



# SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107



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## READING

### 4.1. COMPREHENSION

Reading comprehension is one of the pillars of the act of reading. **Reading comprehension** is the ability to read text, process it and understand its meaning. An individual's ability to comprehend text is influenced by their traits and skills, one of which is the ability to make inferences. If word recognition is difficult, students use too much of their processing capacity to read individual words, which interferes with their ability to comprehend what is read. There are a number of approaches to improve reading comprehension, including improving one's vocabulary and reading strategies.

Reading comprehension is an intentional, active, interactive process that occurs before, during and after a person reads a particular piece of writing. When a person reads a text he engages in a complex array of cognitive processes. It cannot occur independent of the two elements of the process. There are two elements that make up the process of reading comprehension: vocabulary knowledge and text comprehension.

#### REVIEW EXERCISE: Comprehension I

Men have never succeeded in keeping free from war in the past nor are they likely to do so in the future so long as they are organized in separate national states, each of which controls its own army, navy and air force and each of which is, therefore, able to plunge the world into war whenever the individual who happens to control the government believes, however wrongly, that he can obtain an advantage for himself and his country by so doing. Only some form of world government, which controls all the world's armed forces and against which no single nation or group of nations could wage war, since they would not have the wherewithal to do so can finally save the world from war.



Secondly, science, by accelerating man's speed of movement, has made the world into a single whole. Hence, any war which breaks out anywhere will destroy the whole of civilization and not merely some part of it, the part affected by the war, as has been the case in the past. That is why the new powers conferred upon men by science increasingly demand a world government, if they are not to result in man's destruction.

#### ANSWER THE FOLLOWING QUESTIONS:

1. According to the writer, wars are unavoidable because
  - a) The governments think they stand to gain some benefits out of these.
  - b) A dictator rightly thinks that wars are the only way he can prosper himself and help his country prosper.
  - c) Some nations possess vast military power and want to dominate others.
  - d) The world community is divided in national states and supposed national gains



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2. The need for a world government is all the more urgent in the modern age, because
  - a) Science has speeded up man's movements.
  - b) The nations are sick of so many wars and want peace.
  - c) Science, with its vast potential, will destroy the whole world in the absence of such a government.
  - d) A modern war, as in the past, would destroy the whole civilization.
3. Which one of the following statement is not true?
  - a) Wars generally take place due to selfishness and narrow nationalism.
  - b) In the past a war tended to destroy the whole civilization.
  - c) In case of a world government in control of the armed forces, no single will have the resources to start a war.
  - d) The choice before humanity is either a world government or total destruction.
4. The statement "since they would not have the wherewithal to do so" at the end of the first paragraph, means:
  - a) They would not have any reason to do so.
  - b) They would have no control over the army, navy and air force.
  - c) They would have no encouragement to do so.
  - d) They would not possess the resources to do so.
5. Which one of the following would be the most suitable title for the passage?
  - a) The need of a world government.
  - b) Wars are unavoidable.
  - c) Science and civilization.
  - d) Science and the modern world.

### Comprehension 2:

Since its birth in the middle of the 19th century, the women's rights movement has taken root and spread throughout the world. In many countries women have fought for the right to vote, the right to work, the right to be educated to the limit of their capacities, the right to own and dispose off property and equal right within marriage. The cause has penetrated world government via the United Nations which in 1946 set up a special commission to study the world wide status of women and make recommendations to be the social and economic council on ways of improving it. UNESCO too assessed the advancement of women by seeking to involve them in educational and cultural programmes.

In addition, a multitude of women's organizations exist in individual countries to further, at national and international levels, the eradication of remaining areas of discrimination. Through their affiliation with international feminist bodies they are in touch with women's activities and achievements in all the parts of the world.



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However, with half the world's populations still illiterate, there is great disparity in what has been and is still to be achieved. At one end of the scale, women's rights' workers are still pressing for elementary education; at the other for the removal of early protective legislation, which is now felt to be discriminatory because it denies women certain freedoms, for example, the right to work at night if they so choose. Nevertheless, despite the fact that the women's movement has progressed unevenly and with varying degree of success in different places, women in general are emerging from chattel down and taking their place beside men as free and equal citizens.

- What is the aim of the women's rights' movement?
- How far has this movement succeeded in achieving its aim?
- How is the movement being sustained?
- Why are the women's rights' workers pressing for removal of protective legislation?
- Why is the progress of the feminist movement uneven and has affected its success.

### EXERCISE - I

Read the passage and answer the questions that follow it:

Space is a dangerous place, not only because of meteors but also because of rays from the sun and the other stars. The atmosphere again acts as our protective blanket on earth. Light get through, and this is essential for plants to make the food we eat. Heat, too, makes our environment tolerable and some ultraviolet rays penetrate the atmosphere. **Cosmic rays** of various kinds come through the air from outer space, but enormous quantities of radiation from the sun are screened off. As soon as men leave the atmosphere they are exposed to this radiation but their spacesuits or the walls of their spacecraft, if they are inside, do prevent a lot of radiation damage.



Radiation is the greatest known danger to explorers in space. Doses of radiation are measured in units called *rems*. We all receive radiation here on earth from the sun, from cosmic rays and from radioactive minerals. The *normal* dose of radiation that we receive each year is about 100 millirems.

(0.1 rem); it varies according to where you live, and this is a very rough estimate. **Scientists have reason to think** that a man can put up with far more radiation than this without being damaged; the figure of 60 rems has been agreed. The trouble is that it is extremely difficult to be sure about radiation damage. A person may feel perfectly well, but the cells of his or her sexorgans may be damaged, and this will not be discovered until the birth of (deformed) children or even grandchildren.

Early space probes showed that radiation varies in different parts of space around the earth. It also varies in time because, when great spurts of gas shoot out of the sun (solar flares), they are accompanied by a lot of extra radiation. Some estimates of the amount of radiation in space, based on various measurements and calculations, are as low as 10 rems per year, others are as high as 5 rems per hour.



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Missions to the moon (the Apollo flights) have had to cross the Van Allen belts of high radiation and, during the outward and return journeys, the Apollo 8 crew accumulated a total dose of about 200 millirems per man. It was hoped that there would not be any large solar flares during the time of Apollo moon walks because the walls of the LEMS (lunar excursion modules) were not thick enough to protect the men inside, though the command modules did give a reasonable protection. So far, no dangerous doses of radiation have been reported, but the Gemini orbits and the Apollo 8 missions have been quite short. We simply do not know yet how men are going to **get on** when they spend weeks and months outside, the protection of the atmosphere, working in space laboratory or in a base on the moon. Drugs might help to decrease the damage done by radiation, but no really effective ones have been found so far. At present, radiation seems to be the greatest physical hazard to space travelers, but it is impossible to say just how serious the hazard will **turn out to be** in the future.

*i) Choose the response which best reflects the meaning of the text:*

1. Scientists have fixed a safety level of
  - a) 10 rems per year
  - b) 60 rems per year
  - c) 100 millirems per year
  - d) 5 rems per hour
2. The spacemen were worried about solar flares when they were
  - a) crossing the Van Allen belts
  - b) setting up a moon base
  - c) exploring the surface of the moon
  - d) waiting in the command module.
3. When men spend long periods in space how will they protect themselves?
  - a) by taking special drugs
  - b) by wearing special suits
  - c) by using a protective blanket
  - d) no solution has been found yet
4. Which of the following is true?
  - a) the grandchildren of astronauts are deformed
  - b) the children of astronauts have damaged sex organs
  - c) radiation damage may show only in later generations
  - d) radiation does not seem to be very harmful

*ii) Choose the definition which best fits these words or phrases as they are used in the text*

1. Cosmic rays
  - a) rays from outer space
  - b) sunbeams
  - c) ultraviolet rays
  - d) rays from spacecraft
2. Scientists have reason to think



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- a) Scientists are right to think. b) Scientists have evidence to suggest.....  
c) Scientists need to think ..... d) Scientists are certain.....
3. Get on  
a) mount b) walk c) survive d) advance
4. Turn out to be  
a) change b) harm c) remain d) prove

**iii) Look at the passage and decide whether the following statements are true or false :**

1. The atmosphere screens off the earth from excessive radiation.
2. Everyone on earth is exposed to exactly the same amount of radiation.
3. Solar flares are not dangerous.
4. Space is a dangerous place because it is not fully explored.
5. The Apollo 8 missions have been quite long in duration.
6. The drugs that have been found to decrease radiation are ineffective.
7. The greatest physical hazard to space travelers is remaining for long hours in space.
8. In space travel, space suits are absolutely necessary for the scientists.

