, Sarai Nahar Rai, Adamgarh etc.

Earliest cave paintings at Bhimbetaka (UNESCO World Heritage Site)

3. NEOLITHIC AGE [8000 BC - 4000 BC]		
EVOLUTION	•	Lived in huts, reared cattle, developed agriculture (wheat, barley, cotton, rice etc.),
		used earthenware (both handmade and wheel-made).
TOOLS	•	Sharper, symmetrical and polished stone tools for not only hunting but agriculture
		also.
EXAMPLES (TOOLS)	•	Daggers, digging sticks, celts, grinding stones, sickle, saw, sling-stones etc.
		(continuous rubbing to smoothen)
SITES	•	Mehargarh (Pakistan), Burzaom, Chirand, Brahmagiri, Deojali Hading, Koldihwa and
		Maski etc.

CHALCOLITHIC AGE [4000 BC - 1500 BC]

	Settled &community life.
	• Crops cultivated were: barley, wheat, lentil, bajra, jowar, ragi millets, green pea, green and
EVOLUTION:	black gram and cotton.
	Rice and Fish was used as food.
	• Technically separate but Harappan civilization evolved out of the Chalcolithic Culture.
	Copper and stone tools were used simultaneously.
CRAFTS AND	Craft too started to develop coppersmiths, and weavers were present.
POTS	• Used Black and Red Ware. Painted pottery, in black pigment; decorated with different
	shapes.
	 Knives, axes, fishing hooks, chisels, pins, and rods were made of copper and its alloys.
TOOLS/ IDOLS	Beads of semi-precious stones and Terracotta image of Mother Goddess is reported.
	 Deads were buried in urns; at times with tools and objects.
	Spread all over the Indian Sub-continent.
SITES	• IMP SITES: Navdatoli, Jorwe, Daimabad, Ahar Banas, Malwa, Inamgaon, Mehgam,
	Kausambi, Alamgirpur, Ropar etc.
	Could not fully utilized the-domesticated animals.
LIMITATIONS	Unaware of -Iron, horse and script.
	Marks the beginning of use metal in place of stone yet burnt brick was generally absent.
	High Child Mortality is indicated by large number of child burial.

2. HARAPPAN CIVILIZATION (INDUS VALLEY CIVILIZATION)

• It is called Harappan civilization because it was first site excavated in **1921 by Dayaram Sahni**. It was larger than ancient Egypt and Mesopotamia civilisations.

Northern-most site → Manda (Jammu-Kashmir), Southern-most site → Daimabad (Maharashtra), Eastern-most site → Alamgirpur (Uttar Pradesh), Western-most site → Sutkagendor (Pakistan-Iran border)

IMPORTANT FEATURES:

- Systematic town-planning on the lines of 'grid system'
- Use of burnt bricks in construction.
- Underground drainage system.
- Own characteristic pottery, seals and script.
- Fortified citadel (except Chanhudaro).



PHASES OF IVC:

Early Harappan
Phase from 3300 to 2600
BCE



Mature Harappan Phase from 2600 to 1900 BCE



Late Harappan Phase from 1900 to 1300 BCE

SITE	FINDINGS		
(River)			
Harappa	Granaries, Red sandstone Male torso, Stone symbols of Lingam and Yoni, Painted pottery, Mother		
(Ravi)	Goddess, Dice		
Mohenjodaro	Discovered by R D Banerjee in 1922. Largest site of Indus civilization, Post cremation burial, Great		
	Granary, Great Bath (largest building of civilization), Pasupathi seal, Bronze dancing girl.		
Chanhudaro	Discovered by N G Mazumdar in 1931. Inkpot, Lipstick, Metal workers, Shell-ornament makers		
(Indus)	and bead makers shop, dog's paw imprint on brick, Terracotta model of bullock cart, Bronze toy		
	cart.		
Lothal	Discovered by S Rao in 1953. Important naval trade site, Cremation site, Dockyard, Granaries,		
(Bhogava)	Rice husk, Double burial (male female together)		
Dholavira	Discovered by R Bisht in 1985. Unique water harnessing system and its storm water drainage		
(Luni)	system, only site divided in 3 parts, Megalithic stone circle.		
Surkotada	Discovered – S Joshi (1964). Only site with horse remains, Oval grave, Pot burials, Soldiers sign		
(Gujrat)	on potsherd		
Kalibangan	Discovered – A Ghosh. Bangle factory, Ploughed field surface, Camel bones, Fire altars.		
(Ghaggar)			

STATE	IVC SITES	
HARYANA (INDIA):	 Banawali (Ghaggar): Oval shaped settlement, Lack of systematic drainage system, Barley grains, Lapis Lazuli, Fire altars, Only city with Radial streets. Rakhigarhi (Ghaggar): Largest Indian site of Indus valley civilization. Granary, cemetery, drains, terracotta bricks Bhagwanpura 	
PUNJAB (INDIA)	• Ropar (Sutlej): Dog buried with human oval pit burials, copper axe, first site to be excavated after independence	

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1. ECONOMIC GROWTH

Economics is the social science that studies the production, distribution, and consumption of goods and services.

