1.0 CAUSES OF THE INDUSTRIAL REVOLUTION

At the dawn of the eighteenth century, farming was the primary livelihood in England, with at least 75% of the population making its living off the land. Many English families had very little to do during the winter months, except sit around and make careful use of the food and other supplies that they stored up during the rest of the year. If the harvest had been smaller than usual, or if any other unexpected losses had come about, the winter could be a very long, cold, and hungry one. The cottage industry was developed to take advantage of the farmers’ free time and use it to produce quality textiles for a reasonable price.

1.1 The Cottage Industry in England

A cloth merchant from the city needed enough money to travel into the countryside and purchase a load of wool from a sheep farm. He would then distribute the raw materials among several farming households to be made into cloth. Women and girls, first washed the wool to remove the dirt and natural oils, and then dyed it as desired. They also carded the wool, which meant combing it between two pads of nails until the fibres were all pointed in the same direction. Next, the wool was spun into thread using a spinning wheel and wound onto a bobbin (this was often the job of an unmarried daughter; hence, the word “spinster” is still used today to describe an unmarried woman). The actual weaving of the thread into cloth was done using a loom operated by hand and foot; it was physically demanding work, and was therefore, considered to be a man’s job. The task of transforming raw wool into cloth could be done entirely by one household, or split between two or more (i.e. spinning in one home, weaving in another). The merchant would return at regular intervals over the season to pick up the finished cloth, which he then brought back to the city to sell or export, and to drop off a new load of wool to be processed.

The cottage industry proved to be profitable for the urban merchants, since they could sell the finished cloth for far more than they paid the farmers to make it. The cottage industry helped to prepare the country for the Industrial Revolution, by boosting the English economy through the increase of trade, that occurred as the country became well-known overseas for its high-quality and low-cost exports. Previously, tradesmen had done all the manufacturing themselves, so the idea of subcontracting was new and appealing. The cottage industry was also a good source of auxiliary funds for the rural people. However, many farming families came to depend on the enterprise; thus, when industrialization and the Agricultural Revolution reduced the need for farm workers, many were forced to leave their homes and move to the city.
1.2 Farm Enclosure laws

Although serfdom in England had disappeared by the end of the seventeenth century, most farms were established on "common land", which local farmers typically leased from a wealthy proprietor who owned large areas of land in a district. There were, however, rules which prevented a landlord from expelling a tenant without a reasonable cause, and so farms could be passed down through a peasant family for generations. Traditionally, the land was divided into long, narrow strips, which grew smaller as the land was split into more parts for each succeeding generation.

In order for the farmers to make the most efficient use of the land, they had to manage the fields as they saw fit. This was, of course, impossible under the current system, which dominated English and European agriculture for centuries. Since farmers, small and large, held their property in long strips, they had to follow the same rules of cultivation. The local parish or village determined what ought to be planted. In the end, the open-field system of crop rotation was an obstacle to increased agricultural productivity. The solution was to enclose the land, and this meant enclosing entire villages. Landlords knew that the peasants would not give up their land voluntarily, so they appealed by petition to Parliament, a difficult and costly adventure at best. The first Enclosure Act was passed in 1710, but was not enforced until the 1750s. In the ten years between 1750 and 1760, more than 150 acts were passed, and between 1800 and 1810, Parliament passed more than 900 acts of enclosure. While enclosure ultimately contributed to an increased agricultural surplus, necessary to feed a population that would double in the 18th century, it also brought disaster to the countryside. Peasant farmers were dispossessed of their land, and were now forced to find work in the factories, which began springing up in towns and cities.

1.3 Reasons for Britain's primacy

Conditions were perfect in Britain for the Industrial Revolution. Having used wood for heat instead of coal, Britain was left with large deposits of coal remaining to fuel the new ideas. Any raw supplies Britain itself did not have, could be provided by its many colonies. These colonies also provided captive markets for the abundance of new goods provided by the industrial revolution.

Three unique social elements set Britain apart: education, "modern" work attitudes, and a "modern" government. Great Britain had a larger educated workforce to run the machines and create manuals. The Enlightenment not only meant a larger educated population, but also more modern views on work. The population in Great Britain was ready to move out of the country and to the city to work. Britain also had the large middle class and flexible mercantile class necessary. English society, unlike many others, was not opposed to "new money," and as such, was eager to accept the new wealthy and their new ideas.

