Chapter 4: The Age of Industrialisation

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Exercise 4.1 — Write in brief

Q1 Explain the following: a) Women workers in Britain attacked the Spinning Jenny. b) In the seventeenth century merchants from towns in Europe began employing peasants and artisans within the villages. c) The port of Surat declined by the end of the eighteenth century. d) The East India Company appointed gomasthas to supervise weavers in India.

SOLUTION

a) The Spinning Jenny, devised by James Hargreaves in 1764, speeded up spinning and reduced the demand for labour: by turning one single wheel a worker could set several spindles in motion and spin many threads at once. In the woollen industry, women who survived on hand spinning feared losing their livelihood to the machine. The fear of unemployment made workers hostile to the new technology, so women workers attacked the Spinning Jenny.

b) With the expansion of world trade and the acquisition of colonies, the demand for goods grew, but merchants could not expand production within towns because urban crafts and trade guilds were powerful — they controlled production, regulated prices and restricted the entry of new people. So merchants moved to the countryside, supplying money and advances to peasants and artisans and persuading them to produce goods for an international market.

c) As European companies gradually gained power — first securing concessions from local courts, then monopoly rights to trade — trade shifted to the new ports of Bombay and Calcutta controlled by them. Exports through the old ports fell dramatically, the credit that financed the earlier trade dried up, and local bankers went bankrupt. The gross value of trade passing through Surat slumped from Rs 16 million in the late seventeenth century to Rs 3 million by the 1740s.

d) After the East India Company established political power in Bengal and Carnatic, it asserted a monopoly right to trade and wanted to eliminate competition and ensure a regular supply of cloth. So it tried to remove the existing

traders and brokers and establish direct control over the weaver by appointing a paid servant called the gomastha to supervise weavers, collect supplies, and examine the quality of cloth.

Answer: a) Fear of unemployment as the Jenny cut labour demand; b) to escape powerful town guilds and meet rising demand cheaply; c) European companies' monopoly shifted trade to Bombay/Calcutta, so Surat's exports and credit collapsed; d) to control weavers directly, eliminate competition and ensure regular supplies.

Q2 Write True or False against each statement: a) At the end of the nineteenth century, 80 per cent of the total workforce in Europe was employed in the technologically advanced industrial sector. b) The international market for fine textiles was dominated by India till the eighteenth century. c) The American Civil War resulted in the reduction of cotton exports from India. d) The introduction of the fly shuttle enabled handloom workers to improve their productivity.

SOLUTION

a) False. Even at the end of the nineteenth century, less than 20 per cent of the total workforce was employed in technologically advanced industrial sectors — not 80 per cent.

b) True. India dominated the international market in fine textiles; the finer varieties often came from India, carried by merchants to Central and West Asia and by sea to Southeast Asian ports until the European companies broke this network by the 1750s.

c) False. When the American Civil War cut off cotton supplies from the US, Britain turned to India and raw cotton exports from India increased (they did not reduce).

d) True. Using looms with a fly shuttle increased productivity per worker and speeded up production; by 1941 over 35 per cent of handlooms in India were fitted with fly shuttles.

Answer: a) False; b) True; c) False; d) True.

Q3 Explain what is meant by proto-industrialisation.

SOLUTION

Even before factories began to dot the landscape in England and Europe, there was large-scale industrial production for an international market that was not based on factories. Historians call this phase proto-industrialisation ('proto' meaning the first or early form of something).

In this system, merchants from the towns moved to the countryside and gave advances to poor peasants and artisans, who produced goods for them within their own family farms rather than in factories. It was part of a network of commercial exchange controlled by merchants: at each stage of production 20 to 25 workers were employed by each merchant, so a single clothier could control hundreds of workers spread across the villages.

Answer: The early phase of large-scale industrial production for an international market carried out by peasants and artisans in the countryside on merchants' advances, before the coming of factories.

Exercise 4.2 — Discuss

Q1 Why did some industrialists in nineteenth-century Europe prefer hand labour over machines?

SOLUTION

In Victorian Britain there was no shortage of human labour — poor peasants and vagrants moved to the cities in large numbers looking for work. When labour is plentiful, wages are low, so industrialists faced no problem of labour shortage or high wage costs and did not want to introduce machines that got rid of workers and required large capital investment.

In many industries the demand for labour was seasonal (gas works, breweries, bookbinding, ship repair). Where production fluctuated with the season, industrialists preferred to employ workers by hand for the season rather than buy expensive machines.

A range of products could be produced only with hand labour. Machines produced uniform, standardised goods, but the market often demanded goods with intricate designs and specific shapes — for instance in mid-nineteenth-century Britain 500 varieties of hammers and 45 kinds of axes were produced, which required human skill, not mechanical technology.

Answer: Because labour was cheap and plentiful (so machines saved little), demand in many trades was seasonal, and intricate, varied goods could be made only by skilled hand labour.

Q2 How did the East India Company procure regular supplies of cotton and silk textiles from Indian weavers?

SOLUTION

Before the East India Company established political power in Bengal and Carnatic in the 1760s and 1770s, it found it difficult to ensure a regular supply of goods, because the French, Dutch, Portuguese and local traders all competed for cloth, so weavers and supply merchants could bargain and sell to the best buyer.

Once the Company gained political power, it asserted a monopoly right to trade and developed a system of management and control to eliminate competition, control costs and ensure regular supplies. First, it tried to eliminate the existing traders and brokers and establish direct control over the weaver by appointing a

paid servant, the gomastha, to supervise weavers, collect supplies and examine the quality of the cloth.

Second, it prevented Company weavers from dealing with other buyers, chiefly through the system of advances: once an order was placed, weavers were given loans to buy raw material, and those who took the loans had to hand over all the cloth they produced to the gomastha and could not take it to any other trader.

Answer: By using its monopoly to appoint gomasthas who supervised and controlled weavers directly, and by giving weavers advances (loans) that bound them to hand over all their cloth to the Company alone.

Q3 Why did industrial production in India increase during the First World War?

SOLUTION

The First World War created a dramatically new situation for Indian industry. With British mills busy meeting war needs for the army, Manchester imports into India declined, and suddenly Indian mills had a vast home market to supply.

As the war prolonged, Indian factories were also called upon to supply war needs — jute bags, cloth for army uniforms, tents and leather boots, saddles for horses and mules and many other items. New factories were set up, old ones ran multiple shifts, many new workers were employed and everyone worked longer hours. Over the war years industrial production boomed.

Answer: Because the war cut off Manchester imports (giving Indian mills the home market) and Indian factories were called on to supply war goods, so new factories opened, shifts multiplied and production boomed.