

E-WASTE

1. List the toxic chemicals found in e-waste.

A. The toxic chemicals from e-waste include lead, mercury, cadmium, chromium, poly brominated phenyls.

2. How many tons of e-waste is produced globally each year?

A. 40 million tons

3. What constitutes e-waste?

A. It refers to household items containing electrical components with either power or battery supply. It can also be referred to as unwanted, unusable electronic products such as computers, printers, phones, pagers, cameras, music players, T.V, etc..

4. Describe the health problems that may be caused by e-waste?

The disposal of e-waste is a problem because the electronic equipment contains hazardous substances like lead, mercury, cadmium, chromium, poly brominated phenyls. Among these lead is one of the most toxic substances which harm children easily. They create skin and respiratory disorders. Mercury poisoning causes brain damage. Exposure to these chemicals causes damage to the brain, nervous system, kidneys, liver and also causes birth defects. Due to the crude recycling process, many pollutants, such as persistent organic pollutants and heavy metals, are released from e-waste, which can easily accumulate in the human body through the inhalation of contaminated air.

5. Find out what environmental problems may result from poor e-waste management strategies.

A. Due to poor e-waste management a lot of damage is caused to the environment. Liquid and atmospheric releases end up in water bodies, ground water and soil. The chemicals are released into the environment and cause pollution. The toxic substances react with moisture and oxygen, they pollute the soil and make it unfit for construction. Developing countries face more environmental issues from e-waste unless e-waste is recycled properly.

6. "E-waste is not a serious problem in developing countries". Do you agree with this statement? Justify your views.

A. E-waste is not a serious problem in developing countries is absolutely wrong. Sales of electronic products in developing countries like China, India are said to rise sharply in the next 10 years. Unless e-waste recycling process is done in a regular manner, it results in serious consequences for the environment and public health. Due to poor e-waste management a lot of damage is caused to the environment. Liquid and atmospheric releases end up in water bodies, ground water and soil. The chemicals are released into the environment and cause pollution. China produces 2.3 million tons of e-waste annually. It remains a major dumping yard for the developing countries.

7. Suggest some measures that can be taken by government to manage e-waste.

A.1. Government must encourage research into the development and standard of hazardous waste management, environmental monitoring and the regulation of hazardous waste-disposal.

2. Government should enforce strict regulations against dumping e-waste in the country by outsiders.

3. Government should enforce strict regulations and heavy fines levied on industries, which do not practice waste prevention and recovery in the production facilities.

4. Government should encourage and support NGOs and other organizations to involve actively in solving the nation's e-waste problems.

5. It is necessary to establish e-waste management centres.

6. National cleaner production centers must be established.

7. Public awareness programs should be conducted.

CHILD LABOUR

1. What are the major reasons for the prevalence child labour in various parts of the world?

A. There are many reasons for child labour. They are

- i. Poverty and unemployment levels are high
- ii. Access to compulsory, free education is limited
- iii. Existing laws are often violated.
- iv. Knowledge of importance of education.
- v. Child labour demands fewer wages.

Working children were considered essential as contributors to the household economies either in the form of work for wages or in the form of help in household enterprises. The two main reason why enterprises employed child labour were the "willingness" of children to work as many hours as required, and the absence of labour disputes.

2. Mention the type of work done by children as labourers.

A. Most of children are engaged in hazardous places such as mines, working with chemicals , pesticides , with dangerous machinery, behind the walls of workshop, in plantations, diamond industry, fireworks manufacture, silk manufacture, carpet weaving, domestic labour,etc..

3. Approximately how many children in South Asia are engaged in child labour?

A. 44 million.

4. What do you expect the governments to do in case of child labour?

A. The govt should strictly enforce the laws. Schools and colleges must be built-up. Good quality education must be provided. Awareness should be created among the people about imp of education.

5. What is your opinion about the role of media in highlighting the issue of child labour?

A. Media is one of the most important components of process in elimination of child labour. The present dissertation analysis will be based on media's role. It can play a role as a facilitator to ensure access of children to education.

6. 'Parents send their children for menial work only when they refuse to go to school'. Do you agree with this view?

A. There are two broad categories of parents —

First, ones who are unaware of the advantages of education and the various government schemes, which provide for the free education to poor children. Second, those who do not want to send their children to schools as it will deprive them of the extra income what their children are earning.

7. Do you think that child labour can be completely abolished?

A. No. I don't think that child labour can be completely abolished easily unless each and every individual from the society contributes their bit in abolishing.

8. 'Child labour is a gross violation of human rights'. Express your opinion regarding this statement.

A. Several human rights laid down in the Universal Declaration of Human Rights are violated when child labourers are employed or children are exploited. Children have got every right to live, learn, get educated and work for our livelihood to meet our basic needs like food, shelter, clothes. There is certain age to work. But it is seen that a large number of children are engaged in work. It affects their childhood. Children are the sign of innocence and purity. They should be given all rights to grow in the best possible environment.

