

# THE INDUSTRIAL REVOLUTION

## Multiple Choice Type Questions

1. \_\_\_\_\_ were those laws which prevented the import of cheaper food until prices in Britain had risen to a certain level.  
(a) Wheat Laws  
(b) Rice Laws  
(c) Corn Laws  
(d) Lentil Laws
2. Which one of the following is a machine that greatly contributed to the revolution in the textile industry?  
(a) Flying shuttle  
(b) Watt steam  
(c) The typewriter  
(d) The locomotive
3. To drain mines, the Miner's Friend was invented, in 1698, by  
(a) James Watt  
(b) Thomas Savory  
(c) Thomas Newcomer  
(d) Matthew Boulton
4. In 1814, the railway engineer George Stephenson constructed a locomotive called  
(a) The Butcher  
(b) The Puffing Devil  
(c) The Pumping Ghost  
(d) The Mighty Force
5. The first Derby invented a \_\_\_\_\_ in 1709 C.E.  
(a) Flying shuttle  
(b) Blast Furnace  
(c) The typewriter  
(d) The locomotive

## Answer

1. (c)      2. (a)      3. (b)      4. (a)      5. (b)

## SHORT ANSWER QUESTIONS

1. Explain why British growth may have been faster after 1815 than before?

**Answer:** 1. Britain tried to do two things simultaneously from 1760 to 1815 i.e.

- To industrialize

- To fight wars in Europe, North, America, and India. It diverted her attention therefore; slack and slow progress was seen during this period. The capital borrowed was spent on wars.
2. Factory workers and farm laborers were recruited in Army and thus, factories suffered set-back and food grain production plummeted.
  3. Money inflation took place and prices of eatables rose beyond access to poor sections of society.
  4. Per capita savings were slashed rapidly and the use of consumer goods reduced to a minimum. It resulted in a decline in demand and the closure of the factories.
  5. Trading routes were closed because of Napoleon's policies.
2. How can you state that pro-use of the term Industrial before the next term "revolution" is very limited?  
**Answer:** We can state so because the transformation was extended beyond the economic or industrial sphere and because of the major change in society as a whole. This transformation gave two classes in town and the countryside. These were the bourgeoisie (Middle Class) and Proletariat (i.e. laborers in mills and factories)
  3. Do you think the growth in cotton or iron industries or in foreign trade remained revolutionary during 1780-1820?  
**Answer:** No, it was not revolutionary during the period in question. The virtual growth as witnessed was based on raw-materials brought from South Asian countries and the sale of finished products in their markets by twist and wrench made in-laws. Imports and Exports from Britain increased from 1780 because of the resumption of trade with North America which was earlier blocked due to the war of American independence.
  4. What reforms through laws were made since 1819?  
**Answer:**
    1. Laws of 1819 prohibited the employment of children under the age of nine in factories and working hours reduced to 12 hours a day for the children between the group of 9-16 years.
    2. Act of 1833 permitted children under nine only in silk factories, limited working hours for children above sixteen years, and provided a number of factory inspectors to ensure proper implementation of the Act.
    3. Ten Hours' Bill was passed in 1847. As per this Bill, working hours of Women and children were reduced further and secured a 10 hour day for male workers.
    4. The Mines and Collieries Act of 1842 banned children under ten and women from working underground.
    5. Fielder's Factory Act, 1847 prohibited the employment of children under eighteen in the mills and fixed 10 hours a day for women workers.
  5. What has been written by D.H. Lawrence, an essayist and novelist in Britain about the change in villages nearby the mines?  
**Answer:** He states that a village namely East Wood was a small place of the cottage and a dilapidated row of buildings for miners' dwellings. Those all were colliers during the early nineteenth century but with the installation of new machinery for coal digging, the dwelling places were pulled down and little shops and new buildings were built for miners' dwelling on the downslope. These were surrounded by roads.

6. What kind of description of factories made by Charles Dickens in his novel *Hard Times*?

**Answer:** He tells that the face of the industrial town is unnatural red and black like the painted face of a savage. There are machinery and tall chimneys out of which interminable serpents of smoke trailed themselves forever and ever, and never got uncoiled. There were a black canal and river carrying ill-smelling dye with them. Buildings rattle and tremble all over the day and the piston of the steam engine worked up and down like the head of an elephant in a state of melancholy madness.

