PART TWO – DETAILED READING – INDUSRIALIZATION - ANSWER KEY
1 pt each question / 16 points

Task 1 - Answers to Text A - (4 points)

1. Write one way that Britain benefited from the sea economically

Any one from:
- **it was unnecessary for Britain to invest in a costly standing army**
- **Britain was able to invest heavily in its navy to maintain its commercial preeminence around the globe**
- **commercial advantage**
- **oceanic trade**

2. Write one way that capital was made productive in Britain.

Any one from:
- **profits in agriculture were shifted to investment in industry**
- **the wealth of merchants was redistributed throughout the economy**
- **long-term financing began to be preferred to short-term investments**

3. What aspect of the banking system in Britain helped people in different parts of the country to trade with each other?

regional banks began to use private London banks as correspondents

4. What was the main source of capital for industry in Britain? *either/or:* **relatives/neighbors**

Task 2 – Answers to Text B - (6 points)

5. Why did industrialisation in continental Europe have to depend mainly on domestic markets?

because of Britain's competitive advantage (on world markets)

6. What resources were industrialized regions able to gain from regions with agrarian-based economies?

raw materials

7. How did the French Revolution affect France's position in international trade?

it eliminated France as a competitor for overseas trade

8. What were the two most important reasons for industrial growth in France after 1815? (2 points)

a. **skilled workers' steady application of traditional methods**
b. **the construction of railroads on a national plan**

9. Write **one** negative social effect of industrialisation that the French managed to avoid.

either/or: **poverty / homelessness**

Task 3 (6 points)

There are a number of important reasons why Britain industrialised more quickly than its neighbour France. First of all, Britain's major energy source, (10) _____***coal***_______, was more plentiful and more efficient than (11) _____***wood***_____, which France relied upon. Secondly, industrial centres around Britain's coalfields grew much more quickly than the ones in France because they were located near deposits of (12) **iron (ore)**, and next to (13) **waterways / canals / rivers**, which made transportation easier and cheaper. In France, this was not the case. For a number of reasons, including its (14) **slow(er)** population growth, France relied much more on a(n) (15) **agrarian(-based) /rural / agricultural** workforce for longer than Britain did, which also affected its rate of industrialisation. Finally, the type of institution that organized larger financial investments was different. Britain's industrialisation was organized through the (16) **banks**, which used money productively within the economy. In contrast, France depended more on money from the (17) **government / state**, which was less efficient in its use of capital.

Text A

The Industrial Revolution in Britain

1. The Industrial Revolution was a continuous period of economic growth and change in Europe that was brought about by the application of mineral energy and technological innovations to the process of manufacturing. It took place during the century between 1750 and 1850, although different industries moved at different paces and sustained economic growth continued until the First World War. It occurred first in Britain, resulting both from national conditions and historical developments. When industrialisation spread to mainland Europe, it took hold—as it had in Britain—in regions where mineral resources were abundant or where domestic manufacturing was a traditional activity. However, these two factors never combined so effectively in any one mainland European country as they did in Britain.

2. Among Britain's natural advantages for industrialisation, water was foremost. Water was its best defense, protecting the island from foreign invasion and **Q1 making it unnecessary to invest in a costly standing army.** / **Q1 Instead, Britain was able to invest heavily in its navy to maintain its commercial preeminence around the globe**. The navy protected British interests in times of war and transported British goods in times of peace. Britain's position in the Asian trade made it the leading importer of cottons, ceramics, and teas. Its colonies, especially in North America, not only provided sugar and tobacco, but also formed a rich market for British manufacturing.