Britain’s government, a long-time constitutional monarchy, was just right for the situation. The government was flexible enough to support the new system and to a certain degree accepted Adam Smith's capitalistic "invisible hand." The Dutch were the forerunners financially, but with the establishment of the Bank of England in 1694, their supremacy was challenged. The government and the bank provided incredible backing to new ideas, which soon turned into new wealth.

1.4 A new banking system

In Britain, expansion had led to new "private banking," a new money economy, and trading organizations, such as the Hanseatic League. Modern credit facilities also appeared, such as the state bank, the bourse, the promissory note, and other new media of exchange. This created economic stimulus, which in turn, gave the people more money to spend.
2.0 MAJOR INNOVATIONS

2.1 Agricultural innovations

Drastic changes occurred in the farming process from the 1600s onwards. The spread-out, shared farms, common under the "open-field system" of cultivation, turned into more compact, but larger, farms. The many problems associated with open fields - the overgrazing of animals, difficulty in reaching consensus for change, and single herds that had led to a spread of animal diseases and uncontrollable breeding - had all been solved. Farmers had discovered a crop rotation system, that allowed them to forgo leaving up to half the land unused or fallow, between each planting. Animal husbandry was becoming widely used. This was just the beginning of the change, and many important players were able to create other innovations for the farm that would change the ways farms would work:

2.1.1 Jethro Tull (1674 - 1741)

Jethro Tull's major contributions to the Agricultural Revolution were his two inventions: the seed drill and horse hoe. The seed drill allowed seeds to be easily planted deep into the earth, instead of on top, where the majority were washed away or otherwise lost. The machine was pulled by horses, and consisted of rotating drills or runners that would plant seeds at a set depth. His other invention, the horse hoe, was another revolutionary device, which allowed for much more efficient planting by allowing a horse to pull a plow quickly.

2.1.2 Lord Townshend

Lord Townsend, called "Turnip" Townshend by others, was famous for his cultivation of turnips and clover on his estate in Norfolk. He introduced the four-course rotation of crops, which helped keep the ground good for farming almost all year. This cycle consisted of wheat, turnips, oats or barley, and clover.

2.1.3 Robert Bakewell (1725 - 1795)

By breeding only animals with certain qualities, Robert Bakewell was able to breed much more livestock. Bakewell kept elaborate genealogical records of his valuable animals and maintained his stock carefully; he was renowned for his success with sheep. By the end of the eighteenth century, his principles of stock breeding were being practiced widely.

During the Agricultural Revolution, the agricultural output of England increased about three and a half times, which provided the basis for a transformation and industrial innovations. With more productive farms and a smaller work load, more people were able to leave the farms and go to the city. It is this large available workforce, that allowed for the greater production, needed to spark the Industrial Revolution. Moreover, England faced increasing pressure to produce more manufactured goods due to the 18th century population explosion -- England's population nearly doubled over the course of the century. And, the industry, most important in the rise of England as an industrial nation, was cotton textiles.

2.2 Major industrial innovations and inventions

Technology, arguably the greatest aspect of the Industrial Revolution, can be simplified into a few different innovations and inventors, most inspired by one product. The first product to undergo the "revolution" from the cottage industry to the mechanized age was cotton. Britain, at the time, had a large wool trade. In 1760, the amount of wool exported was almost thirty times that of cotton. Demand for cotton grew with a change in the upper class fashion, and Britain started to allow more cotton production. Soon, not enough cotton could not be made to satisfy the demand. This demand was the inspiration for many of the inventions which we describe ahead.
2.2.1 John Kay’s “Flying Shuttle”

John Kay, a mechanic from Lancashire, patented the flying shuttle. Using cords attached to a picking peg, a single weaver, using one hand, could operate the shuttle on the loom. With this invention, it took four spinners to keep up with one cotton loom, and ten people to prepare yarn for one weaver. So, while spinners were often busy, weavers often waited for yarn. As such, the flying shuttle effectively doubled a weaver’s production of cloth.

2.2.2 James Hargreaves “Spinning Jenny”

In 1764, James Hargreaves invented the “spinning jenny,” a device which allowed one person to spin many threads at once, further, increasing the amount of finished cotton that a worker could produce. By turning a single wheel, one could now spin eight threads at once, a number that was later increased to eighty. The thread, unfortunately, was usually coarse and lacked strength. Despite this shortcoming, over 20,000 of the machines were in use in Britain by 1778.

