Industrialisation & Social Change

Improve your learning

Q. 1. Fill in the blanks with correct options:

Britain did not depended on different parts of the world for _____ and _____ (labourers; raw material; capital; inventions)

Answer : Britain did not depend on different parts of the world for raw material and capital.

Explanation: England had an abundant supply of raw materials that spearheaded the industrial revolution in the country. Along with a big supply of coal and iron often found next to each other, it also had a modest climate which was ideal for the cotton industry. The easy availability of raw materials was further augmented by a cheap and efficient supply of water power. Britain had a reserve of capital as the country was known for its commercial pursuits with other countries from the beginning of the seventeenth century, which had earned them huge profits. The use of this wealth by the Bank of England in proper investments, along with the rise of the London money market, joint-stock banks, and Joint Stock Corporation made capital easily available for entrepreneurs.

Q. 2. Fill in the blanks with correct options:

Two important types of transport during the Industrial revolution were _____ and _____ (road; air; water; rail)

Answer : Two important types of transport during the Industrial revolution were road and water.

Explanation: During the Industrial Revolution in England, water transport was incredibly important as it was a cheap and efficient mode for transporting bulky goods like coal and iron. The revolution also made possible the expansion and modernisation of inland transport by upgrading roads and laying a network of roads and canals to enable industrialisation.

Q. 3. Write two sentences each on following aspects in the context of Industrial revolution:

a) technology
b) financing and money
c) agriculture revolution
d) transport systems

Answer : (a) The transition to new manufacturing processes with an effect on both the industry and economy in Britain between the 1780s and the 1850s is known as

industrial revolution. Technology played a very important role in this transition. Technological advancements included going from hand production methods to machines, new chemical manufacturing, and iron production processes, the increasing use of steam power, the development of machine tools and the rise of the factory system.

(b) The transition to new manufacturing processes with an effect on both the industry and economy in Britain between the 1780s and the 1850s is known as industrial revolution. Britain had a reserve of capital as the country was knownfor its commercial pursuits with other countries from the beginning of the seventeenth century, which had earned them huge profits. The use of this wealth by the Bank of England in proper investments, along with the rise of the London money market, joint-stock banks, and Joint Stock Corporation made financing and money easily available for entrepreneurs.

(c) The transition to new manufacturing processes with an effect on both the industry and economy in Britain between the 1780s and the 1850s is known as the industrial revolution and one of its main outcomes was the British agricultural revolution. Industrial technologies that affected farming included the seed drill, the Dutch plough, which contained iron parts, and the threshing machine. Scientific rotation of crops also improved agricultural productivity which not only increased the food supply but also reduced manual labour and created more workforce for other sectors of the economy.

(d) The transition to new manufacturing processes with an effect on both the industry and economy in Britain between the 1780s and the 1850s is known as industrial revolution. Improvement of roads and canals were important during this period as a good transport system aided in the movement of raw materials and finished goods in a cheap, effective manner. The Industrial Revolution improved Britain's transport infrastructure with a turnpike road network, a canal and waterway network, and a railway network.

Q. 4. What do you think is special about inventions happening during the industrial revolution?

Answer : The transition to new manufacturing processes with an effect on both the industry and economy in Britain between the 1780s and the 1850s is known as industrial revolution. It marked an important shift from a rural agrarian society to a more developed urban industrial one. This shift was possible because of a variety of inventions that took place during this time period. The special feature of these inventions can be explained through the following points –

• Most of the time they were a product of determination, interest, curiosity, and luck more than the application of scientific knowledge.

• Education regarding the different sciences may have been restricted to the general population, but the thirst for knowledge even in small towns were satiated through the

several scientific magazines and journals that were published during this time in England.

• The inventors in the cotton industry like John Kay, James Hargreaves, etc often came from humble backgrounds like weaving and carpentry, but their general curiosity often led them to the inventions.

• Inventors in the area of steam engines like Thomas Savery, Thomas Newcomen, and James Watt did have some background in metallurgical works even though the road builder John Metcalf was blind.

From the above discussion, it is evident that it was optimism, curiosity and a burning need that led to the inventions that spearheaded the Industrial Revolution In Britain which makes them special.

Q. 5. How were the lives of different classes of British women affected by the industrial revolution?

Answer : The transition to new manufacturing processes with an effect on both the industry and economy in Britain between the 1780s and the 1850s is known as industrial revolution. It marks a major turning point in history as all aspects of society was influenced in some way. So, it becomes evident that women and children who make up more than half of society faced numerous changes in their lifestyles.

Women belonging to the noble classes did not face a lot of upheaval in their lives as they were seldom engaged in any manual labour. It was the middle-class women and women in rural areas who faced the major changes in their lifestyles due to the industrial revolution. The following points give a brief picture of the effects of the Industrial Revolution on the urban middle class and rural women.

