1. Mercantilism
2. Gold Standard
3. Reform Act of 1832
4. Chartism
5. Reform Act of 1867
6. Scientific revolution
7. British agricultural revolution
8. Commercial revolution
9. Industrial Revolution
10. 2nd Industrial revolution

Amarkesh

Mercantalism (16th cent to 18th cent)

It is an economic theory, a form of economic nationalism, that holds that prosperity of a nation is dependent upon its supply of capital, and that the global volume of international trade is "unchangeable".

Economic assets (capital) are represented by bullion (gold, silver, trade value) held by the state, which is increased through a +ve balance of trade.

- It assumed that wealth and monetary assets are identical. Govt should advance these goals by playing a protectionist role in the economy by encouraging exports & discouraging imports by using different means like tariffs, subsidies etc.

Influence

- It encouraged many wars, fueled European expansion & imperialism
- Principles of mercantilism were followed from antiquity. But a theory was codified during Renaissance (during Empiricism).
- England – Elizabeth era. Developed naval fleet to challenge Spanish hegemony & to expand trade and growth of bullion. Mercantilist theory developed by thinkers like Josiah Child (Refuted by Thomas Mun)
- France – inspired by England's success. 17th cent Jean-Baptise Colbert.
- USA – 19th cent. mercantalism was fully developed Pres Alexander Hamilton. → Hamiltonian economic programme. 1864 – Lincoln solidified it.
- Europe (except of Germany) began to abandon it after 1840's.

Late 18th Cent – Adam Smith argued against it.

* Expansion of international banking infrastructure of financial Capitalism made mercantilism to fade.

Theory

Many European economists wrote in 17th cent.

- Tenets of mercantilism —

All domestic raw materials are to be made into finished goods (have higher value) and then traded.

All export of gold & silver is to be discouraged, banned. All

2nd reform bill: Whigs won an overwhelming majority in 1831. Tories won only in about rotten boroughs. House of commons passed bill but House of Lords voted against it.

. Riots broke out on the same day. Destroyed houses of some nobles (Dukes), Lords palaces, set free the prisoners in some jails. in many towns & cities.

. All the political unions merged to form National Political union It was banned immediately.

3rd reform bill: introduced in 1831 Dec. Didnt propose to decrease the # of seats in House of commons as its predecessor re bills. House of Lords resorted to amendments to change the essential nature of the bill. Whigs govt wanted to create new peerages to fill the H. with pro-reform members. But King declined and he called Tories (Duke of Wellington) to form the govt.

. A fought of revolution occurred. People withheld taxes. Demands for abolition of nobility & monarchy. Tories govt resigned. Whigs were reinvited to form govt. House of Lords climbed down and passed the bill in 1832.

Results

Provisions: reduced 56 rotten boroughs. From 203 existing boroughs, 56 were abolished. 33 boroughs were alloted only one seat each. totally 143 seats were disfranchised. Created 143 new seats.

. Some counties were given additional seats.

. 22 towns were given 2 seats each. 21 were given 1 seat each.

In total it created 65 new county seats and 65 new borough seats.

. It extended the franchise on the basis of land & property & wealth they hold.

. It introduced a system of voter registration. A system of special courts to review disputes relating to voter qualifications. Limited the duration of polling to 2 days (earlier 40 days)

Effects:

Although it did disenfranchised several rotten boroughs, it did not address all the flaws in the electoral system.

. A few small boroughs were spared. Bribery of the voters remained.

Scientific revolution (1543 – end of 17th cent)

It was a period when new ideas in physics, astronomy, biology, human anatomy, chemistry, and other sciences led to the rejection of doctrines that had prevailed starting in Greece and continuing through the middle ages.

1543 – copernicus – "on the revolutions of Heavenly spheres"
vesalius – "on ~~a~~ fabric ~~a~~ Human body"

Significance

inspired by Renaissance ideas, classical science

- Religion, superstition, fear were replaced by reason, knowledge.
- But still copernicus, kepler, Newton, Galileo remained devout to their faith.
- Scientific methods of investigation & research. &
  Questioning everything (skepticism)

New ideas

- Sun as the center of solar system (Heliocentric, Geocentric)
- Replacement of the Aristotelian theory that matter was continuous and made up of the elements earth, water, air, fire, either by the modern idea that matter was atomistic with complex chemical composition
- replacement of Aristotelian concept that all motions require the continued action of a force by the inertial concept that motion is a state that once started, continues indefinitely without further cause.
- Blood circulation from arteries to veins. (Human anatomy), (Surgical methods) (dentistry)
- Newtons laws
- there is no science without maths.
- Vernier scale, Barometer (Torricelli)
- ~~Napier~~ Napier invented logarithms; Modern algebra
- Pascal – study of fluids, clarification of concepts of pressure, vaccum, contributions to the construction of mechanical calculators,
- Fermat – probability theory,
- Blast furnaces, Steam digesters
- Otto von Guericke – 1st to knowingly generate electricity using a machine
- Boyles law.
- Lavoisier – father of modern chemistry. – conservation of mass, oxidation = burning,
- Cavendish – hydrogen discovery; priestley – oxygen discovery.
- Carolus Linneus – classification system. – Father of taxonomy.
- Robert Hooke – microscope.
- Newton; Kepler – laws of planetary motion – elliptical orbit.