2.2.3 Richard Arkwright’s “Water Frame”

Also in 1764, Richard Arkwright created the “water frame” to produce yarn faster. The “Spinning-Frame,” its earlier name, was too large to be operated by hand. After experimenting with other sources of power, he decided to employ the power of a water wheel, and his machine became known as the water frame. Rollers produced yarn of the correct thickness, while a set of spindles twisted fibers together. The machine was able to produce a thread far stronger than any other available at the time.

2.2.4 Samuel Crompton’s “Crompton’s Mule”

In 1779, Samuel Crompton combined both the spinning jenny and the water frame to create a machine known as “Crompton’s mule,” which produced large amounts of fine, strong yarn.

With the arrival of these inventions, yarn had effectively become industrialized. By 1812, the cost of making cotton yarn had dropped by nine-tenths and the number of workers needed to turn wool into yarn had been reduced by four-fifths. The addition of these inventions to the work force moved the stress from the production to the supply of raw cotton. Within just a 35 year period, more than 1,00,000 power looms, with 93,30,000 spindles were put into service in England and Scotland. Britain took advantage of the Americas’ available new cotton, using it to help absorb the demand. By 1830, the importation of raw cotton had increased to eight times its past rate and half of Britain’s exports were refined cotton. At this point, the demand was high enough to provide inspiration for what is probably the most well known invention of the Revolution: the steam engine.

2.2.5 James Watt’s "Steam Engine"

Although, the spinning jenny and water frame managed to increase the productive capacity of the cotton industry, the real breakthrough came with developments in steam power. Developed in England by Thomas Savery (1698) and Thomas Newcomen (1705), these early steam engines were used to pump water from coal mines. In the 1760s, a Scottish engineer, James Watt (1736-1819) created an engine that could pump water three times as quickly as the Newcomen engine. In 1782, Watt developed a rotary engine, that could turn a shaft and drive machinery, to power the machines to spin and weave cotton cloth. Because Watt’s engine was fired by coal and not water, spinning factories could be located virtually anywhere.
2.2.6 Robert Fulton’s "Steamboat"

In 1807, Robert Fulton used steam power to create the first steamboat, an invention that would change the way and the speed in which materials could be moved between the colonies of Britain. In the beginning, the ship was more expensive to build and operate than sailing vessels, but the steamship had some advantages. It could take off under its own power, and it was more steadfast in storms.

2.2.7 Stephenson’s "Steam Powered Train"

Finally, in 1814, Stephenson used the steam engine to create a steam powered train, which would eventually allow increased communication and trade between places before deemed too far. Soon, the steam-powered train had become an icon of success throughout the world. Britain encouraged the building of railroads in other European countries, often with British capital, equipment, and technicians. Railroads became a standard item of British export.

From a suitable product comes a mass of inventions, that lead other areas of trade and production towards industrialization. These first innovations greatly affected the basic elements of the era: agriculture, power, transportation, textiles, and communication.

2.3 Innovations in the textiles industry

The advancement of the textile industry was a key development in Britain’s industrialization. It was this industry that first employed the factory system. The raw materials used were essentially the same ones used under the domestic system, mainly featuring wool and cotton, but machines were now used to take the raw product and create fabric. With the use of machines and an “assembly-line” approach, it was possible to make enormous amounts of fabric in less time and for less money. The major inventions were

1733 Flying shuttle, invented by John Kay - an improvement to looms that enabled weavers to weave faster.
1742 Cotton mills were first opened in England.
1764 Spinning jenny, invented by James Hargreaves - the first machine to improve upon the spinning wheel.
1764 Water frame, invented by Richard Arkwright - the first powered textile machine.
1769 Arkwright patented the water frame.
1770 Hargreaves patented the Spinning Jenny.
1773 The first all-cotton textiles were produced in factories.
1779 Crompton invented the spinning mule, that allowed for greater control over the weaving process.
1785 Cartwright patented the power loom. It was improved upon by William Horrocks, known for his invention of the variable speed batton in 1813.
1787 Cotton goods production had increased 10 fold since 1770.
1789 Samuel Slater brought textile machinery design to the US.
1790 Arkwright built the first steam powered textile factory in Nottingham, England.
1792 Eli Whitney invented the cotton gin - a machine that automated the separation of cottonseed from the short-staple cotton fibre.
1804 Joseph Marie Jacquard invented the Jacquard Loom, that wove complex designs. Jacquard invented a way of automatically controlling the warp and weft threads on a silk loom, by recording patterns of holes in a string of cards.
1813 William Horrocks invented the variable speed batton (for an improved power loom).
1856 William Perkin invented the first synthetic dye.
Advancements in this industry brought huge profits and were deemed very good for the economy. However, there were many problems with how factories were run. **Young children were employed**, and were given very small salaries. They were also forced to work extremely long hours in dangerous conditions, and were beaten, in order to keep them working. It was not until the late 1820s that critics began to attack the way in which factories were run. Finally, in 1832, Michael Thomas Sadler headed a parliamentary committee on child labour, known as the "Sadler Commission". But even when legislation designed to protect the worker was put in place, it was rarely implemented. Powerless workers eventually formed unions, as a way of fighting the profit-hungry factory owners.