### **EXERCISE – II**

**Read the following passage and answer the questions that follow it:**



Getting a chocolate out of box requires a considerable amount of unpacking the box has to be taken out of the paper bag in which it has arrived; the cellophane wrapper has to be torn off, the lid opened and the paper removed; the chocolate itself then has to be unwrapped from its own piece of paper. It is now becoming increasingly difficult to buy anything that is not wrapped in cellophane, polythene, or paper.

The package itself is of no interest to the people, who usually throw it away immediately. Useless wrapping accounts for much of the heap of the garbage in the streets. So why is it done? Some of it, like the cellophane on meat is necessary, but most of the rest is simply competitive selling. This is absurd. Packaging is using up resources and messing up the environment.

Little research is being carried out on the costs of alternative types of packaging. Just how possible is it, for instance, for local authorities to salvage paper, pulp it, and recycle it as egg - boxes? Would it be cheaper to plant another forest? Paper is the material most used for packaging - but very little is recycled.

A machine has been developed that pulps paper then processes it into packaging, e.g. egg - boxes and cartons. This could be easily adapted for local use. It would mean that people would have to



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separate their refuse into paper and non - paper, with a different dustbin for each. Paper is, in fact, probably the material that can be most easily recycled; and now, with massive increases in paper prices, the time has come at which collection by local authorities could be profitable.

Recycling of this kind is already happening with milk bottles, which are returned to the dairies, washed out, and refilled. But both glass and paper are being threatened by the growing use of plastic. More and more dairies are experimenting with plastic bottles. If all the milk bottles necessary were made of plastic, then British dairies would be producing the equivalent or enough plastic tubing that would encircle the earth every five or six days!

The trouble with plastic is that it does not rot. Some environmentalists argue that the only solution to the problem of ever growing mounds of plastic containers is to do away with plastic altogether in the shops, a suggestion unacceptable to many manufacturers who say there is no alternative to their handy plastic packs.

More research is needed for the recovery and re - use of various materials and for the cost of collecting and recycling containers as opposed to producing new ones. Unnecessary packaging, that is used just once, can be avoided. But it is not so much a question of doing away with packaging as using it sensibly. What is needed now is a more sophisticated approach to packaging. Let it be simplified to a considerable extent to minimize land pollution.

***i) Choose the response which best reflects the meaning of the text:***

1. The *local authorities* are
  - a) the Town Council
  - b) the police
  - c) the paper manufacturers
  - d) the most influential citizens
2. If paper is to be recycled
  - a) more forests will have to be planted
  - b) the use of paper bags will have to be restricted
  - c) people will have to use different dustbins for their rubbish
  - d) the local authorities will have to reduce the price of paper
3. British dairies are
  - a) producing enough plastic tubing to go round the world in less than a week.
  - b) giving up the use of glass bottles
  - c) increasing the production of plastic bottles
  - d) re-using their old glass bottles
4. The environmentalists think that
  - a) more plastic packaging should be used



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- b) plastic is the most convenient form of packaging
  - c) too much plastic is wasted
  - d) shops should stop using plastic containers
5. The author thinks that
- a) the function of packaging is not important
  - b) people will soon stop using packaging altogether
  - c) not enough research has been done into the possibilities of recycling
  - d) the cost of recycling is so great that it is better to produce new materials than use old ones
- ii) Say whether the following statements are true or false**
- 1. Too many products nowadays are wrapped in unnecessary packaging
  - 2. The countryside is being spoilt by the over production of packaging
  - 3. It is possible to use paper again.
  - 4. The rising price of paper will make it worthwhile for local authorities to collect waste - paper.
  - 5. Plastic is difficult to destroy.
- iii) Choose the meaning or explanation which best fits the context in which it is used**
- 1. *confined*
    - a) used for      b) restricted to.      c) needed for.      d) suited to
  - 2. *accounts for*
    - a) makes up      b) compensates for      c) is recovered from      d) is kept out of
  - 3. *So why is it done*
    - a) Why do people buy things they don't need?
    - b) Why is so much wrapping thrown away?
    - c) Why do the shops try to sell things people don't want?
    - d) Why is so much unnecessary wrapping used?
  - 4. *messing up*
    - a) spoiling      b) altering      c) improving      d) poisoning
  - 5. *recycled*
    - a) reduced      b) reproduced      c) re - used      d) retailed
  - 6. *handy*
    - a) attractive      b) easy to hold      c) convenient      d) easy to destroy



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### ***EXERCISE - III***

***Read the text given below and answer the questions that follow:***

#### **GOLD**



Mankind's fascination with gold is as old as civilisation itself. The ancient Egyptians esteemed gold, which had religious significance to them, and King Tutankhamum was buried in a solid - gold coffin 3500 years ago. The wandering Israelites worshipped a golden calf, and the legendary King Midas asked that everything he touched be turned into gold.

Not only is gold beautiful, but it is virtually indestructible. It will not rust or corrode; gold coins and products fabricated from the metal have survived undamaged for centuries. Gold is extremely easy to work with; one ounce, which is about the size of a cube of sugar, can be beaten into a sheet nearly 100 square feet in size, and becomes so thin that light passes through it. An ounce of gold can also be stretched into a wire 50 miles long. Gold conducts electricity better than any other substance except copper and silver, and it is particularly important in the modern electronic industry.

People have always longed to possess gold. Unfortunately, this longing has also brought out the worst in the human character. The Spanish conquistadores robbed palaces, temples, and graves, and killed thousands of Indians in their ruthless search for gold. Often the only rule in young California during the days of the gold rush was exercised by the mob with a rope. Even today, the economic running of South Africa's gold mines depends largely on the employment of black labourers who are paid about £ 40 a month, plus room and board, and who must work in conditions that can only be described as cruel. About 400 miners are killed in mine accidents in South Africa each year, or one for every two tons of gold produced.

Much of gold's value lies in its scarcity. Only about 80,000 tons have been mined in the history of the world. All of it could be stored in a vault 60 feet square, or a super tanker.

Great Britain was the first country to adopt the gold standard, when the Master of the Mint, Sir Isaac Newton, established a fixed price for gold in 1717. But until the big discoveries of gold in the last half of the nineteenth century - starting in California in 1848 and later in Australia and South Africa - there simply wasn't enough gold around for all the trading nations to link their currencies to the precious metal.

An out - of - work prospector named George Harrison launched South Africa into the gold age in 1886 when he discovered the metal on a farm near what is now Johannesburg. Harrison was given a £12 reward by the farmer. He then disappeared and reportedly was eaten by a lion.





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One of the big gold - mining areas in the Soviet Union is the Kolyma River region, once infamous for its prison camp. The camp has gone, but in a way nothing has changed. Many ex - prisoners have stayed on to work in the mines and are supervised by ex - guards.

Despite the current rush to buy gold, 75 percent of the metal goes into jewellery. Italy is the biggest user of gold for this purpose, and many Italian jewellers even tear up their wooden floors and burn them to recover the tiny flecks of gold.

Historically, the desire to hoard gold at home has been primarily an occupation of the working and peasant classes, who have no faith in paper money. George Bernard Shaw defended their instinct eloquently: 'You have to choose between trusting to the natural stability of gold and the natural stability of the honesty and intelligence of the members of the Government', he said, 'and with due respect to these gentlemen, I advise you ..... for gold'.

