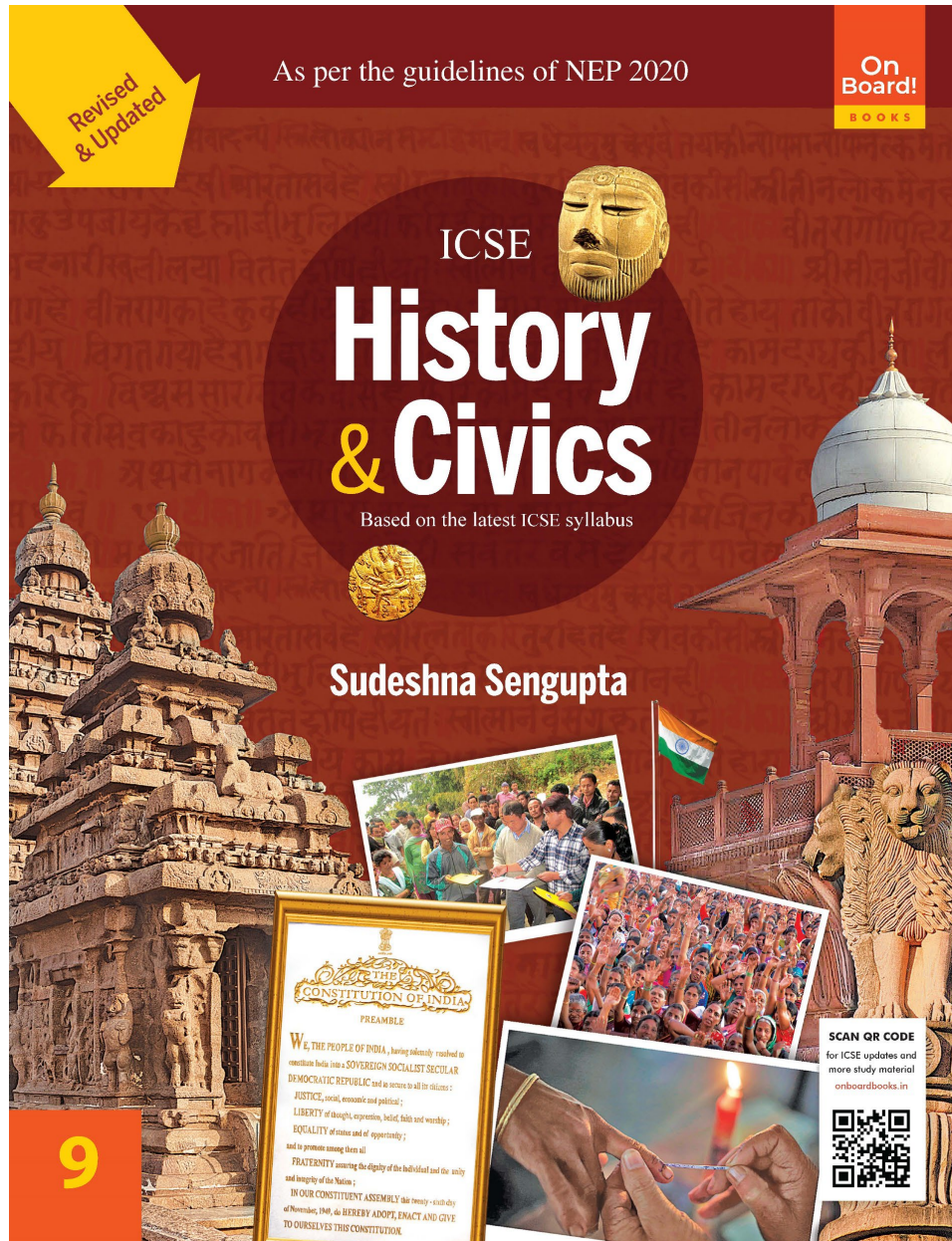


On Board!