Macroeconomics:	It analyses the entire economy (meaning aggregated production, consumption, saving, and investment) and issues affecting it, including unemployment of resources (labour, capital, and land), inflation, economic growth, and the public policies that address these issues (monetary, fiscal, and other policies).
Microeconomics:	The study of the economic behaviour of individual "agents" such as particular companies, workers, or households.

TYPES OF ECONOMY

	A traditional economy will use the barter system and has no concept of cu	ırrency	
TRADITIONAL	or money.		
ECONOMIES	Such economies believe in only producing what and how much they require	e. They	
	find no need to produce any market surplus.		
	There is no involvement or interference from the government or any suc	h	
MARKET	controlling power.		
ECONOMY	The entire economy is determined by the participants of the economy a	and the	
	laws of demand and supply.		
	Example - USA, Hong Kong		
COMMAND	There is one centralized power- In most of the cases, the government.		
ECONOMY/PLANNED	The government makes all decisions regarding the economy. The price w	ill also	
ECONOMIES	be determined by it.		
	Example - Cuba, China		
	It is a perfect coordination between a command economy and a free	market	
	economy.		
MIXED ECONOMY	The economy is free of government intervention but the government will r	egulate	
	whenever it feels necessary, and oversee specific sensitive areas of the ec	conomy	
	like transportation, public services, defence etc.		
	Example - India and France		

SECTORS OF THE ECONOMY

ON BASIS OF ACTIVITY NATURE:

	•	The primary sector of the economy is the sector of an economy making direct use
PRIMARY SECTOR		of natural resources. This includes agriculture, forestry and fishing, mining, and
		extraction of oil and gas.

	_			
		ged in primary activities are called red-collar workers due to the		
		re of their work.		
	 Secondary s 	ector (also called industrial sector) is an economic sector which		
SECONDARY	describes th	e role of manufacturing. It encompasses the industries which produce		
SECTOR	a finished, u	a finished, usable product or are involved in construction. This sector uses the		
(MANUFACTURING)	produce of th	produce of the primary sector as its raw materials.		
	People engag	ged in secondary activities are called blue collar workers .		
TERTIARY	sectors. By it they are an a This sector jo Pink-collar considered to etc.	sectors. By itself, economic activities in tertiary sector do not produce a goods but they are an aid or a support for the production. This sector jobs are called white collar jobs. Pink-collar worker is one who is employed in a job that is traditionally considered to be women's work. E.g. baby sitter, florist, day care worker, nurses etc. This sector includes all economic activities where different 'services' are produced.		
(SERVICES)	Quaternary Activities: (Knowledge Sector)	 Research and development/advanced form of services involving/specialized knowledge and technical skills. The quaternary sector is the intellectual aspect of the economy. It is the process which enables entrepreneurs to innovate and improve the quality of services offered in the economy. 		
	Quinary Activities: (top decision- makers)	• Referred to as 'gold collar' professions, they represent another subdivision of the tertiary sector representing special and highly paid skills of senior business executives, government officials, etc.		

ON BASIS OF WORK CONDITION:

ORGANISED SECTOR	 In this sector, employment terms are fixed and regular, and the employees get assured work and social security. It can also be defined as a sector, which is registered with the government and a number of acts apply to the enterprises. Schools and hospitals are covered under the organised sector. Workers in the organised sector enjoy security of employment. They are expected to work only a fixed number of hours. If they work more, they have to be paid overtime by the employer.
UNORGANISED SECTOR	 An unorganised worker is a home-based worker or a self-employed worker or a wage worker in the unorganized sector and includes a worker in the organized sector who is not covered by any of the Acts pertaining to welfare Schemes as mentioned in Schedule-II of Unorganized Workers Social Security Act, 2008. In this sector wage-paid labour is largely non-unionised due to casual and seasonal nature of employment and scattered location of enterprises. The sector is marked by low incomes, unstable and irregular employment, and lack of protection either from legislation or trade unions. The unorganised sector uses mainly labour intensive and uses indigenous technology. Contributions made by the unorganised sector to the national income, is very substantial as compared to that of the organised sector. It adds more than 60% to the national income while the contribution of the organised sector is almost half of that depending on the industry.

ON BASIS OF ASSET OWNERSHIP:

THE PUBLIC SECTOR	THE PRIVATE SECTOR	PPP (PUBLIC PRIVATE PARTNERSHIP)	
 In the sector, government owns most of the assets and it is the part of the economy concerned with providing various governmental services. The purpose of the public sector is not just to earn profits. Governments raise money through taxes and other ways to meet expenses on the services rendered by it. 	 In the private sector, ownership of assets and delivery of services is in the hands of private individuals or companies. Activities in the private sector are guided by the motive to earn profits. To get such services we have to pay money to these individuals and companies. 	between government and private sector for the provision of public assets and/or public services.	

