CHAPTER - 9
THE INDUSTRIAL REVOLUTION

1. How did Britain's involvement in wars from 1793 to 1815 affect British industries?

Answer:

1. After 1793, industrialization witnessed the disruptive effects of the French Revolutionary and Napoleonic Wars.
2. Capital investment, infrastructure with new machinery and industrial output were affected significantly.
3. Only after 1820s did the productive investment improve and total output of industrial goods increase.

2. What were the relative advantages of canal and railway transportation?

Answer:

1. Canals were initially built to transport coal to cities. They made coal transportation faster and less expensive than by road. With the development of canals, many marketing centers emerged in new towns.
2. The first steam locomotive was invented by Stephenson's Rocket in 1814. Railway transport was available throughout the year; it could carry passengers and move goods fast. The railway transport took the entire process of industrialization to a second stage.

3. What were the interesting features of the 'inventions' of this period? Answer:

The interesting features of the 'inventions' of this period were:

1. Few of the inventors were trained scientists, because education in basic sciences like physics or chemistry had not developed effectively.
2. Most of the inventions did not require full knowledge of the laws of physics or chemistry on which they were based; technological advances were made by routine experiment and innovative thinking.
3. The Society of Arts (1754), travelling lecturers and scientists gathered in 'coffee houses' spread the knowledge of science and arts to the people.
4. Most inventions were more the product of determination, interest, curiosity, even luck, than the application of scientific knowledge.

4. Indicate how the supply of raw materials affected the nature of British industrialization.

Answer:

1. In England, raw materials such as coal and iron ore were available in plenty. They were the staple materials for mechanization in industries.
2. Other minerals required for lead, copper and tin industries were also available in abundant quantity.
3. However, until the eighteenth century, industries witnessed a scarcity of *usable iron.*

4. Charcoal was used for separating iron from ore in a process called 'smelting'. The smelting process produced poor-quality iron. Charcoal could not generate high temperatures.
5. Charcoal was also in short supply due to overexploitation of forests for timber.

Answer in a short essay

5. How were the lives of different classes of British women affected by the Industrial Revolution?

Answer:

1. The lives of different classes of British women were affected by the Industrial Revolution in various ways.
2. In the pre-industrial era, women and children had always worked at home with their parents or relatives. Nature of their works changed according to seasons.
3. Rural women were engaged in farm works; they reared livestock, gathered firewood and spun yarn on spinning wheels in their homes.
4. With the beginning of industrialization, they had to work in the factories under strict discipline and sharp forms of punishment.
5. The earnings of women and children were necessary to supplement men's meager wages.
6. Industries preferred to employ women and children because they did not agitate to their poor working conditions and wage exploitation.
7. They were employed in the cotton textile industry in Lancashire and Yorkshire.
8. Though they gained financial independence and self esteem from their industrial works, they had to endure many sufferings and humiliating terms.

6. Compare the effects of the coming of the railways in different countries in the world.

Answer:

1. The railway transport had taken the entire process of industrialization to a second stage in Britain. It also spread to other European countries, the USA and the colonies of Britain.
2. It connected various parts of countries with main cities and towns where industrial goods could be sold in the markets.
3. It moved machinery and heavy industrial machines and materials to other parts of the world fast and cheap. It resulted in the technological innovation in non-industrial countries.
4. The railway technology's spread to British colonies helped Britain accumulate huge raw materials to its industries.
5. For example, its introduction in India made it possible to transport cotton from the rural regions to the colonial ports from where it was shipped to Britain.
6. Frequent travel by railway transport increased cultural and regional interaction among the masses. For example, this cultural interaction nurtured the feeling of nationalism among Indians.