**i) Write the response which best reflects the meaning of the text:**

- One of the disadvantages of the gold is that
  - it loses its shape too easily
  - it is easy to destroy
  - it is expensive to mine
  - it is of no use in industry
- Gold has always been considered a precious metal because
  - money is made of it
  - it is rare
  - a small quantity goes a long way
  - it is of no use in industry
- During the days of the gold - rush in California
  - people had to mark out their gold claims with rope
  - people carried rope instead of guns
  - hanging was a common form of punishment
  - rope was the symbol of law and order
- After the big gold discoveries in the late nineteenth century
  - most nations adopted the gold standard
  - the trading nations were unable to get enough gold
  - gold coins were used by most nations
  - gold ceased to be an important metal
- The gold standard is
  - the average price of gold on the world market



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- b) a basis of determining the value of currency
  - c) the amount of gold required by a nation before its currency can be convertible
  - d) a means of determining the quality of gold
6. George Bernard Shaw thought that
- a) the members of the government were honest and intelligent
  - b) the value of gold was likely to change unexpectedly
  - c) one could place more faith in gold than in politicians
  - d) gold was more valuable than paper money

**ii) State whether the following statements are true or false:**

- 1. Gold was of no use to the Egyptians.
- 2. It is extremely difficult to destroy gold.
- 3. Gold is a poor conductor of electricity.
- 4. Gold mining is dangerous.
- 5. Before the big gold discoveries in the nineteenth century nobody was interested in gold.
- 6. Harrison made a fortune from his discovery of gold.

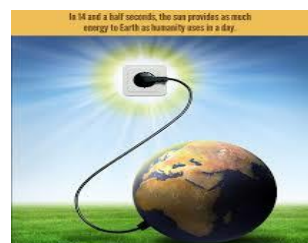
**iii) Choose the definition which best reflects the meaning of the word as it has been used in the text:**

- 1. *esteemed*  
a) valued      b) worshipped      c) produced      d) needed
- 2. *corrode*  
a) be eaten away      b) melt      c) change colour      d) loose shape
- 3. *ruthless*  
a) hopeless      b) needless      c) heartless      d) useless
- 4. *stability*  
a) constancy      b) value      c) function      d) scarcity

### EXERCISE - IV

**Read the passage and answer the questions following it:**

- I. Almost all the energy that living things make use of comes from the sun. The chief exception is the gravitational pull of the earth itself, and of the moon upon the waters of the earth. The sun gives out enormous quantities of energy in the form of radiation.
- II. The energy given out by the sun is created by the process nuclear fusion. Fusion means *joining together*. The



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process is nuclear fission, meaning *splitting apart* or *dividing*. If either fission or fusion takes place quickly, the result is a great and sudden release of energy - an explosion, in fact. Both kinds of nuclear event can be created on earth but so far the only one that can be slowed down and controlled is fission.

III. Nuclear fission is the splitting of the nucleus of an atom. Only a few elements are suitable for use in this way, the most important one being Uranium - 235, Uranium 233 and Plutonium - 239. When the nucleus of one of these elements is struck by a free neutron it breaks down into two lighter nuclei which fly apart at high speed, colliding with surrounding atoms. Their kinetic energy is converted into heat energy. At the same time, two or three free neutrons are released and one of them enters the nucleus of a neighbouring atom, causing fission to occur again; and so on. The reaction spreads very quickly, with more and more heat energy released and this is called a *chain* reaction because the splitting of each nucleus is linked to another, and another and another.

IV. If the reaction takes place in an atomic bomb, where nothing is done to slow it down, the result is a violent explosion that can destroy a town in a few seconds. Fission can, also, however, take place within a construction called a nuclear reactor, or atomic pile. Here the highly fissile material (U-235, U - 233, Pu - 239) is surrounded by a substance that is non - fissible, for instance graphite. This material is called a moderator. The neutrons lose some of their energy and speed through colliding with the atoms of the moderator. Energy - heat energy - is still created on an enormous scale, but no expansion takes place. The moderator has another function by slowing down the speed of the free neutrons, it makes it more likely that one of them will collide with the nucleus of a neighbouring atom to continue the chain reaction.

V. The chief advantage of nuclear energy is that it does not depend on any local factors. A nuclear reactor, unlike an oil coalmine does not have to be sited on top of a fossil unlike the solar energy unit, it does not have to go production when the sun is not shining; unlike hydro power, it does not depend on a large flow of water be reduced during some seasons of the year. With an power station, the only limiting factor is that of



not depend - well or a - fuel source; out of - electric which may atomic safety.

VI. In the opposite process, nuclear fusion, two nuclei come together to form a new nucleus of a different kind and this process also releases energy on an enormous scale. Fusion can only occur under conditions of very great heat - at least, 50,000,000 degrees Celsius. A fusion reaction on earth has already been created, - the hydrogen bomb. This is an uncontrolled reaction. It is not yet possible to produce a controlled fusion reaction that can be used for the production of useful energy

i) **Read the text and match the headings with the relevant paragraphs:**

**Column A**

**Column B**



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- |   |               |
|---|---------------|
| i) Uncontrolled and moderate nuclear reaction | Paragraph I   |
| ii) The advantages of nuclear energy          | Paragraph II  |
| iii) Fission and fusion                       | Paragraph III |
| iv) The nuclear fission chain reaction        | Paragraph IV  |
| v) Energy from the sun                        | Paragraph V   |

**ii) Complete the following sentences by selecting the most suitable one from the options listed:**

- i) The aim of a nuclear reactor is
  - 1) to establish a controlled chain reaction
  - 2) to absorb neutrons travelling at a particular speed
  - 3) to cause a rapid chain reaction in order to release the greatest amount of energy
- ii) Destructive weapons can be obtained from
  - 1) nuclear fusion
  - 2) nuclear fission
  - 3) both nuclear fission and nuclear fusion.
- iii) One of the functions of a moderator is
  - 1) to speed up the nuclear reaction
  - 2) to slow down the speed of free neutrons
  - 3) to slow down the splitting of an atom
- iv) A violent nuclear explosion can destroy a whole town
  - 1) within a few hours
  - 2) within a few minutes
  - 3) within a few seconds
- v) Nuclear fission gets repeated
  - 1) when a group of neutrons enter the nucleus of the adjoining atom
  - 2) when one of the neutrons enters the nucleus of the adjoining atom
  - 3) when two or three neutrons go away from the adjoining atom.

**iii) Read the following statements and state whether they are true or false.**

- i) The hydrogen bomb is a good example of nuclear fission.
- ii) A few elements alone are suitable for use as nuclear fuels.
- iii) Nuclear energy depends upon the supply of fossil fuels.



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- iv) An atomic power supply can supply the same quantity of energy throughout the year
- v) A hydro - electric power station can be built anywhere.
- vi) The sun's energy is released by the process the nuclear fusion.

### **EXERCISE - V**

**Read the passage and answer the questions following it.**

Half a century after the world's nuclear industries accumulating radioactive waste, not a single country has found a safe, permanent way to dispose of it, according to a new report from the World Watch Institute.

Most government authorities argue that geologic burial - packing radioactive waste hundreds of metres deep in the earth's crust - is the safest long - term option for irradiated fuel rods and other *high - level* waste, the report notes.

Yet scientists still heatedly debate the possibility of disturbance of the waste by ground water movement, geological activity, or human intervention. The salt rooms at the Waste Isolation Pilot Plant (WIPP) in New Mexico for example, were expected to be dry, but brine seeps through the walls. This corrosive ground water could eat away steel containers and create a radioactive slurry that wends its way into a nearby aquifer.

*In 1975, the United States planned to open a high - level waste burial site by 1985, the target date slipped to 1989, than to 1998, 2003 and recently to 2010 - a goal that now appears unrealistic given technical problems and the vehement opposition of the State of Nevada. In 1990, for example, scientists discovered that volcanic activity could resume before Yucca mountain's intended stockpile of radio active waste cools down. Meanwhile, cost estimates have soared past \$36 billion" says author Nichols Lenssen, Research Associate at the Washington, D.C. based research organization.*

In France, large protests in 1989 and 1990 forced the then Prime Minister Michel Rocard to impose a nation wide moratorium on studying radioactive waste burial grounds. The government launched a new attempt to explore sites in 1991, but no decision on a final burial will be made for at least 15 years.