ECONOMIC GROWTH	ECONOMIC DEVELOPMENT	
The increase in the production of goods and services	The process of Economic Growth which leads to	
is called Economic Growth	improvement in the general welfare of people is called	
	Economic Development.	
Quantitative in nature	Qualitative in nature.	
Uni-dimensional	Multi-dimensional	
Can happen without development	Cannot happen without Growth.	
Indicators – Real GDP, Real Per Capita Income etc.	Indicators- Human Development Index, Physical	
	quality of life index etc.	

Domestic Territory includes:	 Political frontiers of the country including its territorial waters Military Establishment of the country abroad Embassies and Consulates Ships/Aircrafts/Fishing Vessels/Oil Rigs belonging to the residents of the country
Net Factor Income:	 Domestic factor income: The sum of factor incomes like rent, wages, interest and profits generated within the domestic country. It includes both incomes earned by residents as well as non-residents/foreigners working in India. At the same time, Indian go abroad to work and earn wages, salaries, profits, and rents. NFIFA (Net Factor Income from Abroad) = Factor income received by the residents of india working abroad MINUS the factor income paid to the foreign residents for working in india
Per Capita Income (PCI)	 PCI measures the average income earned per person in a given area, in a specified year. It is calculated by dividing the area's total income by its total population.
National Income Accounting	• National Income Accounting is the book-keeping system to measure the economic activity in the national economy as a whole.

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Previous Tes	st Series Resu	lts and Detail	S	Visit our official website for more
Test Series 2016:	Total Test 10 – 23	Question asked di	rect in Exam from	1 Test Series
Test Series 2019:	Total Test 25 – 68	Question asked di	rect in Exam from	Test Series Test Series Test Series Test Series
Test Series 2021: Total Test 35 – 38 Question asked direct/indirect in Exam from Test Series				
Test Series 2021(l	Re-Exam): Total Te	est 35 – 19 Question	asked direct in Exan	n from Test Series
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CH.1 ORIGIN OF EARTH

EARLY THEORIES

THEORY	BY	DETAILS
Nebular	 By German philosopher Immanuel Kant. Mathematician Laplace revised it in 1796. 	The hypothesis considered that the planets were formed out of a cloud of material associated with a youthful sun, which was slowly rotating.
Hypothesis	Again in 1950 somewhat revised by Otto Schmidt in Russia and Carl Weizascar in Germany.	 They considered that the sun was surrounded by solar nebula containing mostly the hydrogen and helium along with what may be termed as dust. The friction and collision of particles led to formation of a disk-shaped cloud and the planets were formed through the process of accretion.
Planetesimal hypothesis	 1900, Chamberlain and Moulton Supported by Sir James Jeans and later Sir Harold Jeffrey 	 Considered that a wandering star approached the sun. As a result, a cigar-shaped extension of material was separated from the solar surface. As the passing star moved away, the material separated from the solar surface continued to revolve around the sun and it slowly condensed into planets.

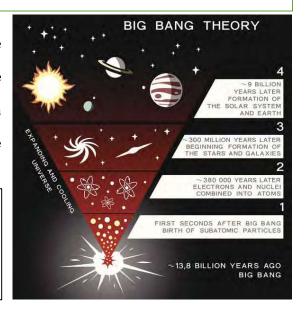
MODERN THEORIES:

BIG BANG THEORY:

- Also called **Expanding Universe Hypothesis.**
- This theory was propounded by Georges Lemaître in late 1920s.
- **Edwin Hubble→** 1920, provided evidence that **the universe is expanding**.
- The expansion of universe means increase in space between the galaxies.
- As time passes, galaxies move further and further apart. The Big Bang Theory considers the following stages in the development of the universe:

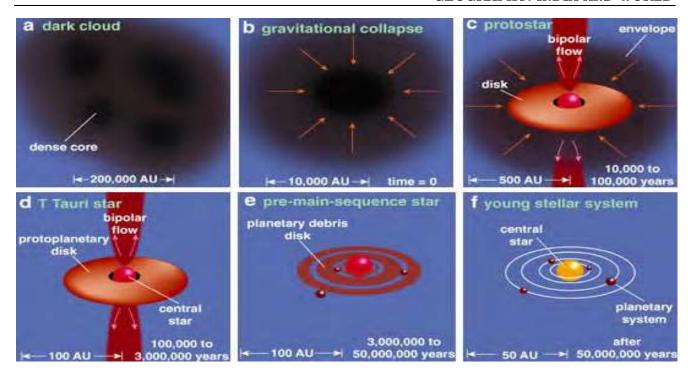
"Tiny ball" (singular atom) -> unimaginably small volume, infinite temperature and infinite density. At the Big Bang the "tiny ball" exploded violently >> huge expansion. It happened 13.7 billion years before the present. The expansion continues even to the present day

Within 300,000 years from the Big Bang, temperature dropped to 4,500K (Kelvin) and gave rise to atomic matter. The universe became transparent.