### LONG ANSWER QUESTION

1. Discuss the developments in Britain and in other parts of the world in the eighteenth century that encouraged British industrialization.

**Answer:** Developments in Britain

1. Area and population in towns were increasing rapidly.
2. London was the largest town in Britain. It had become the center of global trade. It became the nucleus of international trade with Africa and the West Indies.
3. The companies trading in America and Asia opened their offices in London.
4. Banking facilities developed.
5. New machines for the cotton textile industry, silk industry, iron industry, and coal industry were invented.
6. The raw material was imported from the countries outside England and finished cloth was exported.
7. Railway lines were laid and the steam engine was invented.
8. More than 4,000 miles of canal were built during the eighteenth century.
9. The big farmers made large estates by fencing around the meadows and pasture land as also bought the lands of smaller farmers nearby their property. They installed -factory on their estates and became rich.
10. Landless laborers left their villages and settled in urban slums in order to work in factories there.
11. The exploitation of men, women, and children in factories started.

### **Developments in other parts of the world**

1. Slaves were bought from Africa to get the work done in factories by them. British colonialism started in Africa.
  2. The raw material was imported from Asia, Africa, and America VViexeby closure of local industries there. It dwindled the economy of the countries on these continents.
  3. Goods manufactured in England on a large scale and by using machines were cheaper; more attractive and well finished than the goods produced manually in other parts of the world. It ensured the bumper sale of foreign goods and thus, money moved to England.
2. Discuss the effects of early industrialization on British towns and villages and compare these with similar situations in India.

**Answer:** Effects of early industrialization on British's towns and villages vies-a-vies India:

#### Towns-

1. The population doubled between 1750 and 1800 in 11 towns of Britain.
2. Population growth unexpectedly had burdened the public conveniences, health services, habitation, and supply of water, light, food grains, and shelter. Urban slums or conglomerates were increased resulting in the spread of epidemics like Cholera, Typhoid, Tuberculosis, etc.
3. People from villages run the mad race to migrate into towns in search of a job there.

4. The increasing number of factories, industries, installation of heavy machines caused air and water pollution.
5. The number of cities in England with a population of over 50,000 grew from two in 1750 to 29 in 1850.
6. The life span of workers in cities was lower than that of any other social group in cities.

#### Villages-

- The big landlords bought the lands from small farmers and made their large estates. This process was called an enclosure.
- The peasants became landless and compelled to shelter in towns as factory workers there.
- A number of villages were acquired by rich nobles and businessmen, all the members of Parliament, and installed their factories.
- Cottage industries in villages suffered a set-back due to the installation of new machines. Their labor was too slow to compete with machines.

#### Comparative Situation in India-

##### Towns-

1. The number of million-plus cities in India has increased from 21 in 1991 to 35 in 2001. It shows the rapid growth of the population in towns.
2. Slum agglomeration is an ex-facie in India's towns. These are colonies unauthorized and deprived of electricity, sanitation, and drinking water.
3. Town people have developed unauthorized structures there causing road accidents, fire eruptions, and a number of other inconveniences.
4. Disputes, duels, and under tensions increased day today.
5. Thanks to the decision of the Supreme Court on the removal, of industries away from the residential areas. However, its implementation is still lingering.
6. Anti-social elements are at rising in towns owing to the over-burdened population inhabited in them. Kidnapping, assault, eve-teasing, rape, etc. crimes added to the common affairs.

##### Villages –

- Neglected, manipulating policies and public funds for several development projects is misappropriated. It is done by collusion of bureaucrats and representatives at the level of local self-government. One and all types of corruption are first experimented there and only then manifest at the upper hierarchy. Ignorance, credulity, prejudices, stereo-type vices in spite of formal degrees acquired by youth, saddled in misdirected minds of country people or rural folks.
- Lured by eye-catching exposed luxuries and comforts as also to earn their bread, the rural folks have started migrating to metros, towns, cities in bulk in the last three decades. Villages are gradually on the verge of extinction and a few still sustained are losing their identity as villages. Urbanization like England during the seventeenth and eighteenth centuries is gathering momentum here. For instance, the census of 2001 exhibits Delhi and Chandigarh as the most populated cities.
- Villages are not developing equally because of discrimination and avarice in mind and resilience and absenteeism at hand (i.e. work) had maddened the bureaucrats, like British feudatories during Indian's being "nigger" in their eyes. A few villages are enjoying the status of a town while some others are sobbing under rags of a century ago. viz. remote areas in mills, tribal areas.
- Rural people in India have now destined to line in cities working with one or another firm or factory. They are being exploited the same way as in England during the seventeenth and eighteenth centuries.

