

CLASS X - GEOGRAPHY

MANUFACTURING INDUSTRIES

Module 3

Mineral Based Industries

Iron and steel industry:

Iron and steel is a basic industry as all the other industries – heavy, medium and light, depend on it for their machinery.

It is considered as a *heavy industry* because all the raw materials, as well as finished goods, are heavy and bulky entailing heavy transportation costs.

Though India is an important iron and steel producing country in the world, yet we are not able to perform to our full potential largely due to:

- High costs and limited availability of coking coal
- Lower productivity of labour
- Irregular supply of energy
- Poor infrastructure.

Iron and steel industry is called basic industry because

It provides raw material to many other industries such as machine tools, transport equipment, construction material etc.

It is also called **heavy industry** because raw materials [iron ore, coal, limestone] are bulky in nature.

Iron ore mixed with limestone is smelted in the blast furnace using coking coal to produce pig iron. The ratio of iron ore, limestone and coking coal used is 4:2:1. Pig iron is mixed with manganese, chromium and nickel to make stronger steel.

Most of the steel plants are located in Chhotanagpur region due to its favourable conditions.

Important integrated steel plants are Jamshedpur, Durgapur, Bokaro, Bhilai, Burnpur etc.

India produces about 33 million tons of steel every year even though per capita consumption of steel is very low i.e. 32 kg. It is low because India has low economic and industrial development.

Today steel industries in India are facing many problems:

- a) High cost of production,
- b) Limited availability of coking coal,
- c) Low productivity of labour,
- d) Irregular supply of energy,
- e) Raw materials are found in a certain pockets of India only,
- f) Poor infrastructure like transport and communication etc.

Iron and steel industries is concentrated in and around Chhotanagpur Plateau Region because

- Low cost of iron-ore which is mined here;
- High grade raw materials in close proximity;
- Availability of cheap labour;
- Vast growth potential in the home market;
- Efficient transport network for their distribution;
- Availability of power because this region has many thermal and hydel power plants;
- Liberalisation and FDI.

Aluminium industry

Characteristics

It is a light metal; resistant to corrosion; good conductor of heat; It is malleable and becomes strong when mixed with other metals.

Uses of aluminium:

It is used for manufacturing aircraft's;

It is used for making utensils and packing material;

It is used for making wires;

It has gained popularity as a substitute of steel, copper, zinc and lead in a number of industries.

Information Technology and Electronics Industry

It produces a wide range of products from transistor sets to televisions and computers for the masses.

It has helped us set up telephone exchanges, telephones, cellular telecom, radios and many other equipment which have application in space technology, aviation, defense, meteorological departments, etc.

It has generated employment for a large number of people.

This industry has been a major foreign exchange earner because of its fast growing Business Process Outsourcing (BPO) Sector.

India is one of the leading countries in software development.

We have 18 software technology parks which provide high data communication facility to software experts.

Fertilizer Industry

The fertilizer industries are centred around the production of nitrogenous fertilizers (mainly urea), phosphatic fertilizers and ammonium phosphate (DAP) and complex fertilizers which have a combination of nitrogen (N), phosphate (P), and potash (K). Gujarat, Tamil Nadu, Uttar Pradesh, Punjab and Kerala contribute towards half of the fertilizer production.

Cement Industry

Cement is essential for construction activity such as building houses, factories, bridges, roads, airports, dams and for other commercial establishments. This industry requires bulky and heavy raw materials like limestone, silica and gypsum.

Automobile Industry

Automobiles provide vehicles for quick transport of goods and passengers.

This industry deals with the manufacturing of trucks, buses, cars, motorcycles, scooters, three-wheelers and multi-utility vehicles. These industries are located around Delhi, Gurugaon, Mumbai, Pune, Chennai, Kolkata, Lucknow, Indore, Hyderabad, Jamshedpur and Bengaluru.

Foreign Direct Investment brought in new technology and aligned the industry with global developments.