STAR FORMATION:

- The distribution of matter and energy was not even in the early universe. These initial density differences in gravitational forces caused the matter to get drawn together.
- These formed the bases for development of galaxies. A galaxy contains a large number of stars.
- A galaxy starts to form by accumulation of hydrogen gas in the form of a very large cloud called nebula.
- Eventually, growing nebula develops localized clumps of gas.
- These clumps continue to grow into even denser gaseous bodies, giving rise to formation of stars.

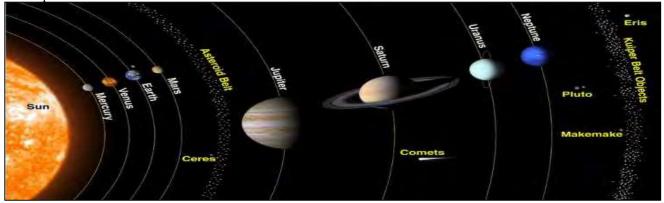


FORMATION OF PLANETS

- The stars are localized lumps of gas within a nebula. The gravitational force within the lumps leads to the formation of a core to the gas cloud and a huge rotating disc of gas and dust develops around the gas core.
- **In the next stage**, the gas cloud starts getting condensed and the matter around the core develops into small rounded objects. These small-rounded objects by the process of cohesion develop into what is called planetesimals. Larger bodies start forming by collision, and gravitational attraction causes the material to stick together. Planetesimals are a large number of smaller bodies.
- **In the final stage**, these large number of small planetesimals accrete to form a fewer large bodies in the form of planets.

OUR SOLAR SYSTEM

- Our solar system consists of the **sun (the star)**, **8 planets**, 63 moons, millions of smaller bodies like asteroids and comets and huge quantity of dust-grains and gases.
- The **Sun is the central star** of our solar system. There are eight planets in our solar system: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (<u>My Very Efficient Mother Just Served Us Nuts!!</u>)
- Mercury is the smallest and the nearest planet to the Sun.
- **Venus** is considered as **'Earth's-twin'** because its size and shape are very much similar to that of the earth. It is probably the hottest planet because its atmosphere contains 90-95% of carbon dioxide with clouds of Sulphuric acid.



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1. EARLY MEDIEVAL PERIOD (c.600-1200 CE)

1. NORTH INDIA: RAJPUTANA PERIOD

After Harshavardhana, the **Rajputas emerged as a powerful force in North India** and dominated the Indian political scene for **about 500 years from 7**th **century.**

TRIPARTITE STRUGGLE (750-1000 CE):

- The period from 750 1000 CE saw the rise of three important empires: **Gurjara-Pratihara (Western India)**, **Palas (Eastern India)** and **Rashtrakutas (Deccan)**.
- The conflict among these three powers (basically **for control over Kannauj area** of Ganga valley) is often describes as "**tripartite struggle**".
- **Kannauj** was strategically and commercially very important. It was located on the **Ganga trade route and** was connected to the **Silk route**. Previously, Kannauj was capital of Harshvardhan Empire.

GURJARA-PRATIHARA EMPIRE (WESTERN INDIA): 730-1036

- Known as Gurjara Pratihara, as they originated from Gurjaras, who were primarily pastoralists and fighters.
- Dynasty was **founded by Harichandra**, in and around jodhpur, south western Rajasthan.
- Pratihara were instrumental in containing Arab armies moving east of the Indus River.
- Gurjara-Pratihara are known for their sculptures, carved panels and open pavilion style temples. The greatest development of their style of temple building was at Khajuraho, now a UNESCO World Heritage Site.
- Sanskrit Poet & Dramatist Rajasekhara lived in the court of Mahendrapala I – son of Mihir bhoja.
- Mahipala is Pala king. It has to be replaced by Mahendrapala-I (885–910) was a ruler of the Gurjara-Pratihara dynasty.
- Foreign traveller **Al-Masudi** had visited Pratihara empire.



IMPORTANT RULERS:

Nagabhatta I (730-760)	•	Most famous Pratiharas kings, known for containing Arab armies	
	•	Defeated by Rashtrakuta king Dhruva.	
Made Kannauj in western U.P as his capital .		Made Kannauj in western U.P as his capital .	
	•	Expansionist policy brought him into conflict with Dharmapala, the Pala	
(780-800) continued for about another 350 years.		king and Rashtrakuta king Dhruv , thus began " tripartite struggle " and continued for about another 350 years.	
		Vatsraja defeated the Pala ruler Dharmapala and Dantidurga, the	
		Rashtrakuta king, for control of Kannauj.	
He conquered Kannauj and the Indo-Gangetic Plain		He conquered Kannauj and the Indo-Gangetic Plain as far as Bihar from	
Nagabhata II the Palas, and again checked the Muslims in the west.		the Palas, and again checked the Muslims in the west.	
(805-833)	(805–833) • He rebuilt the Shiva temple at Somnath in Gujarat, which had		
demolished in an Arab raid from Sindh.		demolished in an Arab raid from Sindh.	