3. Argue the case for and against government regulation of condition of work in industries.

**Answer:** Conditions of workers in Industries

- As Edward Carpenter describes the conditions of habitation for workers in his poem-“And I saw the huge-refuse heaps writhing with children picking them over” and further Charles Dickens writes in his novel “Hard Times”. It had a black canal in it, and a river that ran purple with ill-smelling dye and vast piles of building full of windows where there were a rattling and a trembling all day long, and where the piston of the steam-engine works monotonously up and down, like the head’ of an elephant in a store of melancholy madness”-the scenes of factories and the condition of workers and their children writhing with picking refusal of the factory are prime- fade.
  - Long unbroken hours of work, no variety or change amid that more than three fourth chunk of the day and night, strict vigil, and sharp punishment even for pretty and even ridiculous gimmicks in minds of workers.
  - Women under the same working conditions were also occupied in silk, lace-making, and knitting industries.
  - Children too were employed for operations on machines like Spinning Jenny. They were used to stand between the apertures of a tightly packed machine and operate it there from in coal mines, they were used to reach deep coal faces or cross the narrow approach path. Children employed were in the age group of 10-14 years. They were used as trappers to shut and open the doors of coal wagons. As a result of so pains inflicted upon workers, they came out with demands-
1. Minimum wages to be fixed by the government.
  2. Give employment to the workers snatched of work by machine installation.
  3. Child and woman labor to be checked.
  4. Give the right to form trade unions in order to legally present these demands.

**Response from Government-**

- a) Passed two Combination Acts which had snatched their freedom of speech. To incite anyway either by speech or in writing to the people against the King shall be tantamount as an illegal or illicit act punishable under laws of the land.
- b) The legal minimum wage was the demand of workers but it met to deaf ears in Parliament hence, refused.
- c) Aggrieved of non-hearing from the government, the workers went on strike but dispersed by police. They became aggressive and their sleuth had destroyed machines at Lancashire, Yorkshire, Derby shire and Leeds, etc. The Government crushed mercilessly this rioter turned factory workers. Some were hanged and others were deported to Australia as convicts.
- d) A huge gathering of workers around 18,19,80,000 workers was succumbed to massacre (popularly known as Peterloo Massacre) ordered by the government and the Parliament passed six Acts and thus, added more strict laws to Combination Acts of 1795.

**Percussions-**

1. The Act of 1833 fixed the work for children in the age group under 1 year confined to silk factories.
2. Fixed the hours of work for the children falling in the age group of 9-14 years.
3. Factory inspectors were appointed to ensure the implementation of the Act.
4. Ten Hours Bill was passed in 1847 limiting the hours of work for women and children and securing a 10 hour day for male workers.

5. Industrialization was associated with a growing investment of the country's wealth in capital formation, or building infrastructure and installing new machinery and raising the levels of efficient use of these facilities, and raising productivity.

4. Write an essay on the Industrial Revolution which started from Britain along with the background of genesis, the developments, and repercussions.

**Answer:** Background-Industrial Revolution started in Britain because

1. England, Wales, and Scotland were unified under a monarchy hence, a stable government.
2. Common laws, single currency, common taxation on entire land facilitated the capital formation and investment in the manufacturing sector.
3. Money was used as a medium of exchange and a large section of the people received their income in the form of wages and salaries, not in goods.
4. Demand for consumer goods increased because national savings got a boost.
5. Under the agricultural revolution, bigger landlords had bought up small farms and enclosed the common land of the village (i.e. pastures). Thus, large estates were made and opened their factories.
6. Towns were grown in area and population. These were- New castles, Yorkshire, Lancashire, Liverpool, Manchester, Leeds, and Sheffield including London.
7. There were rivers used for navigation because all of them drained into the sea. There were 1,160 miles of navigable water.
8. There was a banking facility in each town. There were 600 banks in provinces and 100 banks in London.