3. But the **Q1 commercial advantages** that water brought were not confined to **Q1 oceanic trade**. Britain was favored by an internal water system that tied inland communities together in the eighteenth century, no place in Britain was more than 70 miles from the sea or more than 30 miles from a navigable river. Water transport was far cheaper than hauling goods overland; a packhorse could carry 250 pounds of goods on its back but could move 100,000 pounds by walking alongside a river and pulling a boat. Considering this advantage, it is not surprising that river transport was one of the principal interests of merchants and traders. Beginning in the 1760s, private businesses began to invest in the construction of canals, first to move coal from inland locations to major routes and then to connect the great rivers themselves. Over the next 50 years several hundred miles of canals were built by authority of Navigatian Acts, which allowed for the sale of shares to raise capital. In 1760 the Duke of Bridgewater (1736—l803) lived up to his name by completing the first great canal. It brought coal to Manchester and ultimately to Liverpool. It cost more than £250,000 and took 14 years of labor to build, but it repaid the duke and his investors many times over by bringing an uneconomical coalfield into production. Not the least of the beneficiaries were the people of Manchester, where the price of coal was halved.

4. Coal was the second of Britain's natural features important for industrialisation. Britain's reserves of wood had nearly run out by the eighteenth century, especially those near centers of population. Coal had been in use as a fuel for several centuries, and the coal trade between London and the northern coal pits had been essential to the ever-increasing population of the capital. Coal was abundant, much of it almost at surface level along the northeastern coast and easily transported on water. The location of large coalfields along waterways was a vital condition of its early use. As canals and roadways improved, more inland coal was brought into production for domestic use. But it was in industry rather than in the home that coal was put to its greatest use. Here again Britain was fortunate since large deposits of coal were located near large deposits of iron. At first this coincidence was of little consequence because iron was smelted by charcoal made from wood and iron foundries were located deep in forests. But ultimately iron-makers learned to use coal for fuel, and then the natural economies of having minerals, fuel, and transport in the same area were fully exploited.

5. However, the factors that contributed to industrialisation were not only those of natural advantage. Over the course of years, Britain had developed an infrastructure for economic advancement that had attracted a sizeable workforce to many of Britain's cities. So the transformation from domestic handicrafts to industrial production was made possible not only by the inventiveness of the manufacturers but, crucially, by the availability of this growing pool of urban labour. Of equal importance in the development of Britain's economic infrastructure was the abilities of Britain's merchants. The markets for domestic manufacturing were largely overseas, where British merchants had built up relationships over generations. Export markets were vital to the success of industrialisation as production grew dynamically and most ventures needed a quick turnaround of sales to reinvest their profits in continued growth. The flexibility of private English trading houses could be seen in their ability to shift from re-exporting Eastern and North American goods to exporting British products. Equally important, increased production meant increased demand for raw materials: Swedish bar iron for casting, Egyptian and American cotton for textiles, and Oriental silk for luxuries. The expansion of shipping matched the expansion of the economy, tripling during the eighteenth century to over 1 million tons of cargo capacity.

6. The expansion of shipping, agriculture, and investment in machines, plant, and raw material all required capital. Not only did capital have to exist, but it had to be exploited. **Q2 Profits in agriculture**, especially in the south and east, **were shifted to investment in industry in the north and west**. / **Q2 The wealth of merchants**, which flowed into London, **was redistributed throughout the economy.** More importantly, **Q2 long-term financing began to be preferred to short-term investments**. At the end of the seventeenth century, the creation of the Bank of England had begun the process of constructing a reliable banking system. The Bank of England dealt almost entirely with government securities, but it also served as a bill broker. It bought the debts of reputable merchants at a discount in exchange for Bank of England notes. Bank of England notes could then be exchanged between merchants, and this increased the liquidity of the English economy, especially in London. It also became the model for provincial banking by the middle of the eighteenth century.

7. Private family banks also grew in importance in London, handling the accounts of merchants and buying shares in profitable enterprises, of which the canals were a favorite. **Q3 Regional banks** smaller and less capitalized, **began to use these private London banks as correspondents,** that is, as extensions of their own banks in the city. This allowed local manufacturers and city merchants to do business with one another. The connections between the regional banks and London facilitated the flow of capital from one section of the nation to the other. In 1700 there were just 12 provincial banks; by 1790 there were nearly 300. Although the banking system was vital to large enterprises, in fact the **Q4 (capital for most industry was raised locally from) relatives and neighbors,** and grew by putting back profits into the business. At least at the beginning, manufacturers were willing to take risks and to work for small returns to ensure the survival and growth of their business.