B O O K S

History and Civics 9



History 9

Chapter 13: The Industrial Revolution

Inside the Chapter

CAUSES OF THE INDUSTRIAL REVOLUTION

Natural resources and labour readily available

Atmosphere conducive to development

Easy availability of capital, transport and electricity

Demand for English goods

THE AGRICULTURAL CHANGES

THE TECHNOLOGICAL CHANGES

The textile industry

The steam engine; Electric power

Railroads

Steamship

Means of communication

IMPACT OF THE INDUSTRIAL REVOLUTION

Increase in population

Urbanization

Growth of cities

Rise of a new social class

Socialism

Capitalism

To Remember

Chapter 13: The Industrial Revolution

The second half of the eighteenth century and the first half of the nineteenth century was marked by numerous changes in the field of industry and production. The age-old method of producing by hand for a limited group of consumers was being replaced by a large-scale production through the use of new machines and technology for a larger group of clients.

The producer was no longer the sole beneficiary of the goods produced. There rose a new class of employers who employed people for the production process, and the workers were paid a fixed salary for the fixed hours of work done. It was an economic revolution, not brought about suddenly but through a long-drawn process affected by the changes in the socio-political and economic sphere that were taking place all over Europe, especially in Great Britain. This revolution was the **Industrial Revolution**.

CAUSES OF THE INDUSTRIAL REVOLUTION

According to historians, the Industrial Revolution began in Great Britain in the second half of the eighteenth century. It was an outcome of several factors.

Natural Resources and Labour Readily Available

Great Britain had large deposits of coal, a cheap fuel for running of machines. Even iron, which was readily mined, helped in the manufacture of machines to be used in the factories.

Atmosphere Conducive to Development

The collapse of the feudal system and movements like the Renaissance and the Reformation had made the atmosphere suitable for the economic revolution. Freedom of thought and expression led people to experiment. The political stability coupled with the great colonizing power of the English people led to bigger markets, more demand for goods, increased production, more work and better wages for the common people.

Easy Availability of Capital, Transport and Electricity

England had amassed a lot of wealth from her colonial empire. This wealth was invested as capital in setting up new industries and factories, which in turn generated work and growth. The transport system also augmented the revolution. The new tar-felt roads, the adequate use of waterways, the locomotive engine—all contributed to the brisk development of the Industrial Revolution. Electricity, which is a prime requirement for all factories and industries, was readily available.

Demand for English Goods

As the English produced cheap but useful goods the demand kept rising. To meet the demands, production was increased for which newer machines were needed. New techniques of production were also discovered, which generated work as well. As the goods produced in the European countries were more expensive, the English goods were most sought after.

THE AGRICULTURAL CHANGES

The English countryside was transformed between AD 1760 and AD 1830, as the open-field system of cultivation gave way to compact farms and enclosed fields. Cultivation of turnips and potatoes was encouraged. Jethro Tull and Lord Townshend popularized the importance of root crops.

In AD 1793 the Board of Agriculture was established, and Arthur Young was its secretary. He advocated scientific agriculture, which contributed to the growth of agriculture.

THE TECHNOLOGICAL CHANGES

By the beginning of the eighteenth century, the use of machines was already widespread in England. There were a few problems in different areas, which were readily tackled.

The Textile Industry

In the textile industry, weaving could thus be done more quickly. Quantities of fine, strong yarn were produced. The cost of producing cloth had fallen by at least half.

The Steam Engine

James Watt made steam engine.

Electric Power

Michael Faraday demonstrated how electricity could be produced profitably. Hitherto, small productive capacity, short transmission lines, and high cost had limited the use of electric power.

Railroads

With the expansion of commerce, facilities for the movement of goods from the factory to the ports or cities came into pressing demand. By AD 1830, A railway line was opened from Liverpool to Manchester, and on this line a train of cars was pulled at fourteen miles an hour. The big railway boom in Britain came in the years between AD 1844 and 1847.

Steamship

From AD 1770 onwards various experiments were done with engines in boats in England, Scotland and the United States. The propeller had replaced the paddle wheel, steel replaced iron in the hull, and multi-cylinder engines became available. After AD 1920, the diesel engine marked another major development.

