

Name:

Date:

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### **Final Comprehensive Essay- Document-Based Question Technology**

This question is based on the accompanying documents. It is designed to test your ability to work with historical documents. Some of these documents have been edited for the purposes of this question. As you analyze the documents, take into account the source of each document and any point of view that may be presented in the document.

**Historical Context:** Throughout history, changes in technology have had a great influence on society. Development of the **printing press**, **steam-powered machinery**, and the **atomic bomb** had a major impact on specific societies and the world.

**Task:** Identify *two* of the technological changes mentioned in the historical context and for *each*

- Explain how the new technology changed the existing technology
- Discuss the impact of this new technology on a specific society *or* the world

Medieval Scriptorium



Source: [www.hrc.utexas.edu/exhibitions/permanent/gutenberg/2a.html](http://www.hrc.utexas.edu/exhibitions/permanent/gutenberg/2a.html)

#### **Document 1b**

##### **The Book Before Gutenberg**

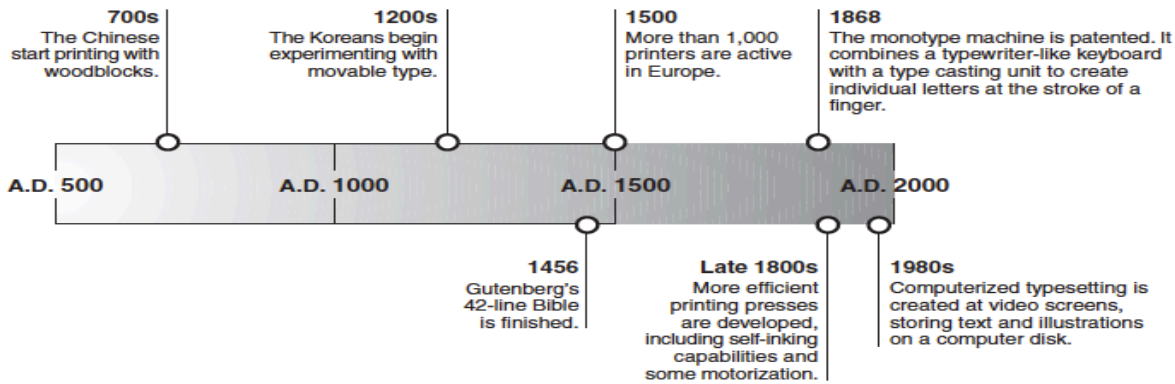
The earliest books were written on scrolls. From the Second Century A.D. to the present time, however, most books have been produced in the familiar codex format—in other words, bound at one edge. During the Middle Ages, manuscript books were produced by monks who worked with pen and ink in a copying room known as a scriptorium. Even a small book could take months to complete, and a book the size of the Bible could take several years. . . .

Source: [www.hrc.utexas.edu/exhibitions/permanent/gutenberg/2a.html](http://www.hrc.utexas.edu/exhibitions/permanent/gutenberg/2a.html)

#### **Documents 1a and 1b**

- 1 According to these documents, how were books made before the development of the Gutenberg press?

## Document 2



Source: Stephen Krensky, *Breaking Into Print, Before and After the Invention of the Printing Press*, Little, Brown and Company, 1996 (adapted)

- 2 Based on this document, state *two* advances in printing technology that took place between 500 and 2000.

## Document 3

... Gutenberg's methods spread with stunning rapidity. By 1500 an estimated half million printed books were in circulation: religious works, Greek and Roman classics, scientific texts, Columbus's report from the New World. An acceleration of the Renaissance was only the first by-product of the Gutenberg press. Without it, the Protestant movement might have been stillborn [failed], as well as the subsequent political and industrial revolutions. Gutenberg, however, got none of the glory. His brainchild [idea] bankrupted him; the year his Bible was published, a creditor took over his business. Little more is known of the inventor — in part because he never put his own name into print. . . .

Source: Robert Friedman, ed., *The Life Millennium: The 100 Most Important Events & People of The Past 1,000 Years*, Time, 1998

- 3 Based on this document, state *two* effects of Gutenberg's invention.

## Document 4

### Woman Spinning



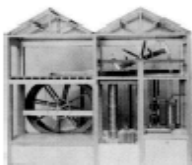
Source: *The Costume of Yorkshire*, Richard Jackson, Publisher

- 4 According to this document, what technology was used in cloth production in the early 1700s?

## Documents 5a and 5b

### Invention

### Description



**Improved steam engine**  
(James Watt)

Improved version of steam engine that used coal rather than water power. First used to pump water from mines and to forge iron. By the late 1780s, powered machines in cotton mills.

Source: Ellis and Esler, *World History: Connections to Today*, Prentice Hall, 1999 (adapted)