Bhoja I/ Mihir Bhoja	•	Greatest ruler of Pratiharas, got victories over Palas and Rashtrakutas.
(836-885)	•	Capital at Kannauj, which also known as Mahodaya.
	•	Devotee of Vishnu, adopted title 'Adivaraha'.

Pratiharas were wiped out from political scenario by Ghaznavids and their rule was succeeded Chauhan in Rajputana, Chalukyas or Solanki in Gujarat and Paramara in Malwa.

THE PALAS OF BENGAL: 750-1150

- In 750 AD, **Gopala** founded Pala dynasty.
- **Capital**: Muddagiri/ Munger (Bihar)
- Pala kingdom included Bengal and Bihar, which included major cities of Pataliputra, Vikrampura, Monghyr, Tamralipti.
- Palas were followers of Mahayana Buddhism and Tantric schools of Buddhism.
- Pala had close **cultural relations with Tibet**. The noted Buddhist scholars, **Santarakshita** and **Dipankara** were invited to Tibet. They introduced a new form of religion there.
- They had close **trade contacts** and **cultural links** with South-East Asia.
- Sailendra dynasty (Buddhist) which ruled over Malaya, Java, Sumatra sent many embassies to the Pala court.
- Pala period is considered as **golden period in history of Bengal**.
- Pala armies were famous for its vast war elephant cavalry.
- Arab merchant Sulaiman had visited Pala kingdom.
- The Palas power were destroyed by the Sena dynasty under Vijyasena.

IMPORTANT RULERS:

	• As per Khalimpur copper inscription of Dharampala, he founded Pala	
Gopala (around 750 CE)	dynasty, replacing later Guptas of Magadha and Khadga dynasty.	
	• Built famous Odantpuri monastery at Bihar, 2 nd largest after Nalanda	
	university.	
	Defeated by Rashtrakuta king Dhruva and Pratihara king Nahabhatta II.	
Dharampala (770-810)	• Founded the Vikramshila University near Bhagalpur, Bihar and built	
	Somapuri monastery (paharpur, Bihar).	
	Revived Nalanda University.	
	Expanded empire in the east included Assam.	
Devapala (810-850)	His Inscriptions proclaims his victory over Hunas, Gurjaras and Dravidas.	
	• His Court poet was Buddhist scholar Vajradatta, author of	
	Lokesvarasataka.	

The directly administered territories were divided into Bhukti (province) and Mandala or Visaya (Distructs) The governor of Bhukti was called Uparika & had duty to collect land revenue and maintain law and order. The head of Visaya was Visayapati and had same duties like Uparika within their territories. Smaller unit below the Visaya was pattala. Bhogapatis or Samantas were small chieftain, dominated villages.

THE RASHTRAKUTAS (DECCAN) (752-973)

• Rashtrakutas meaning 'the chief of a rashtra', they considered as the feudatory of the Chalukyas.

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1. INDIA DURING ADVENT OF EUROPEANS

Factors Responsible for European advent in India:

- Advancement of Europeans in art of ship building and navigation
- Economic development of Europeans.
- Demand for luxuries Indian commodities like spices, calicoes, silk, various precious stones, porcelain, etc.
- Immense wealth of India.

CHRONOLOGY OF EUROPEAN CONQUEST OF ASIA:

The Portuguese (1498) à the English (1600) à the Dutch (1602) à the French (1664)

PORTUGUESE

• Treaty of Tordesillas (1494)- between Portugal and Spain divided non - Christian world by an imaginary line in the Atlantic east for Portugal and west for Spain.

Vasco-de-Gama	 Vasco-de-Gama reached Calicut via cape of good hope in 1498 and was warmly welcomed by Zamorin (Ruler of Calicut). By 1502, Vasco's second visit led to the establishment of trading stations at Calicut, Cochin and Cannanore and fortification of the same. Portugal unlike other traders wanted to monopolize trade in India.
Pedro Alvarez Cabral	Established first factory at Calicut, in 1500
	Embarked the era of European rule on Indian subcontinent.
Francis – De – Almeida (1505-1509)	 1st Portuguese governor in India, initiated "Blue water policy" (cartaze system) - was to be powerful at the sea instead of building fortresses on Indian land. Cartaze system: Naval trade license or pass issued by Portugese in the Indian ocean.
Alfonso de Albuquerque (1509- 1515)	 Considered to be the founder of the Portuguese power in India: captured Goa from Bijapur; persecuted Muslims; captured Bhatkal from Sri Krishna Deva Rai (1510) of Vijayanagara; Initiated the policy of marrying with the natives of India. Banned the practice of sati in his area of influence. Albuquerque died in 1515 leaving Portuguese as strongest Naval power in India.
Nino da Cunha (1529-38)	 Shifted the capital from Cochin to Goa in 1530. Goa became capital of Portuguese settlements in India. In his rule, Diu and Bassein came under the Portuguese occupation from Gujarat King Bahadur Shah. Bahadur Shah got killed in 1537 at Diu while negotiating with the Portuguese. Pragmatic leader who expanded territory beyond Western coastal region. Portuguese power expanded to eastern coast during his time.