Commercial Revolution

- It was a period of European economic expansion, colonialism, mercantilism which lasted from approximately the 16th cent until early 18th Cent. Succeeded by industrial revolution in mid 18th cent.
- New trade routes discovered. Vast international trade networks. New sources of wealth. New economic theories and practices. Colonies.
- Commercial revolution is marked by an ↑ in general commerce, and in the growth of non-manufacturing pursuits, such as banking, insurance, investing.

Time frame 15th to 18th cents.

Causes

Age of discovery. Geopolitical, monetary, and technological factors. New trade routes. End of monopoly on trade of Turks and their European allies.

Geopolitical factors:

- 1453 – Overland trade routes to the far east were cutoff (or costs were significantly ↑) Need of alternate trade routes.
- Rivalry for colonial markets.

Monetary factors:

→ Constant deficits in silver & shortages among Europeans.

Need for silver or gold coinage for trade. Expanded exploration. European mines were exhausted.

Technological factors:

Remarkable maritime innovations. New sail arrangements for ships, skeleton-based shipbuilding, western galea, sophisticated navigational instruments, detailed charts & maps.

- After Isaac Newton published the principia, navigation was transformed, because sailors could predict the motion of moon and other celestial objects. Starting in 1670, entire world was measured using modern latitude instruments. In 1676, Brit parliament declared that navigation was the greatest scientif problem of the age and in 1714 offered a substantial financia

Metallurgy:

Major change was replacement of organic fuels based on wood with fossil fuel based on coal.

Use of coal reverberatory furnaces (cupolas) from 1678. Carbon monoxide reduced oxide to metals. Removed impurities (like Sulphur in coal) from the metals. This technology was applied to lead & copper first and then to iron foundry work → (air furnaces in the blast furnaces)

- Abraham Darby – 1709 – used coke to produce pig iron. (used to produce cast iron goods like pots & kettles)
  His son (Abr Dar II) – mid 1750s – produced bar iron using coke.

Bar iron for smiths to forge into consumer goods.

Improved methods of potting, stamping; puddling.

1785 – patent ended. Great expansion in iron output.

From 1785, UK became net exporter of bar iron and manufactured wrought iron consumer goods. Iron became cheaper.

- 1740s – Benjamin Huntsman – Crucible steel technique to produce steel.
- Cheap iron and steel aided development of boilers and steam engines and eventually railways. Improvements in machine tools allowed better working of iron & steel and further boosted the industrial growth of UK.

Mining:

- Introduction of steam engines in "shaft mining" ~~improved~~ facilitated removal of water and enabled shafts to be made deeper, enabling more coal to be extracted. Adoption of James Watt's more efficient steam engine from 1770s reduced fuel costs of engines, making mines more profitable.

Steam power:

Development of the stationary steam engine was an essentially early element of the industrial revolution. But for most of the period of indus revol, majority of industries still relied on wind and water power as well as horse & manpower for driving small machines.

Initially, growth was slow and relied on agriculture to finance modern industrial infras. Around 1900, modern industry began to expand substantially. By late 1920s, manufacturing and mining contributed 23% of GDP, compared with 21% of agri. transportation and communications developed to sustain heavy industrial develop-

· During 1930s, 40s, Japan acquired raw materials from Asian colonies of western nations. Iron & coal from Manchuria, Sugarcane from Philippines, petroleum from Dutch East Indies/Burma, tin & bauxite from Dutch EI & Malaya, rice from thailand, Burma, Cambodia.

USA 19th cent.

Abundance of land, labor, diversity of climate, navigable rivers canals, rivers, coastal waterways, natural resources facilitating cheap energy, fast transport, availability of capital.

· Transformed from agricultural economy to foremost industrial power in the world.

· Early industrialisation :- Facilitated by unique confluence of geographical, economic, & social factors. Less population after independence and demand for manual labour created required mechinization of labor intensive tasks. Great # of rivers and streams provided sites for construction of mills.

· Strong property rights & non rigid class structure. Patent system.

· Factories & mills :- 1780s - Oliver Evans invented grain elevator and hopper boy which replaced traditional gristmills. He developed high pressure steam engines.

· 1789 - A machine to separate seeds from cotton. Generated huge profits for southern cotton growers.

· Milling machine - 1798.

· 1819 - Thomas Blanchard created a lathe to cut irregular shapes.

· Textile industry.

Turnpikes & Canals :- Huge nation. Early toll roads were constructed and owned by joint stock companies. After that, federal govt.

· Big & long canals.

· Steamboats - At first, expensive. Early 1800s, Robert Fulton