### 2.4 The Factory System

<table>
<thead>
<tr>
<th>The Domestic System</th>
<th>The Factory System</th>
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<tbody>
<tr>
<td>1. Virtually all work was done by hand, in much the same way that it had always been done, since the time of the Romans.</td>
<td>1. The factory system developed in the late eighteenth century, chiefly due to the advances being made in the textile industry.</td>
</tr>
<tr>
<td>2. Workers would receive the raw materials, take them home, and build whatever was required, and then return the finished product.</td>
<td>2. With inventions such as the flying shuttle, the spinning jenny, and many others, the making of cloth became much faster, and could be done on a much wider scale (Kaufman). As a result, hand weavers were driven out of business by big new factories, which they were later forced to work in.</td>
</tr>
<tr>
<td>3. Usually work was done in the labourer's own home, although in the late sixteenth and early seventeenth centuries some labourers worked all together in large &quot;factories&quot; or workrooms (Porter).</td>
<td>3. These factories were first run by water, then by steam, and their output greatly improved the nation's economy.</td>
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<td></td>
<td>4. Instead of one worker completing an item, such as a length of material, a variety of machines made the fabric. Also, instead of one worker following the same piece of material from raw wool to dyed cloth, each worker concentrated on only one task. This &quot;assembly-line&quot; approach was very efficient, however, the tasks became extremely monotonous and repetitive.</td>
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<td>5. Working conditions were also very poor. Factory labourers—mainly young children—had to put in extremely long hours, were very poorly paid, and worked in dangerous and violent surroundings. During the first part of the Industrial Revolution, there were no laws to protect workers, and even when a few were passed, they were rarely followed.</td>
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### 3.0 Impact and Effects of the Industrial Revolution

#### 3.1 Changes in Social Structure

During the Industrial Revolution, the social structure of society changed dramatically. Before the Revolution, most people lived in small villages, working either in agriculture or as skilled craftsmen. They lived, and often worked, as a family, doing everything by hand. In fact, three quarters of Britain's population lived in the countryside, and farming was the predominant occupation. However, due to the new enclosure laws, many people migrated to places where factories were located, in search of jobs. There were many people who were forced to work at the new factories. It also meant that they made less money for working longer hours. Add to this, the higher living expenses due to urbanization, and one can easily see that many families' resources would be extremely stretched.

As a result, women and children were sent out to work, making up 75% of early workers. Families were forced to do this, since they desperately needed money, while **factory owners were happy to employ women and children for a number of reasons**. First of all, they could be paid very little, and children could be controlled more easily than adults, generally through violent beatings. Children also had smaller hands, which were often needed to reach in among the parts of a machine; furthermore, employers found that children were more malleable, and adapted to the new methods much better than adults did. Children were also sent to work in mines, being small enough to get more coal and ore from the deep, and very often, unsafe pits. They could also be forced to work as long as eighteen hours each day. For these reasons, children, as young as eight years old, were sent to factories - usually those which manufactured textiles - where they became part of a growing and profitable business.

This unprecedented growth and dominance of the profit motive was another social change that occurred during the Industrial Revolution. Capitalism flourished and an atmosphere of laissez faire was encouraged. Hence, there were little or no government regulations imposed upon factory policies, and this allowed the wealthy, middle-class owners to pursue whichever path was most profitable, regardless of the safety and well being of their workers. **This relentless pursuit of money caused another important social change: the ultimate breakdown of the family unit.**
Since workers, especially women and children, were labouring for up to eighteen hours each day, there was very little family contact, and the only time that one was at home was spent sleeping. People also had to share housing with other families, which further contributed to the breakdown of the family unit. As a result, children received very little education, had stunted growth, and were sickly. They also grew up quite maladjusted, having never been taught how to behave properly. The living conditions were indeed horrible; working families often lived in slums with little sanitation, and infant mortality skyrocketed. During the early Industrial Revolution, 50% of infants died before the age of two.