Means of Communication

Alexander Graham Bell in AD 1876 transmitted the human voice over a wire, although it was several decades before the telephone became popular. At the end of the century the wireless telegraph became a standard safety device on oceangoing vessels. Radio did not come until 1920. The world continued to shrink at a great rate as new means of transport and communication speeded the pace of life.

IMPACT OF THE INDUSTRIAL REVOLUTION

Increase in Population

The general population increase was aided by a greater supply of food made available by the Agricultural Revolution. Further, the advances in the medical science and public health measures decreased the death rate and added to the population base.

Urbanization

Until the Industrial Revolution, most of the world's population was rural. However, by mid-nineteenth century, half of the English people lived in cities, and by the end of the century, the same was true for other European countries. This rise was due to factors such as:

- Industrialization, which called for the concentration of work force.
- Access to water or railways.
- Increase in centres for banking and marketing.

Rise of a new social class

The Industrial Revolution created a new working class. This class included all the men, women, and children employed in the textile mills, ship-building sites and mines. Often skilled artisans found themselves degraded to routine work, as machines began to mass-produce the products formerly made by hand. Generally speaking, wages were low, hours were long, and working conditions unpleasant and dangerous.

Socialism

Industrial Revolution created a sharp divide between the working class and the capitalists. The conditions under which the workers worked and lived had become sub-human. It was stated that the capitalists should be allowed to work without the interference of the State. Thus the doctrine of laissez-faire or 'let do' was propounded. The antithesis of this doctrine culminated in the growth of Socialism, which propagated State ownership to prevent exploitation. In a socialist society, the means of production are owned by the workers rather than by a minority of capitalists.

Such a system of ownership is both collective and individual in nature. It is collective because society can control production, which in turn is for the common good rather than for individual profit. At the same time it is individual because workers are no longer a 'collective mob' employed by a minority of owners. Work becomes a free activity for each worker and they receive full fruits of their labour. Socialism thus enables full participation of individuals in the intellectual, cultural and political life of a society.

According to Karl Marx, the author of *Das Kapital*, Socialism would involve nationalizing the ‘means of production’—factories, farms, mines, transportation, etc. and putting them under the control of those he viewed as the sole producers of wealth—the workers. Therefore, this redistribution of economic power was aimed at extending democracy far beyond the limits envisioned by earlier democratic revolutions. Social services like health, education, and housing would be provided free, but people would still be paid wages according to their work.

Capitalism

With the Industrial Revolution, the concept of Capitalism gained ground. Capitalism can be defined as the accumulation of the means of production, materials, land, tools as property into a few hands. This accumulated property is called ‘capital’ and the property-owners of these means of production are called ‘capitalists’. Capitalism increases individual productivity through ‘the division of labour’, which divides productive labour into its smallest components.

The result of the division of labour is to lower the value, in terms of skill and wages, of the individual worker. The means of production and labour is manipulated by the capitalist, in order to realize maximum profit.

Thus the Industrial Revolution ushered in an era of mechanized production which completely altered the socio-economic and political fabric of European countries.

To Remember

Introduction—Industrial Revolution took place in the second half of the eighteenth century and the first half of the nineteenth century, manual production was replaced by mechanized production, a long-drawn process, no clear beginning and end.

Causes of the Industrial Revolution—Natural resources and labour readily available, atmosphere conducive to development, easy availability of capital, transport and electricity, demand for English goods.

Agricultural changes—Open-field system of cultivation gave way to enclosed farms, Jethro Tull's seed drill was a major contribution to agriculture, in AD 1793 a Board of Agriculture was established.

Technological changes—The textile industry witnessed changes in the form of inventions by John Kay, Richard Arkwright and James Hargreaves, steam engine, electric power, railroads, steamship, means of communication also witnessed sweeping changes.

Impact of the Industrial Revolution—Increase in population, urbanization, rise of a new social class, growth of cities, socialism, capitalism.

Thank You