ASSISTIVE TECHNOLOGY

1. What does the term 'assistive technology' mean?

A. Assistive technology commonly refers to the products, devices or equipment that are used to maintain, increase or improve the functional capabilities of individuals with disabilities. It promotes greater independence by enabling people to perform their own tasks.

2. List the alternative computer devices that can be used to control a computer.

A. 2. The list of alternative input devices that can be used to control computers are :

1. Alternative keyboards
2. Electronic pointing devices
3. Sip and puff systems
4. Wands and sticks
5. Joysticks
6. Trackballs
7. Touch screens
8. Braille embossers
9. Keyword filters
10. On screen keyboards
11. Light signaller alerts

3. Explain how these devices help differently abled persons to operate computers.

A. 1. Electronic pointing devices are used to control the cursor on the screen without use of hands.

2. Sip and puff systems are activated by inhaling or exhaling. These are used by the people who do not have the use of their hands.

3. Wands and sticks are used to press keys on the keyboards.

4. Joysticks are used to control cursor on the screen.

5. Track balls are used to move cursor on the screen.

6. Touch screens allow direct selection or activation of computer by touching screen rather than through mouse or keyboard.

7. Keyboard filters are used to access the letters quickly.

8. Light signaller alerts alert the computer user with the light signals and are used by the people who can't hear.

4. Identify the assistive products useful to the visually challenged.

A. Refreshable braille displays

Screen enlargers OR Screen magnifiers

Screen readers

Speech synthesis

Speech recognition

Talking and large print word processor, etc... are the assistive products used by visually challenged.

5. What is the use of light signaller alerts? Who is the beneficiary of this device?

A. Light signal alerts monitor computer sounds and alert the computer user with light signals and are used by the people who can't hear and also who are not directly in front of the screen.

6. Comment on the usefulness of 'voice recognition system' and 'speech synthesiser'.

A. Speech synthesis receive information going to screen in the form of letters , numbers and then speak it loud in a computerised voice. These allow the computer users who are blind or having learning difficulties to hear what they are typing. Speech recognition allow people to command and enter data using their voices rather than using a keyboard or mouse. Voice recognition system use a microphone attached to computer which can be used to create text documents.

7. 'Governments should allot adequate funds for research in assistive technology'. What is your opinion?

A. Yes. Government should allot adequate funds for research in assistive technology as this helps students who are physically challenged, increase their access and improve their academic performances. These devices provide them with independence, to compete effectively with peers. This would take to the great extent if government allots adequate funds for research in assistive technology. Hence, every disabled person can take the use of technology and make their life easy.

8. What are your suggestions to encourage the inventors of assistive technology products?

A.i. Assistive technology is costly. Many products costs thousands of dollars and many school districts do not have funds to provide these technologies. So these products should be affordable, so that every individual can benefit from it.

ii. If these products are not working properly , students could not complete their task. So, gadgets should be designed in a way that those work properly and be convenient to everyone.

9. 'Assistive technology products are affordable to all physically challenged people irrespective of their economic background'. Do you agree with this statement? Justify your views.

A. 'Assistive technology products are affordable to all physically challenged people irrespective of their economic background'. No I don't agree with this statement.

GENETIC MODIFICATION

GM is the direct manipulation of organisms' gene using biotech. It is therefore used to change the genetic makeup of cells to produce improved organisms of plants or crops. Genetically modified organisms (GMOs) can be defined as organisms (i.e. plants, animals or microorganisms) in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating and/or natural recombination. The technology is often called "modern biotechnology" or "gene technology". Foods produced from or using GM organisms are often referred to as GM foods. This is also known as **genetic engineering**.

Due to the climate change, growing population hunger for more food, extreme weather conditions there is food crisis. To meet this problem there must be alternate way to produce yield. One such a method is GM. Nowadays all the scientists are focussing on this method. The GM crops are designed to help the farmers manage insect pests and weeds. GM foods are developed – and marketed – because there is some perceived advantage either to the producer or consumer of these foods. This is meant to translate into a product with a lower price, greater benefit (in terms of durability or nutritional value) or both.

Some studies show that GM crops have increased size of harvests. Others say they haven't and in some cases yields have even decreased. It depends on the crop, region, conditions, farming practises used. Also this method mostly benefits farmers with large farms. In case of many developing countries, families feed themselves by farming small plots of land. The small farmers can't meet the technological developments and they end up without enough food to eat. The technology was not regulated enough in many countries.

Different GM organisms include different genes inserted in different ways. This means that individual GM foods and their safety should be assessed on a case-by-case basis and that it is not possible to make general statements on the safety of all GM foods. GM foods currently available on the international market have passed safety assessments and are not likely to present risks for human health. In addition, no effects on human health have been shown as a result of the consumption of such foods by the general population in the countries where they have been approved.

Despite current uncertainty over GM crops, one thing remains clear. This technology with its potential to create economically important crop varieties, is simply too valuable to ignore. There are however, some valid concerns. If these issues are to be resolved, decisions must be credible, science –based information.