Text B

The Industrial Revolution in France

1. Although Britain took the first steps along the road to an industrial economy, it was not long before other European nations followed. There was intense interest in the 'British miracle'. European ministers, entrepreneurs, even heads of state visited British factories in hope of learning the key industrial secrets that might lead to prosperity in the new age. But Britain's early start made it very difficult for other nations to compete against British commodities in the world market. This meant that European industrialisation would be directed mainly towards home markets, where taxes and

import quotas could protect the emerging industries. Although European states were willing to import vital British products, they placed high taxes on British-made consumer goods and encouraged domestic production. **Q5 <u>Britain's competitive advantage (on the world markets)</u>** meant that European governments became much more involved in the industrialisation of their countries than the government had in Britain, financing capital-intensive industries, supporting the railroads, and favoring the establishment of factories

2. European industrialisation was therefore not as sudden as it was in Britain. In France it was a slow, gradual process that took advantage of traditional skills and occupations, and relied on the less efficient use of capital in the form of government-backed projects. In Germany, industrialisation had to overcome the political divisions of the empire, the economic isolation of its smaller states, as well as the wide dispersion of vital resources. Regions rather than states industrialized in the early nineteenth century, and parts of Austria, Italy, and Spain imported machinery and techniques and modernized their traditional crafts. But most of these states and most of the eastern part of Europe remained tied to a traditional agrarian-based economy that provided neither labor for industrial production nor purchasing power for industrial goods. These areas quickly became sources for **Q6 <u>raw materials</u>** for their industrial neighbors.

Industrialisation without Revolution

3. The experience of France in the nineteenth century demonstrates that there was no single path to industrialisation. French industrialisation was concerned with domestic rather than export markets and with the application of new technology to a wide variety of traditional crafts. The French profited, as did all of the continental states, from British inventions, but they also benefited from the distinct features of their own economy. France possessed a pool of highly skilled and highly productive labor, a manufacturing tradition oriented toward the creation of high-quality goods, and consumers who valued taste and fashion over cost and function. Thus, while the British dominated the new mass market for inexpensive cottons and cast-iron goods, the French were producing luxury items.

4. Two decisive factors determined the nature of French industrialisation: population growth and the French Revolution. From the early eighteenth to the mid-nineteenth centuries, France grew slowly. In 1700, the French population stood at just under 20 million; in 1850 it was just under 36 million, a growth rate of 80 percent. In contrast, Germany grew 135 percent, from 15 to 34 million, and England 300 percent, from 5 to 20 million, during the same period. Nevertheless, France remained the most populous nation in western Europe, second on the continent only to Russia. There is no simple explanation for France's modest population growth. The French had been hit particularly hard by economic crises in the seventeenth century, and there is reliable evidence that the rural population consciously attempted to limit family size by methods of birth control as well as by delaying marriages. As late as the 1860s, a majority of French workers were farmers. Whatever the cause of this moderate population growth, its consequences were clear. France was not pressured by the force of numbers to abandon its traditional agricultural methods, nor did it face a shortage of traditional supplies of energy. Except during crop failures, French agriculture could produce enough to meet French needs, and there remained more than enough wood for domestic and industrial use.

5. The consequences of the French Revolution of 1789 are less clear. Throughout the eighteenth century, the French economy performed at least as well as the British, and in many areas better. French overseas trade had grown spectacularly well until its military defeat in the Seven Years' War (1756—63), which ended the period of expansion. French agriculture steadily increased output, while French rural manufacturing flourished. A strong tradition of a close-knit business community still dominated urban industries, and although it restricted competition and limited growth, it also helped maintain the standards for the production of high-quality goods that made French commodities so popular throughout the world. The Revolution disrupted every aspect of economic life. Some of its outcomes were unforeseen and unwelcome. For example, Napoleon's Continental System, which attempted to close European markets to Britain, resulted in a shipping war, which the British won decisively and which **Q7 <u>eliminated France as a competitor for overseas trade</u>** in the mid-nineteenth century. But other outcomes were the result of direct policies, even if their impact could not have been entirely predicted. Urban business associations and corporations were abolished, opening trade to newcomers but destroying the close-knit groups that trained skilled artisans and introduced innovative products. Similarly, the break-up of both feudal and common lands to satisfy the hunger of the peasantry had the effect of maintaining a large rural population for decades.

