**Lecture 1/Chapter 1 Catalysts for change**

**review**

1. Three early aids to manual calculating are:

Abacus, tablet

1. Demand for mechanical calculators increased tremendously in America in the late 19th Century due to the increase in size of -------------------- and ------------------

Government and ???

1. How did the adoption of mechanical calculators in offices changed the profession of bookkeeping?

Decreased wages

1. The need of department store owners in the late 19th century to create detailed sales records and minimize embezzlement by employees led to the invention of

Cash registers

1. A series of inventions led to the creation of the electronic digital computer shortly after this war: **---------------------------**

WWII

1. In the 1960s the invention of **----------------------------**  allowed multiple people to interact more-or-less simultaneously with a single computer.

Timesharing

1. In the first half of the 20th century, AT&T used vacuum tubes to construct amplifiers that made long distance telephone calls possible. AT&T funded research to develop a semiconductor replacement to the vacuum tube. What was the result of that research?

Transistor

1. In 1957 eight key employees of Shockley Semiconductor left to form their own company. That company was **------------------------------**

Fairchild

1. A single semiconductor device containing transistors, capacitors, and resistors is called **--------------------------**

Integrated Circuit

Video (5 minutes)

<http://www.youtube.com/watch?feature=player_detailpage&v=uSRIc-sEgPw&list=PL98AEF3CD6A34614F>

1. In 1964 IBM announced the System/360, a series of 19 compatible computers. What advantage do compatible computers have for a business wishing to upgrade its systems: ----------------------------------

Software reuseability

Computer output and programming (5 minutes)

<http://www.youtube.com/watch?v=JiF2V2cHGnE&list=PL98AEF3CD6A34614F>

1. An integrated circuit that can be programmed to perform a wide variety of tasks is called a **==================**

Microprocessor

1. What two significant developments made personal computers more attractive to businesses in the late 1970s and early 1980s? -------------------, ------------------.

Spreadsheets, open architecture

1. By 1870 fire alarm boxes were in use in 75 major cities in the United States. Which popular communications technology enabled the creation of these alarm boxes? ------------------------

Telegraph

1. Which device resulted in the creation of the first “on-line” communities? --------------------------.

Telephone

1. What is the name of the first commodity personal computer with a graphical user interface (GUI)?

Apple Macintosh

GUI versus command line (3.5 minutes)

<http://www.youtube.com/watch?v=D-yHV26DvnY&list=PL98AEF3CD6A34614F>

1. The two most popular applications of the Internet are **----------------** and **--------------------------------**

Email and WEB

1. Devices used in the generation, storage, manipulation, exchange, and dissemination of data, including text, sound, and images, fall into the category of --------------------------- technology.

Information

Short answers

1. Give two examples of how a social pressure or need led to the development of a new information technology. Give two examples of how the adoption of a new information technology changed society.
2. Describe three ways in which the widespread adoption of the telephone changed society.