However, the social changes that took place were not all negative. Most classes eventually benefited in some way from the huge profits that were being made, and by 1820 most workers were making somewhat better wages. Poverty and starvation had lessened, and overall health and material conditions of the populace clearly improved. The government, however, did have to eventually intervene, in order to put an end to child labour and other unacceptable practices.

3.2 Dissent in England

3.2.1 The Luddites

The Luddites were 19th-century English textile artisans who protested against newly developed labour-saving machinery from 1811 to 1817. The stocking frames, spinning frames and power looms introduced during the Industrial Revolution threatened to replace the artisans with less-skilled, low-wage labourers, leaving them without work. Although the origin of the name Luddite is uncertain, a popular theory is that the movement was named after Ned Ludd, a youth who allegedly smashed two stocking frames in 1779, and whose name had become emblematic of machine destroyers. The name evolved into the imaginary General Ludd or King Ludd, a figure who, like Robin Hood, was reputed to live in Sherwood Forest.

The government’s reaction to Luddism was quick and crushing. A reward of £50 was offered to anyone who could provide information about the Luddites, and in February of 1812 a law was passed making the destruction of machines a capital offence. Twelve-thousand troops were sent to protect factories in Nottingham and other regions, where Luddites were active; at least 23 people were executed for attacks on mills in the summer of 1812, and many others were deported to Australia. Although some violence continued, the Luddite movement in England had disintegrated by 1817.

3.2.2 Peterloo

Although English officials had managed to repress the violence of the Luddites, they could not stop the discontent that was growing across the country. Workers became interested in politics for the first time, demanding better working conditions, less corruption in the government, and universal suffrage. In 1819, a "reform meeting" was arranged to take place in Manchester on August 16th, where two radicals, Henry Orator Hunt and Richard Carlile, were to speak (The Peterloo Massacre). The public assembly at St. Peter's Field drew a crowd estimated at 50,000 people, which worried the city magistrates and induced them to call in the military to quell a potential riot. The Manchester Yeomanry responded and, led by Captain Hugh Birley, charged into the docile crowd, killing eleven people and wounding 400. It was later said that many of the soldiers had been drunk at the time, but the British parliament supported the troops, and several of the event’s organizers were charged with unlawful assembly and sentenced to time in jail. The event became known as the Peterloo Massacre, in a reference to Napoleon’s defeat at Waterloo.

3.3 Reforms implemented due to social conditions

Until the publication of the Sadler Report in 1833, the poor social conditions in Britain went largely ignored by the ruling classes. It was commissioned in 1832, and the Sadler committee undertook a great investigation into the various aspects of life for the working classes, hearing testimony from members of the working class. The Sadler Report eventually found evidence of human rights abuse and terrible working conditions, suggesting that reform had to be implemented to avoid general social unrest.

Before the Report, governments were averse to the implementation of reforms based on their strict policy of laissez-faire, a large part of the liberalism that the government found sacred. After its publication, however, the British government was forced to act. Following is a list of the various reforms implemented due to the social and working conditions in Britain.
4.4 Political effects of the Industrial Revolution

Although Britain had become a constitutional monarchy a century earlier, the vast majority of the population remained disenfranchised from the electoral system. As industrial strength grew along with a more forcible middle class, electoral reform was a necessity to balance the new society’s power structure.

By 1832, the middle class factory owners wanted political power to match their new-found economic punch - this resulted in the Reform Bill of 1832, which enfranchised 20% of the male population to vote. The Reform Bill also redistributed electoral districts to better reflect the large populations of city centres. Before, most of the electoral power could be found in the countryside, where aristocrats owned vast properties. The middle-class became more or less satisfied, but workers were still not represented by the British electoral system. The People’s Charter, a document written in 1838 by William Lovett and other radicals of the London Working Men’s Association, was adopted at a national convention of workingmen’s organizations in August of that year. The Charter called for the following changes to the Parliamentary system:

- Universal Male Suffrage
- Annual Parliaments
- Vote by ballot
- Abolition of the property qualification for MPs
- Payment of MPs
- Equal electoral constituencies (Chartism - too much talk, too little action)