*In Germany, continuing technical problems and protests render current plans to bury waste by 2008 unrealistic, Lenssen notes. Ground water is actively eroding the Gorleben salt dome, the primary focus of government researchers. Political opposition to waste burial plans mirrors the uproar that recently quashed efforts to build other nuclear facilities.*

*Sweden has perhaps the lest controversial waste programme, thanks*



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*in part to the country's decision to phase out nuclear power. It has won international praise for planning to rely on a system of redundant engineering barriers rather than simply deep burial. Nevertheless, the country's nuclear planners still face technical uncertainties and public opposition to potential burial sites*

In the Soviet Union, attempts to site waste repositories have faced increasing public resistance since the Chernobyl accident. And the emerging governments of the Soviet republics appear reluctant to press waste disposal plans. A 1990 Russian Parliament law prohibits burial of radioactive wastes from other Soviet republics or foreign countries.

**i) Complete the following sentences by selecting the most suitable one from the options listed.**

1. World's nuclear industries make
  - a) accumulating radioactive wastes.
  - b) disposal of industrial wastes.
  - c) filtering of industrial wastes.
  - d) reuse of radioactive wastes.
2. As per WIPP
  - a) brine comes into walls.
  - b) brine clears the passage .
  - c) brine seeps through the walls.
  - d) brine does not suit any condition.
3. The government launched
  - a) to explore sites in 1991.
  - b) to deal sites in 1992.
  - c) to extract sites in 1993.
  - d) to entrap sites in 1991.
4. Internal praise for planning rather than
  - a) mild burial
  - b) simply deep burial
  - c) ordinary burial
  - d) well developed burial
5. To avoid increasing public resistance the disposal plans by
  - a) Sweden
  - b) France



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- c) Germany
- d) Soviet Union

**ii) Read the following statements and state whether they are true or false**

- 1) Special methods already existed to dispose off wastes permanently.
- 2) The safest long - term option is for irradiated fuel rods
- 3) Prime Minister Michel Rocard does not impose nation wide moratorium
- 4) Government Researchers will give secondary focus for waste disposal.
- 5) Nuclear planners face technical uncertainties and public opposition to potential burial sites.
- 6) Government of Soviet does not appear to press waste disposal plans.

**iii) Read the text and match the headings with the relevant paragraphs :**

Column A	Column B
1) accumulate	-act
2) burial	-adding
3) intervention	-image
4) seepage	-act of intervening
5) slurry	-slow flow of a liquid
6) mirror	-awatery mixture.

### EXERCISE - VI

**Read the passage and answer the questions following it:**

Is language, like food, a basic human need without which a child at a critical period of life can be starved and damaged? Judging from the drastic experiment of Frederick II in the thirteenth century, it may be. Hoping to discover what language a child would speak if he heard no mother tongue, he told the nurses to keep silent.



All the infants died before the first year. But clearly there was more than language *deprivation* here. What was missing was good mothering. Without good mothering, in the first year of life especially, the capacity to *survive* is seriously affected.

Today, no such drastic deprivation exists as that ordered by Frederick. Nevertheless, some children are still *backward* in speaking. Most often the reason for this is that the mother is insensitive to the cues and signals of the infant whose brain is programmed to *mop up* language rapidly. There are critical times, it seems when children learn more readily.



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If these sensitive periods are neglected, the ideal time for acquiring skills passes and they might never be learned so easily again. A bird learns to sing and to fly rapidly at the right time, but the process is slow and hard once the critical stage has passed

Linguists suggest that speech milestones are reached in a fixed sequence, and at a constant age, but there are cases where speech has started late in a child who eventually turns out to be of high IQ (Intelligence Quotient). At 12 weeks, a baby smiles and utters vowels - like sounds : at 12 months, he can speak simple words and understand simple commands; at 18 months, he has a vocabulary of 3 to 50 words. At 3, he knows about 1,000 words which he can put into sentences, and at 4, his language differs from that of his parents in style rather than grammar.

Recent evidence suggests that an infant is born with the capacity to speak. What is special about man's brain, compared with that of the monkey, is the complex system which enables a child to connect the sight and feel of, say , a teddy - bear with a sound pattern “teddy - bear”. And even more incredible is the young brain's ability to pick out an order in language from the hubub of sounds around him, to analyse, to combine and recombine the parts of a language in novel ways.



But speech has to be triggered, and this depends on the interaction between the mother and the child, where the mother recognizes the cues and signals in the child's babbling, clinging, grasping, crying, smiling and responds to them. Insensitivity of the mother to these signals dulls the interaction because the child gets discouraged and sends out only the obvious signals. Sensitivity to the child's non - verbal cues is essential to the growth and development of language.

*i) Choose the response which best reflects the meaning of the text.*

1. Frederick - II's experiment was *drastic* because
  - a) he wanted to prove that children are born with the ability to speak.
  - b) he ignored the importance of mothering to the infant.
  - c) he was unkind to the nurses
  - d) he wanted to see if the children would die before they reached the age of one.
2. The reason some children are backward in speaking today is that
  - a) they do not listen carefully to their mothers.
  - b) their brains have to absorb too much language at once.
  - c) their mothers do not respond to their attempts to speak.
  - d) their mothers are not intelligent enough to help them.
3. By *critical times* the author means
  - a) difficult period, in a child's life.





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- b) moments when the child becomes critical towards its mother.
  - c) important stages in child's development
  - d) times when mothers often neglect their children.
4. If the mother does not respond to her child's signals
- a) the child will never be able to speak
  - b) the child will stop giving out signals.
  - c) the child will invent a language of its own
  - d) the child will make little effort to speak.

### ii) State whether the following statements are true or false

- 1) Children are slow to begin speaking if their mothers do not respond to the noises they make.
- 2) By the age of a year and a half the child's vocabulary is still under 100 words.
- 3) By the age of four, children still make grammatical mistakes.
- 4) The author does not believe that children select and analyse their language.

### iii) Choose the definition which best fits these words or phrases as they are used in the text.

- 1. deprivation
  - a) inability      b) removal      c) need      d) disturbance
- 2. survive
  - a) learn      b) live      c) communicate      d) overcome
- 3. backward
  - a) inaccurate      b) shy      c) slow      d) undeveloped
- 4. mop up
  - a) absorb      b) analyse      c) understand      d) develop

### EXERCISE – VII

Read the following text carefully and answer the questions that follow it:

[AU, Jan – 2006]



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The 20<sup>th</sup> century has witnessed a great scientific revolution. Its magnitude is very much greater than the industrial revolution or the biological revolution witnessed upto the end of the 19<sup>th</sup> century. In the fields of physical and natural sciences and engineering and technology there has been tremendous developments in the 20<sup>th</sup> century, great strides have taken place in the fields of atomic and space research. The old theory of indivisibility of atom was exploded. That the atom could be split has been demonstrated. This had led to great developments, On the one hand, there has been the making of atomic weapons. On the other hand, atomic energy has been put to constructive purposes. A number of atomic power stations have been constructed. Atomic energy has been used to drive ships. Efforts are also on to make it feasible to use atomic energy in automobiles. Space research has developed in leaps and bounds. The moon has been brought nearer the earth. Rockets and space- crafts have been launched into the space in an effort to get data about the other – solar planets. Speculations are on for building interstellar spacecrafts.

There has been significant development in the fields of communication and electronics. Wireless and satellite communication have brought societies and nations very close. Within an instant, the message could reach across thousands of miles. The electronic media has become a boon to the society from the points of view of education and entertainment.

The progress in the field of chemistry has resulted in proliferation of all kinds of industries. Especially of use to the human society is the contribution of chemistry to agriculture. The production of fertilizers and pesticides has the way for more production of food items. The subject of metallurgy has become a developing science. Further, the most significant developments of this field of science is that it has become inter disciplinary in nature. The application of chemistry to the medical and biological study is noteworthy.