Religious Policy of the Portuguese: Initially, hostile only towards Muslims, later towards Hindus also. In 1579 missionaries were sent to convert the emperor Akbar to Christianity.

FACTORS RESPONSIBLE FOR DECLINE OF THE PORTUGUESE IN INDIA:

- Emergence of powerful dynasties in Egypt, Persia and north India and the appearance of the Marathas as neighbours;
- Political fears aroused by the activities of Jesuit missionaries, and hatred of persecution (such as inquisition) that caused reaction against Portuguese spiritual pressure;
- Rise of the English and Dutch commercial ambitions challenging the Portuguese supremacy;
- Rampant corruption, greed and selfishness along with piracy and clandestine trade practices of the Portuguese administration in India;

• Diversion of Portuguese colonising ambitions towards the West due to the discovery of Brazil.

SIGNIFICANCE OF THE PORTUGUESE:

- Portuguese not only initiated what might be called the European era, it marked the emergence of naval power.
- **Introduction** of **cannon** on ship
- The Portuguese were masters of improved techniques at sea. Their multi-decked ships were heavily constructed.
- Missionaries and the Church were also teachers and patrons in India of the arts of the painter, carver, and sculptor.
- The **Portuguese skill at organisation**—as in the creation of royal arsenals and dockyards and the maintenance of a regular system of pilots and mapping and pitting state forces against private merchant shipping—was even more noteworthy.
- Introduced European art of warfare
- The art of the **silversmith** and **goldsmith** flourished at Goa.

Note: Portuguese were first to come in india and last one to leave India.

Why a Sea Route to India?

- Spirit of renaissance in the 15th-century Europe.
- European economy growing rapidly, leading to prosperity and demand for luxury goods; increase in the supply of meat requiring spices for preservation.
- Capture of Constantinople in 1453, and Syria and Egypt later by the Ottoman Turks calling for a new route to reach India without dealing with Arabs and Turks.
- Venice and Genoa too small to stand up to the Turks.
- Spain and Portugal aided with money and men by the North Europeans and by ships and technical knowledge by the Genoese.
- The Portuguese the pioneers followed by the Dutch, English, Danes and the French respectively to reach India.

DUTCH (NETHERLANDS)

- Cornelis de Houtman was the first Dutchman to reach Sumatra and Bantam in 1596.
- **United East India Company of the Netherlands**, formed in March 1605 by the Charter of Dutch Parliament, had the powers to wage wars, make treaty and build forts.
- Founded their **first factory in Masaulipatam** in Andhra in 1605.
- Subsequently they won over Portuguese & emerged as most dominant European trade power.
- **Pulicat was their main center** in India, later replaced by **Nagapattinam**.
- Dutch carried **indigo** manufactured in the Yamuna valley and Central India, **textiles and silk** from Bengal, Gujarat and the Coromandel, **saltpetre** from Bihar and **opium** and **rice** from the Ganga valley.
- In 1623, a **treaty between British and Dutch** → Dutch withdrew their claim from India and British from Indonesia
- 1650 (17th century), English began to emerge as big colonial power in India.
- Anglo Dutch rivalry lasted for 70 years, during which Dutch lost their settlements to British one by one.
- The Dutch were **not much interested in empire building in India**; their concerns were trade. In any case, their main commercial interest lay in the **Spice Islands of Indonesia** from where they earned a huge profit through business.
- **Decline in India-** The defeat of the Dutch in the **Anglo-Dutch rivalry** and the shifting of Dutch attention towards the **Malay Archipelago**. In **Battle of Bedara (1759)**, the English defeated the Dutch.
- After prolonged warfare, both the parties compromised by which the British agreed to withdraw all their claims on Indonesia, and the Dutch retired from India.

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1. MAKING OF THE CONSTITUTION

DEMAND FOR CONSTITUENT ASSEMBLY (CA):

- 1924 → Idea first given by Swaraj Party.
- 1934 \rightarrow M.N. Roy put forward the demand for C.A.
- 1935 \rightarrow INC officially demanded C.A. to frame Indian Constitution.
- 1940 → Demand accepted in principle in August Offer.
- 1942 → Cripps Proposal for Constitution rejected.
- 1946 → Cabinet Mission Plan (CMP) accepted by all parties. (Lord Patrick Lawrence, Sir Stafford Cripps, A V Alexander were its members). CMP rejected two C.A. ideas.