4.5 Effect on the rest of the world

The quick industrialization across Europe during the 19th century led to a great increase in goods produced, as well as, a demand for raw materials. This demand, coupled with increased nationalist pride, led nations to seek colonies abroad in which to produce and trade goods. The main expansion for the European colonial powers occurred in Africa. By 1914, the entire continent, with the exception of Liberia and Abyssinia, were controlled by European nations. England also took control of India and Hong Kong during this period of expansion. By the beginning of WWI, England had an empire which stretched across every continent in the world. Vast amounts of natural resources were extracted from these colonies, which aided the British industrial effort, but left many of the nations bankrupt. In short, industrialization in Europe had far reaching consequences for the rest of the world. While it made Britain the ultimate power for over a century, it can be argued that its rule over the world caused conflict and internal strife, which continues to this day.
1. Which of the following countries was the leading European commercial and colonial power in the eighteenth century?
   (a) France  (b) Holland  (c) Spain  (d) Britain

2. At the beginning of the Industrial Revolution, Britain enjoyed cheap and quick transportation primarily because of its
   (a) railway network  (b) navigable rivers  (c) well-paved roads  (d) underground system

3. The agricultural revolution was indispensable to Britain's industrialization because
   (a) it greatly increased cotton cultivation.
   (b) many of the resulting new inventions could be harnessed to industrial uses.
   (c) it freed up the labor needed to work in factories.
   (d) it destroyed the cottage industry, making it necessary to find another way of producing the consumer goods in demand.

4. By 1850, the majority of Britain's population
   (a) lived in the countryside.
   (b) produced food.
   (c) worked in coal mines.
   (d) lived in the cities.

5. The first advances in production, that would lead to increased output and new opportunities for entrepreneurs, took place in
   (a) Cotton  (b) Iron  (c) Railroads  (d) Steel

6. Which device did John Kay invent, that helped spur further innovation in the cotton industry, because it increased the demand for thread?
   (a) Power Loom  (b) Flying Shuttle  (c) Spinning Jenny  (d) Water Loom

7. The Industrial Revolution's most important technological advance was the
   (a) Spinning Jenny  (b) Steam engine  (c) Conveyor Belt  (d) Bellows

8. Steam engines were powered by
   (a) Solar energy  (b) Natural gas  (c) Coal  (d) Electricity

9. Which innovation brought together all aspects of the industrial revolution, created demand for a series of related products, and facilitated both supply and transportation?
   (a) The steamboat  (b) The railroad  (c) Canal building  (d) Steel bridges

10. Opened in 1851, what was the symbol of Britain's industrial triumph and manufacturing success?
    (a) The Railroad  (b) The Crystal Palace  (c) The Steamboat  (d) The Flying Shuttle

11. Between 1780 and 1850, the European population
    (a) ballooned from 175 million to 266 million.
    (b) declined from 266 million to 175 million.
    (c) experienced rising mortality rates.
    (d) became more homogenized in terms of economic class.

12. In his essay on the Principles of Population, which British economist argued that population growth would surpass the food supply?
    (a) David Ricardo  (b) Eli Whitney  (c) Thomas Malthus  (d) Thomas Newcomen

13. Which type of workers' organization had the greatest role in developing a sense of class consciousness among factory laborers?
    (a) The mutual aid society  (b) The fraternal society  (c) The guild  (d) The union

14. In Britain, violent protests that targeted industrial machinery for destruction, came to be known as
    (a) Luddism  (b) Unionism  (c) Communism  (d) Striking
15. Which of the following industrial centers best demonstrates the tremendous urban growth experienced in parts of Europe from 1780 to 1850?
(a) Moscow, Russia  (b) Manchester, England  
(c) Zagreb, Croatia  (d) Helsinki, Finland

16. In the novel *Hard Times*, which of the following authors described the way industrialization was affecting the fictional settlement Coketown?
(a) Frederick Engels  (b) Emily Bronte  
(c) Charles Dickens  (d) Mark Twain

17. The “Bobbies,” established by a law passed in 1828 by Parliament, hit the streets of London as its first modern
(a) social workers.  (b) police force.  
(c) private investigators.  (d) sanitation crew.

18. In 1796 in England, Edward Jenner developed a safe form of the vaccine that would eventually protect millions of people from
(a) chickenpox  (b) cholera  
(c) tuberculosis  (d) smallpox

19. Novelists, such as Jane Austen, tended to set their novels in the
(a) home  (b) workplace  
(c) wilderness  (d) halls of government

20. During the industrial revolution, a new type of family arose among the middle class in Europe. Which of the following is most characteristic of the new middle-class family?
(a) A great number of children  
(b) Stress on social status, rather than love in marriage  
(c) A belief that the home should be a haven  
(d) A distaste for material possessions

Please make sure that you mark the answers in this score sheet with an HB pencil/pen. The marking of answers must be done in the stipulated time for the test. Do not take extra time over and above the time limit.