

Thematic Questions and Summary Writing (Solution)

Internationally accredited space scientist and former Indian president, widely known as Missile Man of India Dr **Avul Pakir Jainulabdeen Abdul Kalam** (1931-2015) addressed the delegates of the Space Summit on January 4, 2003 designed as part of the 90th Indian Science Congress, which is organized by ISRO and Bangalore University. In the special session, the President delivered his lecture entitled "Vision for the Global Space Community: Prosperous Happy and Secure Planet Earth". The lecture encompassed aspects related to growth of technologies and human impact, society and economic growth, transformation of the human society into a knowledge-based society, environment, ecology, water and mineral resources, as the world moves to a knowledge-based society and, finally, ensuring a prosperous, happy and secure planet earth. He also unveiled issues like dynamics of terrorism and energy water needs for the future generations, etc. He laid the emphasis for river networking in Indian sub-continent to solve the problem of drought and floods. He further highlighted how space technology could be used as a powerful tool for achieving his vision of a prosperous, happy and secure planet earth.

In the speech Mr. Kalam specially emphasized a very important aspect of mankind's future energy crisis. He pointed out that the era of wood and bio-mass has almost come to an end. The age of oil and natural gas would soon be over within the next few decades. Massive burning of world's coal reserves may lead to a worldwide ecological disaster because coal burning emits the highest amount of carbon in the atmosphere. Ukraine's (former Soviet Union) Chernobyl disaster in 1986 has exposed that nuclear energy can be potentially dangerous too. So according to Kalam, the only solution that mankind can look to is the massive use of solar energy in future because it has some advantages over other forms of renewable energies.

Now why has Kalam put so much importance to the issue of energy? The energy sources have always been a major factor of change throughout history. The world's petroleum consumption has increased from annually 3 billion barrels in 1930 to annually 50 billion barrels today. In the next quarter century, the world's population is expected to be about 8 billion which is 30 percent higher than today. Developing countries will grow their economies about two times faster than industrialized countries. Global economic growth is expected to continue at 3 percent per year. Consequently, the global demand for energy will grow at about 1.7 percent per year on an average. It indicates a 50 percent rise of energy consumption by 2030. If the world's daily petroleum consumption is 220 million barrels now, it will rise to 335 million barrels by that time. The present reserve of hydro-carbon energy resources is limited and it will not be sufficient to meet the future energy challenges of the world. The bottom line of Kalam's speech indicates that concern of mankind in the 21st century.

Mr Kalam also talked about water for future generations. More than 70% of earth surface is having water; but only one percent is available as fresh water for drinking purposes. Currently, more than half of the world's six billion population is without access to safe drinking water and sanitation. Twenty thousand children are dying every day due to polluted drinking water more than the total mortality due to cancer, aids, wars and accidents. By the year 2025 when the world population touches eight billion, as many as seven billion will be living under conditions moderate, high and extreme water scarcity. There is a four-fold path towards safe, fresh drinking water. The first is to re-distribute water supply; the second is to seek new sources; the third is to save and reduce demand for water; and the fourth is to recycle used water supplies. And hence, leading industrial countries have taken initiatives to tap alternative energy sources mainly known as green or renewable energy sources.

Answer the following questions:

a. What is the passage about?

The passage centers on a speech by former President of India and renowned space scientist Abul Pakir Zainul-Abedin Mohammad Abdul Kalam. Here he **sheds light** on a number of important issues in building a happy and secure world. Of these, the most notable are:

- the future energy crisis of the human race
- essential importance of renewable energy
- safe drinking water crisis for future generations and solutions etc.

b. Describe the relation among population, development and growth according to the passage.

With the increasing number of population, development becomes necessary. Energy is vital for development. By 2025, the world's population will reach 8 billion. Global economic growth will increase at a rate of 3% per year and energy use will increase by 50%. Therefore, it can be said that the relationship among population, development and growth is inextricably linked.

c. What is the scientist Kalam worried about?

In his speech, Dr. Kalam voiced particular concern over the future energy crisis of mankind. According to him, the existing energy sources of human beings will soon run out. He also expressed special concern over the future water crisis.

d. “Massive burning of world’s coal reserves may lead to a worldwide ecological disaster because coal burning emits the highest amount of carbon in the atmosphere.” Do you support this view? Explain why/ why not.

Yes, absolutely I support this view. Excessive burning of coal can cause environmental catastrophe on earth. When coal burns, its carbon combines with oxygen in the air and forms carbon dioxide. Carbon dioxide along with other greenhouse gasses such

as methane, nitrous oxide and chlorofluorocarbons (CFCs) are changing the composition of the atmosphere and are adding to the greenhouse effect.

e. What do you mean by the potential danger of nuclear energy?

The potential danger of nuclear energy means that it could be catastrophic at any moment. We have seen nuclear power disasters in Chernobyl, Ukraine, and Fukushima, Japan. Unlike other power plants, any explosion of nuclear power could result in the death of countless people and the loss of a great deal of property.

f. What according to Mr Kalam is the solution of future energy crisis?

According to Mr. Kalam, the main solution to future energy crisis is to find out renewable energy sources especially solar energy. Dependence on existing energy resources, including fossil fuels, should be reduced as soon. Reliance on renewable energy alone can save the world from a future energy crisis.

g. Why do you think people should look for renewal energy? Justify your answer.

Dr. Kalam made it clear that the era of wood and biomass is almost over. Natural gas and oil will run out in the next few decades. Power generation by burning coal will bring environmental disaster. Reliance on nuclear power can be devastating for mankind. Therefore, I think that the people of the world should look for renewable energy to build a happy and prosperous earth.

h. What did Mr Kalam suggest about water for future generations?

In his speech, scientist Kalam also expressed concern over the future water crisis of the world. So, he shows four ways to get safe drinking water:

- Reallocate water supply
- Find new water sources
- Reduce water demand/consumption
- Reuse used water.

i. What knowledge have you had about green energy?

Basically, green energy means renewable energy. Green energy is any energy type that is generated from natural resources, such as sunlight, wind or water. The key with these energy resources is that they don't harm the environment through factors such as releasing greenhouse gases into the atmosphere. Green energy sources are currently ranked as follows in efficiency (although this may change as developments continue):

1. Wind Power
2. Geothermal
3. Hydropower
4. Nuclear
5. Solar Power

j. Suggest a suitable title of the passage.

The title of a passage seems different to each reader. However, after a thorough study, I think this passage may have a suitable title-
“Quest for a Happy, Prosperous and Secure Planet Earth”

Write a summary of the passage within 100 words.

Former President of India APJ Abdul Kalam talked about technology, environment, ecology, terrorism, river networking, space technology, etc. at the 90th Indian Science Conference. He was particularly concerned about the future energy crisis of the human race. He presented the limitations and negative effects of wood, fossil fuels, coal, nuclear power as energy sources and suggested to look for renewable energy, especially solar energy. He also warned about the water crisis of future generations. In order to get safe drinking water, he advised to redistribute water supply, find new sources, reduce water demand and reuse used water.

(Total words- 97)