COMPOSITION OF THE CONSTITUENT ASSEMBLY:

- C.A. **constituted in Nov 1946** under CMP. (Cabinet Mission Plan).
- Seats allotted as per population proportion.
- Voting by method of proportional representation by means of single transferable vote in case of provincial representation.
- C.A. was **partly nominated** (by heads of Princely states) & **partly elected** body (In British Provinces)

	389	
1.	British India Governors	292
	Province	
2.	Chief Commissioners	4
	Province	93
3.	Princely States	

- Indirectly elected members.
- Mahatma Gandhi was not part of C.A.
- The 93 seats allotted to the princely states were not filled as they decided to stay away from the Constituent Assembly.

WORKING OF THE CONSTITUENT ASSEMBLY

- First meeting held on Dec 9, 1946 (Muslim League boycotted)
- Temporary President of the Assembly → Dr. Sachidanand Sinha, the oldest member, was elected as following the French practice.
- Dr. Rajendra Prasad was elected President of C.A. later.
- Vice Presidents (Two) → Both H.C. Mukherjee and V.T. Krishnamachari.

OBJECTIVES RESOLUTION

- Jawaharlal **Nehru** moved this historic resolution in **Dec 13, 1946** in the Assembly.
- It contained the fundamentals & philosophy of Constitutional structure.
- This resolution was **adopted on Jan 22, 1947** by Assembly.
- Preamble is modified version of Objective Resolution.

CHANGES BY THE INDEPENDENCE ACT 1948

- Members of Princely states & Muslim League (from Indian Dominion) gradually began to join after acceptance of Mountbatten plan of June 3, 1947. (This Plan provided for Partition).
- Indian Independence Act, 1947 made three changes in C.A. position: -
 - 1. Assembly was made a **fully sovereign body**, free to abrogate or alter any law.
 - 2. **Two separate functions** were assigned to the Assembly (performed on separate days) **legislative body** (Chaired by G V Mavalankar) and **Constituent body** (chaired by Dr. Rajendra Prasad); first Parliament of free India (Dominion Legislature).; These two functions continued till November 26, 1949.
 - 3. After withdrawal of Muslim League members, total strength came down to 299 as **against 389 under** the Cabinet Mission Plan.

FUNCTIONS PERFORMED BY C.A.

- **Ratified** India's membership of **Commonwealth** in May, 1949.
- Adopted **National Flag** on July 22, 1947.
- Adopted **National Song & National Anthem** on Jan 24, 1950.
- **Elected Rajendra Prasad** as first President of India on Jan 24, 1950.
- **Final session of C.A. on Jan 24, 1950.** However, it continued as provisional Parliament of India from Jan 26, 1950 till formation of new Parliament (May, 1952).
- Total sessions = 11; Total time = 2 years, 11 months, 18 days

MAJOR COMMITTEES

- 1. Union Powers Committee / Union Constitution Committee / States Committee → Jawaharlal Nehru
- 2. Rules of Procedure Committee / Steering Committee → Dr. Rajendra Prasad
- 3. Provincial Constitution Committee \rightarrow Sardar Patel
- 4. Drafting Committee → Dr. B.R. Ambedkar
- 5. Advisory Committee on FRs, Minorities & Tribal & Excluded Areas → Sardar Patel

Of all the Committees of C.A. **Drafting Committee** was most important set up on Aug 29, 1947. It **consisted of 7 members**.

ENACTMENT OF THE CONSTITUTION

- After general & clause by clause reading of draft Constitution. It was **adopted on Nov 26, 1949.** At that time, it contained Preamble, 395 Articles, & 8 Schedules.
- The Preamble was enacted **after** the entire Constitution was already enacted to align with philosophy of constitution.

ENFORCEMENT OF THE CONSTITUTION

- Some provisions of Constitution came into force on Nov 26, 1949 itself, viz. Citizenship, Elections, provisional parliament, temporary and transitional provisions, and short title contained in Articles 5, 6, 7, 8, 9, 60, 324, 366, 367, 379, 380, 388, 391, 392 and 393 came into force on November 26, 1949, itself.
- Major part came into force on Jan 26, 1950 (commencement day). (Jan 26, 1930 Purna Swaraj Day was celebrated)
- Indian Independence Act, 1947 & GoI Act, 1935 with all its enactments were repealed. However, **The Abolition of Privy Council Jurisdiction Act (1949) continued.**

OTHER IMPORTANT FACTS

- **Elephant** adopted as C.A. symbol.
- Sir B.N. Rau was Constitutional Adviser to C.A.
- **H.V.R. Iyengar** was Secretary to C.A.
- S.N. Mukherjee was chief draftsman of constitution in C.A.
- **Prem Behari Raizada** was the **calligrapher** of the Constitution.
- Nand Lal Bose & B.R. Sinha decorated & beautified the Constitution.
- Hindi version calligraphy done by Vasant Krishan Vaidya & illuminated by Nand Lal Bose.