• Historically, women in rural areas were actively involved in farm work and often produced most of the things needed by their families like clothes, etc. in the home itself. With industrialisation, the home stopped being a central unit of production and women lost much of their economic importance leading to a lowering in their social standards with respect to men.

• Women of lower economic classes in urban areas were forced to take up work in factories to supplement the meager incomes of their male counterparts as industrialisation led to a higher standard of living and a rapid rise in the cost of living.

• But working conditions in factories were harsh and often led health problems in women.

• Women were preferred by employers for employment in factories and textile industries as they were less agitated with the poor working conditions and also would work for lower wages than men.

The industrial revolution did indeed pave the way for women's emancipation through increased financial independence and higher self-esteem gained from having a salary. But the drawbacks in the form of lowering of health, deplorable working and living conditions hampered their social and economic development.

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

Answer : The development of railways as a cheap and efficient mode of transport was not only one of the positive outcomes of the Industrial Revolution; it also had a widespread impact on the same phenomenon. The first steam locomotive, Stephenson's Rocket, appeared in 1814.

• Development of various railway projects across Britain showed the success of railways in transporting people and goods all-round the year.

• Many of the workers who were involved in these projects added to the burgeoning work population in urban areas as they never returned to their rural lives after the completion of the projects.

Observing Britain's successful implementation of the railways, many countries emulated their example. In fact, it was the implementation of railways that spearheaded the industrial revolutions in countries like Germany, France, and Prussia.

• In Germany and France which lacked an extensive supply of natural resources having lesser colonies than Britain, industrialisation received a boost with the introduction of railways in the 1830s.

• Prussia was able to exploit the rich oil fields in far-flung areas like Silesia and the Rhineland -the Ruhr and the iron deposits in Bohemia because of the connectivity provided by the railways. This allowed them to establish a successful iron and steel industry in the country.

Thus, it can be concluded that the coming of railways affected different countries across the world positively and boosted the process of industrialisation.

Q. 7. What were the relative advantages of canal and railway transportation?

Answer : During the Industrial Revolution in England, modernisation of transport systems was needed to support the growing industries in Britain. Britain already had a well laid out network of canals and roads, but it needed upgradation to support the burgeoning demand of the growing industries. Although canals had existed for a long time, the railways were a new mode of transportation at that point in time. Both these modes had several advantages.

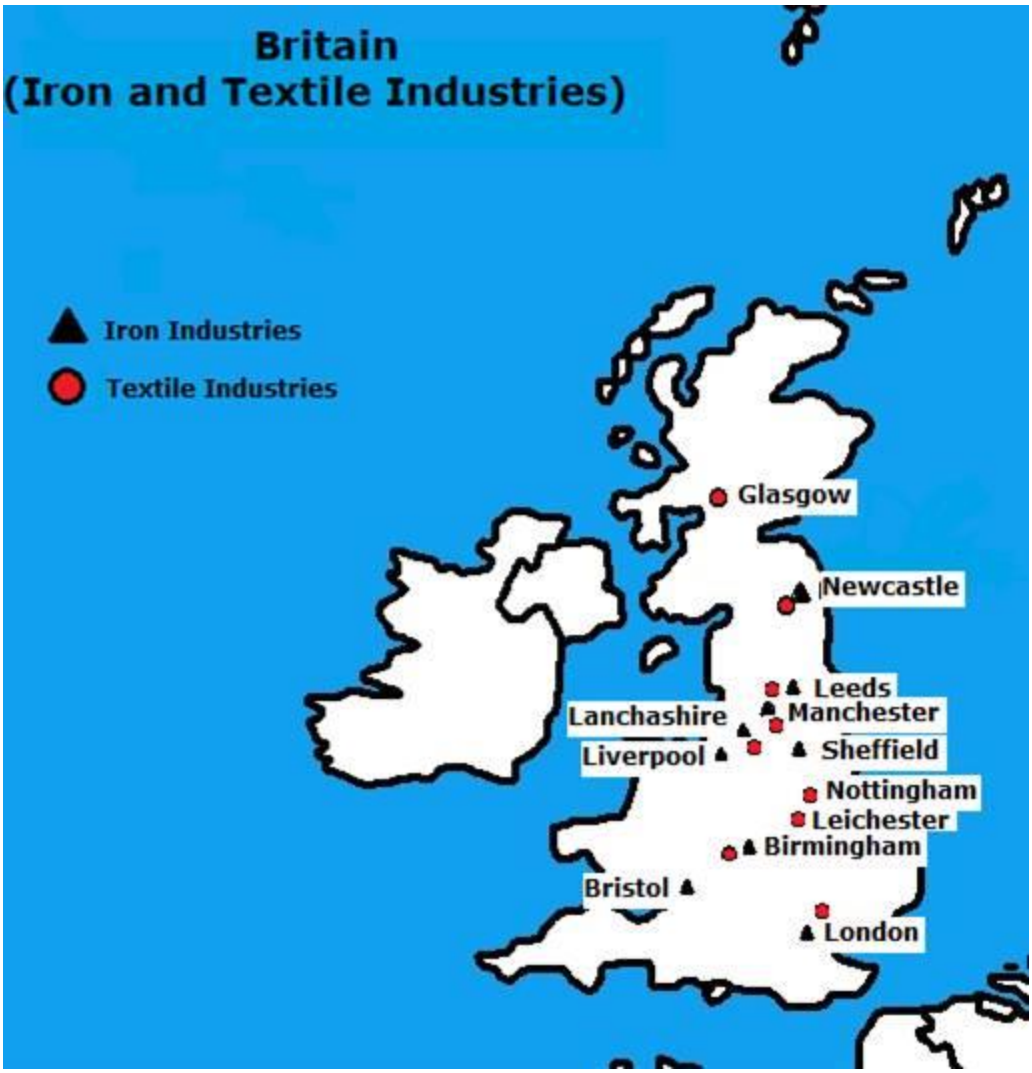
a) Canals and railways allowed bulk materials to be economically transported over long distances inland. For e.g., coal could be economically transported from the coal fields via the canals and railways to the industries and cities.