Similarly, rapid development has been noticed in sciences also. Besides the new methods of producing and fertilizers and pesticides, new scientific methods of managing crops have come up. The development in research has grown so much that new insights have been the study of various systems in living organisms. More increased bio-products for consumption have come into Genetic engineering is now at the threshold of bringing another significant revolution in life style. The study of plants and animals in relation to the environment is developing into another major useful science.



natural  
using  
raising and  
genetic  
obtained in  
and more  
existence.  
about

The great development in engineering and technology has resulted in the invention of numerous machines that make life easy for human beings. Revolution in the transport system, especially the introduction of the supersonic aviation has made world a global village. Besides the household gadgets,



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the robots are being introduced not only for domestic purposes, but also for industrial purposes. That is, more efficient work at the least possible time is now being promised. The introduction of computing machines has revolutionized all aspects of life. From the medical to the academic world, the computers have become the most reliable factor in the diagnosis and interpretation of diseases and problems.

All the great developments in the physical sciences, natural sciences and engineering and technology have contributed to a more comfortable life. Efficiency in work is almost ensured. Saving of human energy from drudgery has been achieved. In short a magnificent revolution has taken place in human life because of scientific developments in the 20<sup>th</sup> century.

**i) Choose the most appropriate synonym which conveys the meaning of the word from the context of the text.**

1 magnitude

- a) importance      b) size      c) quality      d) development

2 constructive

- a) construction      b) useful      c) critical      d) simple

3 proliferation

- a) development      b) production      c) to increase in number  
d) to get doubled in number

4 threshold

- a) beaten track      b) door way      c) building      d) starting point.

5 promised

- a) assured      b) given      c) spoken      d) taken.

**ii) State whether the following statements are true or false.**

- 1) Industrial revolution took place in the 20<sup>th</sup> century.
- 2) Rockets and space- crafts have been used for travel
- 3) Societies have become closer because of wireless and satellite communication system.
- 4) Science has become interdisciplinary in nature.
- 5) Genetic engineering can never bring another revolution in life style.
- 6) Medical diagnosis has become more reliable because of computers.

**iii) Choose the response which best reflects the meaning of the text.**

1 The word *this* in the 1<sup>st</sup> paragraph refers to

- a) Newton's theory      b) the theory that atom cannot be split  
c) the fact that atom can be split.      d) atomic research.



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- 2 The progress in the field of chemistry has helped in
  - a) the development of many types of industries.
  - b) the progress of space research.
  - c) the innovations in communications field.
  - d) the increase of computers.
- 3 The introduction of the supersonic aviation has made
  - a) life easier for every one.
  - b) our world a bigger one.
  - c) our world a smaller one
  - d) our world a healthy one.
- 4 The word *this* in the third paragraph refers to
  - a) the field of natural science.
  - b) the field of electronics.
  - c) the field of metallurgy
  - d) the field of genetic engineering
- 5 The developments in genetic research have provided
  - a) new dimensions in the study of living organisms.
  - b) new outlook to science
  - c) new names to living organisms.
  - d) new life to living organisms

### EXERCISE - VIII

*Read the following text carefully and answer the question that follow it*

*[AU, May/June – 2006]*

The launching of the first satellite by the Russians in 1975 began with what was known as the *space race*, the first stage of which culminated with the Americans landing on the moon twelve years later. A whole range of satellites now orbit the earth and are used for a variety of purposes.

Low **orbit satellites**, the typical height of from 150 to 450 kilometers, are of little use for telecommunications for they are only in line of sight of station for about 15 minutes. Their rotation period Earth is about one and a half hours and their main use sensing, a field in which digital processing techniques especially valuable. A low orbit satellite equipped with



which varies each earth around the is remote are proving a multi

spectral scanner system (MMS), can observe the Earth in great detail providing us with extremely accurate information about agriculture, forestry, water resources and pollution patterns. It also has a multitude of applications in such fields as weather forecasting, environmental monitoring, geology,



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oceanography and cartography. There are important defence implications too, since they can be used to spy on the activities of a potential enemy.

**Medium altitude satellites** are used for telecommunication especially in countries which cover a vast geographical area like the earlier USSR. They fly at a typical height of 9,000 to 18,000 kilometers, orbiting the Earth in a period of five to twelve hours. They are in line of sight of the earth station between two and four hours.

The most important type of satellite for telecommunication is the **geosynchronous or geostationary** satellite positioned over the equator at a height of 35,800 kilometers. Its rotation period is 24 hours, the same as the Earth's and consequently, seen from the earth. This type of satellite appears to remain motionless in the sky. It is within line of sight of an earth station for its entire life.



A communication satellite is in essence a microwave relay station which receives signals in a given frequency band and retransmits them at a different frequency to avoid problems of interference between the weak incoming signal and the powerful retransmitted signal. The equipment which receives a signal, amplifies it, changes its frequency and then retransmits it, is called a transponder. A satellite can handle large amounts of traffic which it can send over vast areas of the Earth. It therefore represents a relatively cheap way of transmitting information over long distances. For countries which do not already have sophisticated cable or microwave networks, the use of a satellite can be extremely beneficial as it can be used in their place.

The first satellite were seen as a way of communicating with people who lived in isolated areas of the world. As a result, earth stations began to appear in the remotest parts of the globe. The cost of satellite communication began to fall steadily and consequently, satellites have to compete with submarine cables as a way of linking continents cheaply. With the arrival of optical undersea cables, however a more balanced inter continental circuits between the two are likely. Satellites were soon used to broadcast TV programmes *live* from one side of the earth to the other and then to link up computer terminals in different parts of the world. The use of digital transmission and multiplexing techniques had led to an enormous increase in the capacity of satellites.

The international organization INTELSAT was created in 1964 to provide international communication services by satellite. In 1983 it operated and owned 16 spacecrafts in geosynchronous orbit representing an investment over three billion US dollars. In 1983 it handled two thirds of all international telephone and data communications and transmitted virtually all *live* international television broadcasts. 109 nations are members of INTELSAT. Between 1979 and 1983 INTELSAT's traffic doubled yet its communication charges decreased, despite a 73% rise in the world wide cost of living index during that period.



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**i) For each of the following, pick out the correct response from the options given, based on the passage.**

- 1 The main use of the low orbit satellite is
  - a) spying
  - b) remote sensing
  - c) weather forecasting
  - d) environmental monitoring
  
- 2 A communication satellite is better than other communication means, because
  - a) it is reliable
  - b) it is quick
  - c) it is cost-effective
  - d) it is sophisticated.
  
- 3 Communication satellite are not merely used for
  - a. broadcasting TV programmes *live* from one country to another
  - b. linking computer terminals all over the world.
  - c. sending messages from one part of the world to another.
  - d. spying defence installations of other countries.
  
- 4 Satellite communication was first used for
  - a. testing the advances in electronics
  - b) contacting people living in isolated areas.
  - b. improving relations between the nations.
  - d) reducing the cost of communication

**ii) Say, on the basis of the passage, if the following statements are true or false.**

- 1) Geosynchronous satellites are stationary and motionless.
- 2) Low orbit satellites can be seen by earth stations once in every 15 minutes.
- 3) Medium altitude satellites are positioned at a height of 9000 to 18000 *kms*.
- 4) A transponder strengthens the weak signals received from the earth.
- 5) International communication through satellites came into effect in 1983.
- 6) Optical fibre cables reduce the load on satellite communication.

**iii) Pick out from the passage, the single words that mean:**

- 1 reaching the highest point of some activity.
- 2 possible future effects or results.
- 3 exact



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- 4 as a result
- 5 to be all alone
- 6 act of getting in the path of something

### EXERCISE - IX

*Read the following text carefully and answer the questions that follow it*

*[AU, May/June – 2006]*



Centuries ago, man discovered that removing moisture from food helps to preserve it and that the easiest way to do this is to expose the food to sun and wind. In this way, the North American Indians produce pemmican (dried meat ground into powder and made into cakes), the Scandinavians make stock fish and the Arabs dried dates and *apricot leather*.

All foods contain water – cabbage and other leaf vegetables contain as much as 93% water, potatoes and other root vegetables 80%, lean meat 75% and fish anything from 80% to 60% depending on how fatty it is. If this water is removed, the activity of the bacteria which cause food to go bad is checked.

