



Concours GE2I/GMEC/AMCPE session 2015

Composition : Anglais 2

Durée : 2 Heures



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SCIENCE AND TECHNOLOGY IN MODERN SOCIETY

About 200 years ago the pace of technological change in western society began to quicken. Wind, water, and animal power, with their limitations of place and capacity, were supplemented and then replaced by the steam engine, which went on to power the factories of the industrial revolution. The railroad made it possible to move things and people quickly over great distances. The telegraph and, later, the telephone carried communications across the countryside. Electric lighting supplanted the dim glow of candles, kerosene, and gas lights.

By the beginning of the twentieth century, the notion of progress was closely linked with technological development, and that linkage intensified in the following decades. The automobile and the airplane changed not only travel but the nature of our cities and towns. Radio and then television brought more of the outside world into everyone's homes. Knowledge about the causes of diseases brought new treatments and preventive measures. Computers appeared, and soon the transistor made them smaller, more powerful, more accessible, and cheaper.

Today, the system by which research and development leads to new products is fundamentally different than it was in the nineteenth century. To the role of the individual inventor has been added the power of organized scientific research and technological innovation. Organized research and development, which are increasingly international in character, have greatly increased the production of new knowledge. Deeper understanding of living organisms is leading toward cures of diseases once thought untreatable. Basic insights in materials science enable the development of structures that are lighter, stronger, and more durable than anything available before. The computer and novel modes of communication, such as optical fibers, bring new, interactive modes of work and more capable machinery. These new devices and new ways of working, in turn, speed the growth and dissemination of new knowledge.

The accumulation of scientific knowledge and new technologies has transformed human life. Technologies have helped provide many—though far from all—people with standards of warmth, cleanliness, nutrition, medical care, transportation, and entertainment far beyond those of even the wealthy two centuries ago. They have also presented us with difficult questions about how to use science and technology most effectively to meet human needs.

The rapid rate of material progress can continue, but it is not inevitable. The extent to which the products of science and technology are useful depends on the needs of society. Each of the four areas discussed in this chapter—industrial performance, health care, national security, and environmental protection—uses these products in different ways. Progress is more likely if we understand these differences. Only then can we effectively translate scientific and technical understanding into the techniques, tools, and insights that improve the quality of our lives.

Read the extracts and answer the questions based on the text. (Be brief and specific)

- a) Name the two boundaries that technology allowed mankind to cross and say why?
- b) What outstanding invention made the industrial revolution possible?
- c) What term is synonymous of progress?
- d) How did radio and television manage to bring the world into homes?
- e) What shows in the text that “necessity is mother of invention”?

VOCABULARY CHECK UP

1) Put the following words in the right order to make questions.

- a) an astronomical unit/ is/ between/ What/ the/ difference/ and a light-year/?
- b) is/ What /of light/ the speed/?
- c) consist of /the known universe/ does/ What/?
- d) do/ contain/ galaxies/ What/?
- e) during /occurs/ What /of nuclear fusion/ the process/?
- f) easily distinguishable/ two/ properties/ what/ are/ of stars/?
- g) the composition/ is / What/ the Sun / of/?
- h) it/ at its nucleus/ hotter/ Is /or/ on the Sun’s surface/?
- i) the characteristic properties/ What/ of/ a pure substance/ are
- j) between/ is/ What/ physical change and chemical change/ the difference/?

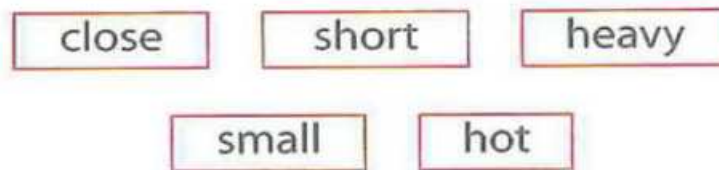
2) Complete this table and then the text below with the correct word or expression

	Noun	Verb	Company/ Person
1	generation	.....	.....
2	transmission	.....	.....operator
3	sales	.....	.....
4	.....	to distribute	.....
5	.....	to regulate	.....
6	.....	to liberalize	This case must be left blank
7	supply	.....	.....

In European countries where the energy market has been liberalized, many energy customers are not pleased with the results of this (8).....process. They claim there are no real benefits. They see energy companies making large profits, firstly through the (9).....of power and then as grid operators when they charge outside companies high grid fees for the (10).....of electricity through their networks. Many see (11).....as the answer as this should force companies to consider their prices. This will probably make it less profitable to (12).....the final customer with electricity and gas. Each company's overall (13).....volume is set to decrease as more firms enter the market.

LANGUAGE IN USE

- 1) Replace the words in bold with the correct form of comparative or superlative of the words in the box.



- a) Pluto is **bigger** than the Moon.
- b) Ceres is **the largest** dwarf planet in the asteroid belt.
- c) Mercury is **the farthest** planet to the Sun.
- d) An Earth day is slightly **longer** than a day on Mars.
- e) It is **colder** inside Neptune than on its surface.
- f) Jupiter is **the lightest** planet in the Solar system.

- 2) Choose the correct prepositions to complete the description.

My official job title is Business Sales and Marketing Director. I am responsible (a).....(of/for/by) sales (b).....(to/for/at) large and medium-sized companies. I have 10 regional sales managers working (c)(to/under/by) me. I used to be in charge (d).....(to/for/of) one of these regions myself, dealing directly (e).....(at/to/with) customers, but now I only look(f).....(for/after/at) four or five of our largest customers. My team comes (g)..... (in/to/at) London once a quarter for a sales meeting and we discuss (h).....(about/of/past) sales results and what our strategy will be for the next quarter. We try to focus (i)..... (with/on/by) keeping our existing customers loyal and increasing the volumes supplied to them. Last quarter we saw a small increase (j).....(of/by/in) sales.

- 3) Choose the correct form of the verb, singular or plural.

- a) Physics was / were my best subject in school.
- b) Can I borrow your scissors? Mine isn't / aren't sharp enough.
- c) Do you think that people is / are happy with the government?
- d) Gymnastics is / are my favourite sport.
- e) The trousers you bought for me doesn't / don't fit me.

4) **Change the following sentences from plural to singular.**

- a) What criteria did the scientists use?
- b) The formulae represent the molecular structures of the substances.
- c) The investigated phenomena are not frequent.
- d) The analyses of the results did not prove his hypotheses.
- e) Electrolysis is used for purifying certain metals.

5) **Join the two sentences into 1. Use who, that or which.**

- a) A girl was injured in the accident. She is now in the hospital.
- b) A building was destroyed in the fire. It has now been rebuilt.
- c) A bus goes to the airport. It runs every half hour.
- d) A man answered the phone. He told me you were away.
- e) A waitress served us. She was very polite.

6) **Write the numbers and symbols in bold in these sentences in full letters?**

- a) **2006** was the company's most profitable year since **1994**.
- b) I expect to be back in the country on **30 June**.
- c) **¾** of all our employees think the canteen food could be improved.
- d) Is this printer really only **£10.99**?
- e) Our new telephone number is **020 7921 3567**.
- f) The emergency telephone number in the UK is **999**. In the USA it's **911**.
- g) To access the information you require, press the **#** key, followed by the **0** key, and finally the ***** key.
- h) My email address is markbarrington@snailmail.co.uk.
- i) Liverpool won the match against Arsenal by **2:0**. In the match against Manchester United the following week, they drew **3:3**.
- j) **p²**