b) Areas with better-developed canals and railways developed faster. Often intersection points of canals and railroads served as markets which later grew to be well-established towns and cities.

Canals being the older form of transportation had always been in existence in Britain. Under the Industrial Revolution, they were further developed to accommodate the higher demands. Approximately 4000 miles of canal network was constructed in Britain by the 1850s. With the introduction of railways, it was observed that they were more advantageous than canals. Not only were they able to carry bulkier goods at lower prices, but they could also operate all year round. Thus, railways were considered to be more efficient modes of transport though both canals and railways contributed highly during the industrial revolution.

Q. 8. Locate the places where iron and textile industries are mainly concentrated in England during the industrial revolution.

Answer :



Q. 9. Prepare a table on invention during the time of Industrial Revolution.

Answer : The inventions which spearheaded the industrial revolution started as far back as 1563 when Rev. William Lee invented the stocking frame which was the first major stage in the mechanisation of the textile industry. The following table gives a timeline of inventions made before and during the Industrial Revolution which made it possible to produce goods on a massive scale compared to the handicraft and handloom industries.

Year	Inventor/Discoverer	Invention/ Discovery	Importance
1563	Rev. William Lee	Stocking Frame	A first major stage in the mechanisation of the textile industry.
1708	Jethro Tull	Mechanical Seed Sower	Helped bring about the British Agricultural Revolution.
1709	Abraham Darby	Using coke for smelting iron	A major step forward in the production of iron as a raw material for the Industrial Revolution.
1712	Thomas Newcomen	Steam engine	It was the first practical device to harness steam to produce mechanical work.
1733	John Kay	Flying Shuttle	It allowed a single weaver to weave much wider fabrics, and it could be mechanized, allowing for automatic machine looms.
1765	James Hargreaves	The spinning jenny	The device reduced the amount of work needed to produce cloth, with a worker able to work eight or more spools at once.
1769	Arkwright's	Water powered frame	It was designed for the production of cotton thread and was able to spin 128 threads at a time, which was an easier and faster method than ever before.
1775	Watt's	Updated version of the previous steam engine	Watt's design was able to save much on fuel costs compared to earlier designs.
1787	Cartwright	Power loom	By making cloth more affordable the power loom increased demand and stimulated exports, causing a growth in industrial employment, albeit low-paid.

1792	William Murdock	Coal Gas	Before electricity became sufficiently widespread and economical to allow for general public use, coal gas was the most popular method of outdoor and indoor lighting in cities and suburbs.
1793	Eli Whitney	Cotton Gin	A **cotton gin** is a machine that quickly and easily separates cotton fibers from their seeds, enabling much greater productivity than manual cotton separation.
1821	Faraday	Electro-magnetic rotation	Applied in measuring instruments and increased the precision level.
1825	Marc Brunel	Tunneling shield	It is a protective structure used during the excavation of large, man-made tunnels thereby protecting the workers and the projects from delays.
1834	Charles Babbage	Analytic engine	It was the first design for a mechanical computer.
1839	Fox Talbot	Photographic paper	Aided in the development of photography.
1849	Monier	Reinforced concrete	It combined steel and concrete in such a way that the best qualities of each material were brought into play and changed the construction and building industry.
1851	Singer	Sewing Machine	Allowed sewing machines to be mass produced and for use beyond industrial purpose.
1857	Pasteur	Fermentation	Allowed longer shelf lives for perishable goods.
1867	Alfred Nobel	Dynamite	It made for safer handling of explosives.
1876	Bell	Telephone	Improved communication
1877	Edison	Phonograph	Was able to not only record sounds but also reproduce them.
1879	Edison	Incandescent Lamp	Created popularity for electricity and gradually replaced the environmentally unfit coal gas.