6. Despite the efforts of the central government, there had been little change in the techniques used by French farmers during the eighteenth century. French peasants forcefully held on to traditional rights that gave even the smallest

landholder a vital say in community agriculture. Landlords were usually absent and were in any case less interested in the organization of their estates than in the taxes that could be taken from them. As a result, French agriculture continued to be organized in its centuries-old patterns using traditional methods. Although it was able to supply the nation's need for food, it could not release large numbers of workers for purely industrial activity.

7. So French industrial growth was limited on the one hand by the relatively small numbers of workers who could engage in manufacturing, and on the other by the fact that a large portion of the population remained subsistence producers, cash-poor and linked only to small rural markets. Throughout the eighteenth century, the French economy continued to be regionally segregated rather than nationally integrated. The size of the state inhibited a highly organized internal trade, and there was little improvement of the infrastructure of transportation. Although some British-style canals were built, it must be remembered that canals in Britain were built to move coal rather than staple goods and France did not have much coal to move. Manufacturing concerns were still predominantly family businesses whose primary markets were regional rather than international. Roads that connected the short distances between producers and consumers were of greater importance to these producers than major routes that served the markets of others. Similarly, there was no national capital market until the mid-nineteenth century, and very few regional ones. French producers were as thrifty and profit-oriented as any others, but they found it more difficult to raise the large amounts of capital necessary to purchase the most expensive new machinery and build the most up-to-date factories. Ironworks, coal mines, and railroads, the three capital intensive ventures of industrialisation, were funded either by government subsidy or by foreign investment.

8. All these factors determined the slow, steady pace of French industrialisation. Recovery after 1815 was uneven. British inventors, manufacturers, and entrepreneurs were invited to France to demonstrate new machinery and industrial techniques with limited results, but in most cases the real engine of growth was **Q8** <u>**skilled workers' steady application of traditional methods**</u>. By 1820, only 65 French factories were powered by steam engines, and even water-powered machinery was uncommon. Industrial firms remained small and were frequently a combination of putting-out and factory production. It was not until mid-century that sustained industrial growth became evident. This was largely the result of **Q8** <u>**the construction of railroads on a national plan**</u>, financed in large part by the central government. Whereas in Britain the railways took advantage of a national market, in France they created one. They also gave the essential stimulation to the modernization of the iron industry, in which much refining was still done with charcoal rather than coke; of machine making; and of the capital markets. Imported steel and foreign investment were vital ingredients in a process that took several decades to produce effective results.

9. Although it was late in its economic transformation, France was compensated for a time by the conventional practices of protectionism. Except in specialty goods, agricultural produce, and luxury products, French goods could not compete with either British or German commodities. If France had maintained its position as a world trader, this comparative disadvantage would have been very serious. But defeat in the wars of commerce had led to a drawing inward of French economic effort. Marseille and Bordeaux, lively centers of European trade, declined in importance in the nineteenth century. But the internal market was still strong enough to support economic growth, and domestic commodities could be protected by prohibitive tariffs, especially against British textiles, iron, and, ironically, coal.

10. While France achieved industrialisation without an industrial revolution, it also achieved economic growth within the context of its traditional values. Agriculture may not have modernized, but the ancient village communities escaped the devastation that modernization would bring. The orderly progression of generations of farming families characterized rural France until the shattering experiences of the Franco-Prussian War (1870) and the First World War (1914–18). Nor did France experience **Q9** <u>**poverty**</u> and **Q9** <u>**homelessness**</u> often associated with the rapid growth of new cities, which was so familiar to Britain. Slow population growth reduced the worst of the social diseases of industrialisation, while traditional rural manufacturing softened the transformation of a way of life. If France did not enjoy the economic rewards of the Industrial Revolution, neither did it suffer the destructive effects of it.