Fruit is sun-dried in Asia Minor, Greece, Spain and other Mediterranean countries, and also in California, South Africa and Australia. The methods used vary, but in general the fruit is spread out on trays in drying yards in the hot sun. In order to prevent darkening, pears, peaches and apricots are exposed to the fumes of burning sulphur before drying. Plums, for making prunes and certain varieties of grapes for making raisins and currants, are dipped in an alkaline solution in order to crack the skins of the fruit slightly and remove their wax coating, so increasing the rate of drying.

Nowadays most foods are dried mechanically. The conventional method of such dehydration is to put food in chambers through which hot air is blown at temperatures of about 110°C at entry to about 43°C at exit. This is the usual method for drying such things as vegetables, minced meat and fish.



Liquids such as milk, coffee, tea, soups and eggs may be dried by pouring them over a heated horizontal steel cylinder or by spraying them into a chamber through which a current of hot air passes. In the first case the dried material is scraped off the roller as a thin film which is then broken up into small, though still relatively coarse flakes. In the



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second process it falls to the bottom of the chamber as fine powder. Where recognizable pieces of meat and vegetables are required, as in soup, the ingredients are dried separately and then mixed.

Dried foods take up less room and weigh less than the same food packed in cans or frozen and they do not need to be stored in special conditions. For these reasons, they are invaluable to climbers explorers and soldiers in battle, who have little storage space. They are also popular with housewives because it takes so little time to cook them. Usually it is just a case of replacing the dried – out moisture with boiling water.

*i) Write the response which best reflects the meaning of the text*

- 1 The open-air method of drying food.
  - a. is the one most commonly used today.
  - b. was invented by the American Indians.
  - c. has been known for hundreds of years
  - d. tends to be unhygienic
- 2 Bacteria which cause food to go bad
  - a. cannot live in sunlight
  - b. are killed by drying
  - c. are in no way dependent on the water content.
  - d. have their activity greatly reduced by drying.
- 3 Fruit is sun dried
  - a. always by the same method
  - b. generally on trays
  - c. in every country in the world
  - d. by spreading it out under glass panels
- 4 Sulphur fumes are used before drying some fruits
  - a. to dry them more quickly.
  - b. to preserve their color.
  - c. to prevent the skin from cracking
  - d. to kill off bacteria
- 5 Powdered coffee is made.
  - a. by spraying the liquid over a cylinder.
  - b. in one of two different ways.





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- c. in the same way as minced meat
- d. by passing through a grinding machine.

- 6 If soup requires recognizable pieces of meat, they are
- a. treated separately.
  - b. allowed to fall to the bottom of the drying chamber.
  - c. mixed in later as a fine powder.
  - d. sold separately in sealed plastic bags.

**ii) State whether the following statements are True or False.**

- 1 The water content is greater in green vegetables than in lean meat.
- 2 Nowadays vegetables are most commonly dried on horizontal cylinders.
- 3 Dried foods are used by soldiers and climbers
- 4 House wives like dried foods because they taste better.

**iii) Choose the definition which best reflects the meaning of the word as it is used in the test.**

- 1 expose to
  - a) leave out in      b) protect from      c) open out      d) demonstrate to
- 2 stock fish
  - a) dried fish      b) salted fish      c) cooked fish      d) stored fish
- 3 checked
  - a) looked over      b) supervised      c) stopped      d) verified
- 4 prunes
  - a) dried sulphur      b) dried plums      c) types of grapes      d) fruit cuttings
- 5 dehydration
  - a) heating      b) airing      c) mechanization      d) drying
- 6 invaluable
  - a) worthless      b) inexpensive      c) very useful      d) free of charge

### **EXERCISE - X**

**Read the following passage carefully and answer the questions given at the end of it.**



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Professor Gavraud is an engineer who almost gave up his post at an Institute in Marseilles because he always felt ill at work. He decided against leaving when he discovered that the recurrent attacks of nausea only worried him when he was in his office at the top of the building. Thinking that there must be something in the room that disturbed him, he tried to track it down with devices sensitive to



various chemicals, and even with a Geiger counter, but he found nothing until one day just as he was about to give up, he leaned back against the wall. The whole room was vibrating at a low frequency. The source of this energy turned out to be an air-conditioning plant on the roof of the building across the way and his office was the right shape and the right distance from the machine to resonate in sympathy with it. It was this rhythm, at seven cycles per second, that made him sick.

Fascinated by the phenomenon, Gavraud decided to build machines to produce infra sound so that he could investigate it further. In casting around for likely designs, he discovered that the whistle with a pea in it issued to all French gendarmes produced a whole range of low-frequency sounds. So he built a police whistle six feet long and powered it with compressed air. The technician who gave the giant whistle its first trial fell down dead on the spot. A post-mortem revealed that all his internal organs had been mashed into a jelly by the vibrations.

Gavraud went ahead with his work more carefully and did the next test out of doors, with all observers screened from the machine in a concrete shelter. When all was ready, they turned the air on slowly \_\_\_ and broke the windows of every building within a half mile of the test site. Later they learnt to control the strength of the infrasound generator more effectively and designed a series of smaller machines for experimental work. One of the most interesting discoveries to date is that waves of low-frequency can be aimed and that two generators focused on a particular point even five miles away produce a resonance that can knock a building down as effectively as a major earthquake. These frequency –7 machines can be built very cheaply.

### a) Choose the correct answer

i) Professor Gavraud fell ill because

- |                                      |                                 |
|--------------------------------------|---------------------------------|
| (1) there were chemicals in his room | (2) his office was too high up  |
| (3) he was affected by vibrations    | (4) he was a very sensitive man |

ii) He constructed a very large copy of a police whistle because he wanted to

- |                                  |                                      |
|----------------------------------|--------------------------------------|
| (1) produce low-frequency sounds | (2) improve its design               |
| (3) compare it with an organ     | (4) see the effect it had on people. |

iii) The first experiment with the machine



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- |                                |  |
|--------------------------------|--|
| (1) caused a major earthquake  | (2) broke all the windows in nearby buildings. |
| (3) made a noise like an organ | (4) killed the man who switched it on.         |

iv) Which of the following precautions was not taken by Professor Gavraud in his second experiment?

- (1) The observers were protected by a concrete shelter.
- (2) The experiment was done outside.
- (3) The compressed air was turned on slowly.
- (4) A smaller machine was used.

**b) Mention whether the following statements are true or false**

- (i) Professor Gavraud left his job because he felt sick.
- (ii) The cause of the sickness was not in his room.
- (iii) The air-conditioning plant had nothing to do with his sickness.
- (iv) The result of the first trial was worrying.
- (v) He did his second test indoors.
- (vi) Later on he designed even bigger generators.

**c) Choose the appropriate definition for the given words or phrases as they are used in the text.**

(i) infrasound

- |                            |                           |
|----------------------------|---------------------------|
| (1) high frequency sound   | (2) low frequency sound   |
| (3) medium frequency sound | (4) heavy frequency sound |

(ii) to track down

- |                |                |
|----------------|----------------|
| (1) to smell   | (2) to detect  |
| (3) to examine | (4) to remove. |

(iii) to give up

- |                 |                 |
|-----------------|-----------------|
| (1) to go on    | (2) to stop     |
| (3) to collapse | (4) to find out |

(iv) turned out to be

- |                       |                        |
|-----------------------|------------------------|
| (1) was shown to be   | (2) was intended to be |
| (3) was thought to be | (4) was known to be    |

(v) casting around

- |                 |                |
|-----------------|----------------|
| (1) looking for | (2) hoping for |
|-----------------|----------------|



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- |                 |                 |
|-----------------|-----------------|
| (3) asking for  | (4) sending for |
| (vi) went ahead |                 |
| (1) delayed     | (2) proceeded   |
| (3) hurried     | (4) changed     |

### You Tube Links:

[http://www.youtube.com/watch?v=WRpXiqBRudI\\_](http://www.youtube.com/watch?v=WRpXiqBRudI_) (Reading Comprehension)

## 4.2. ARTICLES FROM MAGAZINES

### Animal conservation

Many animal and plant species have become extinct and many more are in critical danger. Finding ways to protect the earth's wildlife and conserve the natural world they inhabit is now more important than ever.