**Developments**-Developments under the industrial revolution can be described as under-

**(a) Coal and Iron**-England had an immense treasure of minerals like coal, iron ore, lead, copper, and tin. Iron was extracted through the smelting process in the ore. Charcoal was used initially but coke came into use when the blast furnace was invented by Abraham Darby. This coke was extracted from coal by removing the sulfur and other impurities. Wrought-iron was developed from pig-iron.

**(b) Cotton spinning and Weaving**-Invented spinning and weaving machines were-the flying shuttle loom by John Kay, the spinning Jenny by James Hargreaves, the water frame by Richard Arkwright, the Mule by Samuel Crompton, and power loom by Edmund Cartwright. These machines fanned up production on a large scale. Raw cotton was imported from South Asian countries including India and finished product from Britain was exported to the markets of those countries by making twists in tariff and custom rules.

**Stream Power**-It was used first in moving industries with the increase in demand for coal and metals, efforts to use steam power in deeper mines were made. Thomas Savory built Mariner Friend (a model steam engine) to drain mines. Another engine was built by Newcomer in 1712. James Watt invented the Steam engine in 1769. After 1800, steam engine technology was further developed with the use of lighter, stronger metals, the manufacture of more accurate machine tools, and the spread of better scientific knowledge.

**Canals and Railways**-Carrying coal from the mill sites to cities was the purpose behind canal construction. Eg. Worsley Canal by James Brindley carrying coal to Manchester. Canal mania sustained from 1788 to 1796 and 6000 miles lengthy canals were built.

Rocket, the steam locomotive by Stephenson started running on rail-road in 1814. Richard Trevithick invented the Puffing Devil i.e. locomotive engine in 1810 and The Butcher was made by George Stephenson.

Under railway mania between 1833-37, 1400 miles of line and between 1844-47 another 1,500 miles of line was sanctioned and built.

The Workers-Problems of workers was increased during this period. Machines spread unemployment, pollution, ailments and it resulted in a sharp reduction in the workers' population. Wages declined and all family members including children and women had to work in factories in order to arrange bread at two breaks. Epidemics due to insanitation and unhygienic living conditions of workers spread. These took a toll on several millions of people. Child labor and women employment in factories, uncertain working hours, less wage, etc. became major issues for protest.

Parliament was constituted by nobles, landlords, wealthy merchants, and traders. Hence, a number of laws were passed from time to time in order to sustain the exploitation of workers. Only in 1847 some laws, after several movements, food riots, and demonstrations; were passed prohibiting child labor and fixed hours of working for men and women. Thus, we can state that the industrial revolution had increased the pains of workers, small industries, handicrafts, and other small-scale vocations.

### **Conclusion: It was not a revolution because-**

1. Industrialization took a period of forty years in its developments i.e. 1780-1820.
2. Spurt in cotton and textile trade and iron industry was due to the import of raw material from Britain's colonies in South Asia including India and exports to their indigenous markets.
3. A survey made in 1850 revealed that handicraft industries were running parallel to the factories.
4. Capital formation remained barred due to England's continuous wars in Europe, North America, and India for 36 years from 1760 ahead.
5. French Revolution and Napoleonic wars disrupted the progress of the industrial revolution.

### **5. What are Trade unions? Discuss its aim while they were formed.**

**Answer:** Trade union is an organization of workers who have banded together to achieve common goals in key areas, such as working conditions. Trade union, through its leadership, bargains with the employer on behalf of union members and negotiates labour contracts with employers. This may include the negotiation of wages, work rules, complaint procedures, rules governing hiring, and promotion of workers, benefits, workplace safety and policies. The agreements negotiated by the union leaders are binding on the rank and file members and the employer and in some cases on other non-member workers. Trade unions became popular in many countries during the Industrial Revolution. Aims of the formation of Trade unions

- To fight for the well-being of the workers.
- To fight against the injustice and malpractices in the industries.
- To fight for regulating the working hours for the workers.
- To fight for higher wages of the workers for their work done.
- To demand better services facilities and the working conditions of the workers.
- These were formed to maintain the harmonious relations between the employer and the employees.