STUDENT NOTE

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1. BIOTECHNOLOGY

Biotechnology is the use of biological systems found in organisms or the use of the living organisms themselves to make technological advances and adapt those technologies to various fields.

COLOR CLASSIFICATION OF BRANCHES OF BIOTECHNOLOGY:

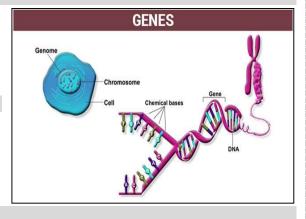
- **Gold biotechnology or Bioinformatics**: Computational Biology → address biological problems using computational techniques.
- **Red Biotechnology**: Biopharma → relates to medicine and veterinary products.
- White Biotechnology: Industrial Biotech → to design more energy efficient, low resource consuming products.
- Yellow Biotechnology: Biotech in Food Industry.
- **Grey Biotechnology**: Environmental applications to maintain Biodiversity.
- Green Biotechnology: Emphasizes on Agriculture interests.
- Blue Biotechnology: based on use of marine resources.
- Violet Biotechnology: deals with law, ethical and philosophical issues of biotechnology.
- Dark Biotechnology: associated with bioterrorism and biological weapons.

GENE:

- Gene is the basic physical unit of inheritance.
- It is a part of the DNA in a cell that controls the physical development, behaviour, etc. of an individual plant or animal & is passed on from its parents.

GENOME:

- Genome is the complete set of genes or genetic material present in a cell or organisms.
- The human genome is a **complex set of instructions**, like a recipe book, directing organism growth & development.



GENOMIC ORGANIZATION:

- This refers to the linear order of DNA elements and their division into chromosomes.
- Can also refer to the 3D **structure** of chromosomes & the positioning of DNA sequences within the nucleus.

CHROMOSOME:

- These are thread-like structures located inside the nucleus of animal & plant cells.
- Each **chromosome** is made of **protein** and a single molecule of Deoxyribose-Nucleic Acid (DNA).
- Chromosomes are a **key part** of the process that **ensures DNA** is **accurately copied** and **distributed in** the vast majority of **cell divisions**.
- **Changes in the number** or structure of chromosomes in **new cells** may lead to serious problems like: Down Syndrome, Turner Syndrome etc.

DEOXYRIBONUCLEIC ACID (DNA):

- DNA is an organic chemical that contains genetic information and instructions for protein synthesis.
- **DNA** is a **key part of reproduction** in which genetic heredity passed down through **DNA** from parents to offspring.

RIBONUCLEIC ACID (RNA):

• RNA is a nucleic acid principally involved in the **synthesis of proteins**, carrying the messenger (ex: mRNA) **instructions from DNA**, which itself contains the **genetic instructions**.

DIFFERENCES BETWEEN DNA AND RNA:

DNA	RNA
It has deoxyribose and phosphate backbone having four	It has ribose and phosphate backbone with four
distinct bases: Adenine, Cytosine, Guanine & Thymine	bases: Adenine, Cytosine, Guanine& Uracil (ACGU).
(ACGT).	
Found in cell nucleus and Mitochondria.	Found in Cytoplasm, nucleus and Ribosome.
Has 2-deoxyribose.	Has Ribose.
Double stranded molecule with long chain of	Single stranded molecule with shorter chain of
nucleotides.	nucleotides.
Self-replicating	Synthesize from DNA when required.

CELL

- A Cell is defined as **smallest**, **basic unit of life** responsible for all life's processes.
- **Robert Hooke** coined the term **Cell** in 1665.
- Cells provide structure and support to the body of an organism.
- Cells are of 2 types namely, Prokaryotes & Eukaryotes.

Prokaryotes	Eukaryotes
Size of cell is generally small	Size of cell is generally large.
Nucleus absent.	Nucleus present.
It contains single chromosome	It contains more than one chromosome
Membrane bound cell organelles are absent.	Cell organelles are present.
Cell division takes place by fission or budding.	Cell division takes place by mitosis and meiosis.

STRUCTURE OF A CELL:

A cell consists of three parts:

- 1. The cell membrane
- 2. The nucleus, and, between the two,
- 3. The cytoplasm.

The Cell membrane	 Every cell in the body is enclosed by a cell (Plasma) membrane. It maintains the integrity of a cell and controls passage of materials into and out of the cell.
	All materials within a cell must have access to the cell membrane for the needed exchange.
The Nucleus & nucleolus	 The nucleus determines how the cell will function, as well as the basic structure of that cell. Threads of chromatin in the nucleus contain Deoxyribonucleic Acid (DNA), the genetic material of the cell. The nucleolus is a dense region of ribonucleic acid (RNA) in the nucleus and is the site of ribosome formation.
The cytoplasm	 Cytoplasm is a thick solution that fills each cell and is enclosed by the cell membrane. Within the cytoplasm lie intricate arrangements of fine fibres and hundreds or even thousands of miniscule but distinct structures called organelles.