### Extinction

Extinction is a natural process. Many species had ceased to exist before humans evolved. However, in the last 400 years, the number of animals and plants becoming extinct has reached crisis point. Human population levels have risen dramatically in the same time period and man's predatory instincts combined with his ruthless consumption of natural resources are directly responsible for the situation.

### Dodo

The dodo is a classic example of how human behaviour can cause irreparable damage to the earth's biological diversity. The flightless dodo was native to the Island of Mauritius in the Indian Ocean. It lived off fruit fallen from the island's trees and lived unthreatened until humans arrived in 1505. The docile bird became a source of food for sailors and lacked the ability to protect itself from animals introduced to the island by humans such as pigs, monkeys and rats. The population of dodos rapidly decreased and the last one was killed in 1681.

### Endangered Animals

In 2002, many animals remain threatened with extinction as a result of human activity. The World Wildlife Fund works tirelessly to raise awareness of the predicament facing these animals and find ways to protect them. By focusing on a number of high profile, 'charismatic icons' such as the rhino, panda, whale and tiger, the WWF aims to communicate 'critically important environmental issues'. The organization's ultimate goal is to 'stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature'.

### Rhinos



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The rhino horn is a highly prized item for practitioners of Asian medicine. This has led to the animal being relentlessly hunted in its natural habitat. Once widespread in Africa and Eurasia, most rhinos now live in protected natural parks and reserves. Their numbers have rapidly decreased in the last 50 years, over half the remaining rhinos disappeared in the 1970s, and the animals remain under constant threat from poachers.

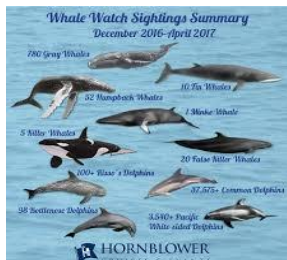
### The Giant Panda

The future of the WWF's symbol is far from certain. 1,000 remain in the wild, living in small isolated groups. have been cut off from each other as a result of and human expansion into their natural habitat. The Chinese has set up 33 panda reserves to protect these beautiful made poaching them punishable with 20 years in prison. panda's distinct black and white patched coat fetches a high black market and determined poachers still pose one of the threats to the animal's continued existence.



As few as These groups deforestation government animals and However, the price on the most serious

### Whales



The International Whaling Commission meets every year. The agenda covers ways to ensure the survival of the species and the complex problems arising from countries such as Japan, wishing to hunt certain whales for 'scientific' purposes. Despite the fact that one third of the world's oceans have been proclaimed whale sanctuaries, seven out of 13 whale species remain endangered. The plight of the North Atlantic Right Whale is particularly serious. Hunted for their rich supply of oil, their numbers have dwindled to just

300. Collisions with ships, toxic pollution and becoming entangled in fishing nets are other major causes of whale deaths.

### Tigers



The last 100 years has seen a 95% reduction in the numbers of remaining tigers to between 5,000 and 7,000 and the Bali, Javan, and Caspian tigers are already extinct. The South China tiger is precariously close to disappearing, with only 20–30 still alive. Like the rhino horn, tiger bones and organs are sought after for traditional Chinese medicines. These items are traded illegally along with tiger skins.

### Take Action



The WWF is actively involved in many areas of the world fighting to protect the natural habitats of endangered animals from further damage and



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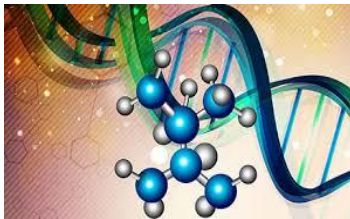
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curb the activities of poachers. They also work to influence governments and policy makers to introduce laws aimed at reducing the threat of pollution and deforestation. Our own individual efforts at home and in the workplace can also make a difference. By reducing waste and pollution, saving water, wood and energy, and reusing and recycling whenever possible, we can reduce the possibility of even more animals being lost, never to return.

### Biotechnology



the more modern developments which have started intense debate.

Nowadays in the news you can read a lot about biotechnology and the controversies about it and perhaps you ask yourself what it is exactly. Well, this article is going to give you a brief history of the field of biotechnology and show you that, although the word “biotechnology” was first used in 1919, we have been using biotechnology for many thousands of years in ways that are completely uncontroversial. It will also look at

### Beer and Cheese



above are all produced by the fermentation of micro-organisms. In beer, the yeast multiplies as it eats the sugars in the mixture and turns them into alcohol and CO<sub>2</sub>. This ancient technique was first used in Egypt to make bread and wine around 4000BC!

When you are drinking a cold beer on a hot day, or eating a delicious cheese sandwich, you can thank biotechnology for the pleasure you are experiencing. That’s right! Beer, bread and cheese are all produced using biotechnology. Perhaps a definition will be useful to understand how. A standard definition is that biotechnology (or biotech for short) is the application of science and engineering to the direct or indirect use of living organisms. And as you know, the food and drink

### Antibiotics



Antibiotics are used to prevent and treat diseases, especially those caused by bacteria. They are natural substances that are created by bacteria and fungi. The first antibiotic was made in China in about 500BC – to cure boils. In 1928 Alexander Fleming discovered penicillin and it was considered a medical miracle. Modern research is looking at the creation of super-antibodies which can kill bacteria and viruses inside the cells that house them.



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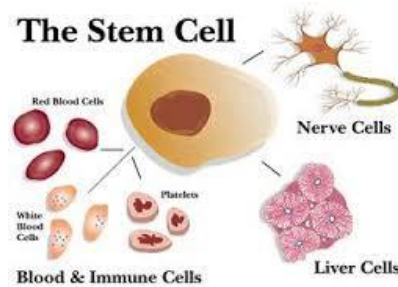


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### Cleaning up



Our modern consumer society produces a lot of waste which needs to be disposed of safely and without harmful end products. Environmental biotechnology can help. Indeed, the use of bacteria to treat sewage was first practised in 1914 in Manchester, England. Vermiculture or using worms to treat waste is another environmentally-friendly practise and the end product is a natural fertiliser. Bacteria have even been developed to help with problems such as oil spills. They convert crude oil and gasoline into non-toxic substances such as carbon dioxide, water and oxygen and help create a cleaner, healthier environment.

### Modern times

These examples of biotechnology are accepted by most people. However, the discovery of the DNA structure by Watson and Crick in 1953 was the beginning of the modern era of genetics and the following areas of biotech are very controversial. Read of.

### GM food

The genetic modification of plants and crops has been in practice for many years. This involves changing the genetic code of these plants so that they are more resistant to bad conditions like drought, floods and frost. Supporters of GM food say that it can offer the consumer better quality, safety and taste and for over a decade Americans have been eating GM food. However, things are very different in Europe where genetically modified food is very strictly regulated and regarded with deep suspicion by the public. GM food has even been called “Frankenfood” in the press, a term inspired by the novel Frankenstein by Mary Shelley. There is a great cultural divide between America and Europe over whether such food is safe to eat and will not harm the environment and the discussion is still in progress.

### Cloning and stem cell research

1997 saw the birth of Dolly the sheep, the first animal cloned from an adult cell. This was a remarkable achievement which created world-wide debate on the ethical issues surrounding cloning. International organisations such as the European parliament, UNESCO and WHO all declared that human cloning is both morally and legally wrong. However, we need to make a distinction between reproductive cloning and therapeutic cloning. Nowadays the idea of reproductive cloning – creating a copy of another person - is no longer interesting for researchers. Instead therapeutic cloning is creating excitement in the biotech world. Key to this technique are stem cells, which are master cells that have the potential to become any other kind of cell in the body e.g. nerve cells, blood, heart muscle or even brain cells. Stem cells themselves have generated a lot of controversy as it was believed that only human embryos could provide them. However, it now appears that adult stem cells offer the same possibility. This would mean that a patient who suffered a heart attack could provide doctors with his adult stem cells which could then



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be implanted back into his heart and used to create heart muscle, replacing the muscle that was damaged. As the genetic code is identical, there would be no problem of the body rejecting the implant as, unfortunately, happens with organ transplants. In the future, biotechnologists hope that stem cells could be used to grow entire organs. In this way biotechnology offers the hope of revolutionizing medical treatment.