### Power Loom Weaving



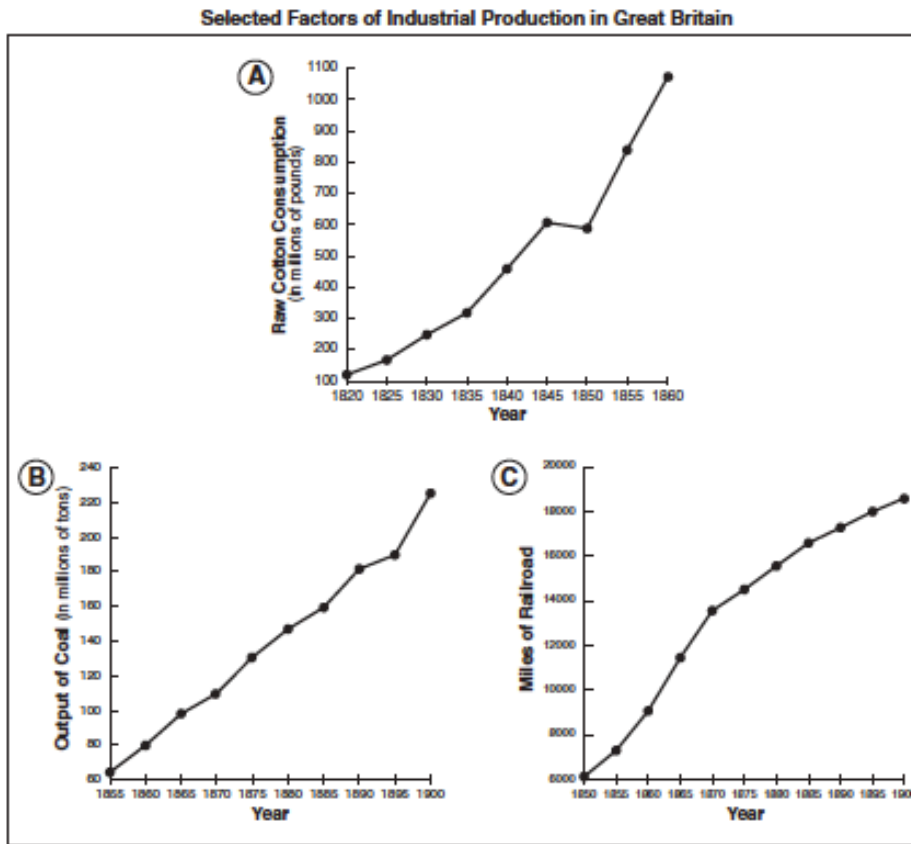
Drawn by T. Allom

Engraved by J. Tingle

Source: Edward Baines, *History of the Cotton Manufacture in Great Britain*, Fisher, Fisher, and Jackson, 1835 (adapted)

- 5 According to these documents, how did the steam engine promote the growth of the factory system?

Document 6



Source: Brian Mitchell, *Abstract of British Historical Statistics*, Cambridge University Press, 1962 (adapted)

6 What do these graphs imply about the effect of steam-powered machinery on industrial production in Great Britain?

Document 7

This is an excerpt from a tape-recorded conversation of Kathleen Brockington in August 1994.

**Kathleen's Story  
Bombed out in the London Blitz, 1940**

... When the bomb dropped I wasn't even under the table! I heard the plane and recognised it was a Jerry (that's what we called them) [Germans] because I'd heard so many. There was a tremendous BANG! and I ducked. All the windows came in and the ceiling and a couple of walls came in and there was incredible smoke everywhere. I was shaking like a leaf but I wasn't hurt.

I tried to get out but the door was stuck and I had to climb through where one of the windows had been. I could see there were lots of houses affected, glass everywhere in the street so I knew it was a big'un.

I ran to the Air Raid Post but the Warden said "look missus, we're gonna be busy digging bodies out, if you've got a roof you're better off where you are. There's lots worse off than you". Funnily enough he was wrong: about 50 houses were badly damaged and a couple of them just turned into heaps of rubble, but nobody was actually killed. . . .

Source: <http://timewitnesses.org/english/blitz.html> (adapted)

7 Based on this document, state *one* effect of the bombing of London by German planes.

**Document 8**

... In both cities the blast totally destroyed everything within a radius of 1 mile from the center of explosion, except for certain reinforced concrete frames as noted above. The atomic explosion almost completely destroyed Hiroshima's identity as a city. Over a fourth of the population was killed in one stroke and an additional fourth seriously injured, so that even if there had been no damage to structures and installations the normal city life would still have been completely shattered. Nearly everything was heavily damaged up to a radius of 3 miles from the blast, and beyond this distance damage, although comparatively light, extended for several more miles. Glass was broken up to 12 miles.

In Nagasaki, a smaller area of the city was actually destroyed than in Hiroshima, because the hills which enclosed the target area restricted the spread of the great blast; but careful examination of the effects of the explosion gave evidence of even greater blast effects than in Hiroshima. Total destruction spread over an area of about 3 square miles. Over a third of the 50,000 buildings in the target area of Nagasaki were destroyed or seriously damaged. The complete destruction of the huge steel works and the torpedo plant was especially impressive. The steel frames of all buildings within a mile of the explosion were pushed away, as by a giant hand, from the point of detonation. The badly burned area extended for 3 miles in length. The hillsides up to a radius of 8,000 feet were scorched, giving them an autumnal appearance. . . .

Source: "The Atomic Bombings of Hiroshima and Nagasaki," Manhattan Engineer District, United States Army, June 29, 1946

**Document 8**

**8 Based on this document, state two effects of the atomic bombings on Hiroshima and Nagasaki.**

**Documents 9a and 9b**

**Nuclear Countries – November 2002**

Declared Nuclear States	Estimates of Nuclear Weapons Stockpiled
United States	10,640
Russia	8,600
China	400
France	350
United Kingdom	200
Israel	100–200
Pakistan	24–48
India	30–35
North Korea*	1–2

Source: Natural Resources Defense Council (NRDC), 2002 (adapted); \*Bulletin of Atomic Scientist, 2003

**Countries with Nuclear Power Reactors in Operation or Under Construction – December 2002**

Argentina	Finland	Korea, Republic of	Slovenia
Armenia	France	Lithuania	South Africa
Belgium	Germany	Mexico	Spain
Brazil	Hungary	Netherlands	Sweden
Bulgaria	India	Pakistan	Switzerland
Canada	Iran	Romania	Ukraine
China	Japan	Russian Federation	United Kingdom
Czech Republic	Korea, Dem. Peoples Rep. of	Slovakia	United States

Source: "Nuclear Technology Review," International Atomic Energy Agency (IAEA), 2003 (adapted)

**9 Based on these charts, state two ways countries have used nuclear technology.**