In this brief overview of the history of biotechnology we have jumped from making bread to making human organs - an enormous leap- and it is clear that these modern practices raise many controversial issues. However, despite the debate, we can imagine that as biotechnology has been around for many years, it will still be around for some time to come - but who knows where it will take us?

When I was at school, our teacher told the class 'You are what you eat.' My friends and I would laugh and call each other 'hamburger' and 'biscuits'. Our teacher was trying to show us the importance of eating the right food to stay healthy.

This was a few decades ago when there were big campaigns to make British people healthier. We decided to throw out our chip pan which we had used until then to make chips every day for dinner. We replaced our chips with boiled potatoes. We also started using semi-skimmed milk instead of whole milk in our cups of tea and bowls of cornflakes. At first I felt like I was eating my cornflakes in water and my potatoes had no taste at all. But after a while I started to prefer healthier food because I felt stronger and I didn't get sick so often.

Japanese people are reputed to be the healthiest in the world because of the food they eat. The healthiest Japanese people eat rice and fish and vegetables every day. They drink green tea or water when they're thirsty, and snack on dried fish, fruit or ginkgo nuts. The traditional Japanese diet is famous for helping you to live a longer and healthier life.

So we have proof that you become what you eat. Can you tell what your friends eat just by looking at them? When you know the effects of different types of food, you can use your knowledge well and eat what you want to become.

Food has an impact on our physical and emotional health. Have you ever heard any of the following advice?

Lettuce or milk can make you sleepy.

To stop feeling sleepy you should eat peanuts or dried fish.

To keep your teeth clean you should eat apples often.

Garlic helps you not to catch a cold.

Everyone has their own advice to give, which they have read about or have been told by older relatives. Some of these pieces of advice seem to contradict each other.

Eating chocolate makes you fat and gives you spots.





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Chocolate contains the essential minerals iron and magnesium

What we need to figure out is what type of chocolate to eat to get the benefits and how much of it to eat. We can do this by reading the list of ingredients on the chocolate bar wrapper. Exactly how much real chocolate is in there? And how much of that do we need to eat to get the benefits of the minerals it contains?

Future restaurants might be named after the physical or emotional state they hope to create. Their menus will list the benefits of each dish and drink. Some restaurants have already started this concept, and list the nutritional content of their dishes on the menus.

Let's take the restaurant Winners as an example. Their menu would list dishes specifically designed to help you win sports competitions. There would be 'Night-before Vegetable Lasagne', a pasta dish with extra layers of spinach pasta for slow-burning energy, rich tomato sauce full of vitamin C and



soft, easy-to-digest vegetables. All this would be topped with a little fresh cheese – just enough to help you get a good night's sleep, but not enough to give you nightmares!

Or you could choose the 'Go-faster Salad', which is a large bowl of mixed raw vegetables in a light salad dressing, giving you energy without making you gain weight. The vegetables are carefully chosen to include plenty of natural vitamins and minerals.

What kind of dishes do you think would be on the menu at the Clever Café (which sells food that's good for your brain)?

So what's going to happen to hamburgers and biscuits? Will the concept of eating food because it's tasty go out of fashion? Of course not! Junk food is also changing. If ice cream is not good for children, can't we give them fat-free, sugar-free tofu ice cream? Unhealthy food is going out of fashion, so brands are changing. We are told not to drink cola because of the sugar and caffeine content so cola companies are making sugar-free and caffeine-free drinks. We are told dried fruit is a healthier snack than biscuits, so some biscuit companies are making biscuits with added vitamins. Snacks might soon be changing their names to 'Skinglow' and 'Chocomineral'! So in the future you might be able to eat your way to your idea of perfection!

## Superstitions

Superstitions can be defined as, "irrational beliefs, especially with regard to the unknown" (Collins English Dictionary)



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They cause us to act in strange ways, believe in odd things and leave us unable to explain the reasons why.

Many superstitions may seem silly, even stupid to us today, but they continue to influence our behaviour and many people would argue that there are in fact some very good reasons for avoiding black cats and walking around ladders.

### Common Superstitions Explained

In most cases, the reasons behind common superstitions can be traced back to medieval or even ancient times. They are quite often even more peculiar than the beliefs they attempt to explain.

Black cats are the source of literally hundreds of unlucky superstitions. It's a sign of bad luck if they walk in front of you. It's unlucky to step on their tails. They even bring bad luck into a house if they sneeze inside!



This unfortunate connection with misfortune dates back to the Middle Ages when they became associated with witches and were thought to harbour evil spirits.

There are very practical reasons for thinking twice before walking under a ladder, but a more mysterious explanation can be traced back to ancient Egypt. The early Egyptians believed that the shape of the Pyramids had a special power. It was considered very bad luck to break the 'power' of this shape and that's exactly what walking under a ladder would do!

In Roman times people had the habit of looking at their reflections in pools of water. Some believed that these reflections were in fact 'glimpses of the soul'. Any disruption to the water, such as a stone being thrown into the pool, would bring bad luck to the person looking in. This superstition lives on with the fear of bad luck from breaking a mirror.

### Group Superstitions

Certain groups of people involved with dangerous or unpredictable activities tend to be very superstitious indeed.

Actors: There are lots of Do's and Don'ts to be followed backstage in the theatre.

One of the biggest Don'ts concerns the name of Macbeth, one of Shakespeare's most famous plays. If anyone says the name backstage then the cast will have all sorts of unlucky problems and the show will certainly fail. Also, actors never wish each other, 'good luck' before a performance as it might have the opposite effect. It's safer to tell an actor heading for the stage to, 'break a leg'!



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**Sailors:** Long, dangerous journeys on wild and unpredictable oceans have made sailors very aware of lucky and unlucky signs. Bad luck is caused by stepping on board a ship with your left foot, starting a cruise on Friday and throwing stones into the sea. Good luck will follow a ship if there are dolphins swimming nearby or there is a naked woman on board! Think about the figureheads on old sailing boats with a naked woman at the front, calming the seas.

**Athletes:** The great Michael Jordan wore his old college shorts underneath his Chicago Bulls uniform for an extra bit of good fortune on the court and Tiger Woods favours wearing the colour red on Sundays for similarly superstitious reasons. Amateur golfers can have a successful day on the course if they start their round with odd numbered clubs and don't use balls with numbers higher than 4! It's also lucky to set out on a rainy day, but definitely not okay to borrow your partner's umbrella.

Football players don't let the side down and have numerous eccentricities of their own. West Hams' ex-player Paolo Di Canio always puts his shin pads on his left leg first. Steven Gerrard and the Liverpool players like to touch the, 'This is Anfield' sign in the tunnel on their way to the pitch, but nothing tops Chelsea's ex-player Eidur Gudjohnsen, who goes to the loo just after the warm up, kisses his shirt twice (for two goals) and says a prayer thanking God for his health and the health of his teammates as he runs onto the field!

### Global Superstitions

Finally, here are a few curious beliefs from around the world.

If you don't cover your bald head it will start raining. – Afghanistan

If you shave your head on a Saturday, you will be in perpetual debt. – Africa

You'll 'cut off' fortune if you use scissors on New Year's Day. – China

You shouldn't wash your hair the day before an exam. – Russia

If you go to the bathroom in the night with no clothes on, insects will fall on you. – Japan

What do you think of each article? Give a brief account of each of the article.

### Puzzle

**Can you find 4 hidden words**



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So let's see how long you take to find those 4 hidden words?

Can you solve this?

$$\text{Hourglass} + \text{Hourglass} + \text{Hourglass} = 90$$

$$\text{Hourglass} + \text{Heart} + \text{Heart} = 60$$

$$\text{Heart} - \text{Lightbulb} = 9$$

$$\text{Lightbulb} + \text{Hourglass} + \text{Heart} = ?$$