

Geography Notes

Chapter - 6

Energy and Power Resources

Q.1 Define the following

1. **Energy Resources** – The resources which are used for generating energy are known as energy resources.
2. **Silt** – Fine earthy matter.
3. **Solar energy** – Energy obtained by sun.
4. **Conventional resources** – These are non renewable resources of energy. E.g., Coal.
5. **Non conventional resources** – These are renewable sources of energy. E.g., solar energy.

Q.2 Fill in the blanks

1. **Maharashtra** and **Gujarat** are the major mineral oil producing states of India.
2. **Lignite** is also known as brown coal.
3. **Gujarat** and **Rajasthan** are the high wind regions of India.
4. **Kosi project** is a major multipurpose river project of Bihar.
5. **Coal** and **Mineral oil** are major energy resources of India.

Q.3 Multiple Choice Questions

1. Which of the following is a renewable energy resource ?
a. **Sun** b. Coal c. Mineral oil d. Uranium
2. Hirakud multipurpose river project is located in
a. **Odisha** b. Punjab c. Chhattisgarh
d. Andhra Pradesh

3. Okha in Gujarat is known for
- a. Solar energy b. Tidal energy **c. Wind energy**
 d. Thermal energy
4. is a major source of cooking in rural areas of India.
- a. LPG b. Coal c. Natural gas **d. Cow dung and wood**
5. Is the largest producer of thermal energy.
- a. Maharashtra** b. Punjab c. Bihar
 d. Andhra Pradesh

Q.4 Match the following

1. Anthracite - Best quality of coal
2. Thermal power - Coal
3. Bhakra Nangal - Satluj River
4. Nagarjuna Sagar - River Krishna
5. Photo – voltaic technology - Solar energy

Q.5 Answer the following in Brief

1. What are energy resources ? Give one example.

Answer – The resources which are used for generating energy are known as energy resources. Coal, petroleum, Uranium etc., are some of the important energy resources.

2. Name any two major energy resources of rural India.

Answer – Wood, animal waste, mineral oil, etc., Are the major energy resources in rural India.

3. “Biogas is by far the most efficient use of cattle dung” Justify.

Answer – These provide twin benefits to the farmer in the form of energy and improved quality of manure.

4. Name any two major energy resources of India.

Answer – Coal and mineral oil are major energy resources of India.

5. “Coal is called black gold.” Give reason.

Answer – Due to its high utility as a source of energy and or material for a large number of industries it is often called black gold.

6. Name the major varieties of coal.

Answer – Anthracite, Bituminous, Lignite and peat varieties of coal.

7. Name the river on which Hirakud multipurpose river project is located.

Answer – Mahanadi river in Odisha is the river on which Hirakud multipurpose river project is located.

8. What is solar energy ?

Answer – The energy given by the sun is called solar energy.

9. Name any two areas of India which are known for crude oil.

Answer – About 63% after it is produced from Mumbai High, 18% from Gujarat and 16% from Assam.

10. What is thermal energy ?

Answer – This is a type of electricity obtained by using coal, petroleum and natural gas.

Q.6 Answer the following in detail

1. Analyse the importance of energy.

Answer – Energy is required for all activities. Energy is a major driver of economic wealth. Energy also supports industries such as mining, manufacturing, agriculture and even smaller enterprises and business. It is needed to cook, to provide light and heat, to propel vehicles and to drive machinery in industries. Energy can be generated from fuel minerals like coal, mineral oil, petroleum, natural gas, Uranium and from electricity.

2. Distinguish between renewable and non- renewable sources of energy.

Renewable resources	Non-renewable resources
These are the resources which can be renewed in a short time.	These are the resources which cannot be renewed in a short time.
This do not cause any pollution to the environment.	These cause pollution to the environment.
These are the free gifts of nature.	These are not the free gift of nature.
Air, water and Solar Energy are some of the renewable resources.	Mineral oil and coal are some of the non renewable resources.

3. What are the disadvantages of using coal as an energy resource ?

Answer – The disadvantages of using coal as an energy resources are :-

- Coal energy produces large amount of carbon dioxide which leads to global warming and climate change.
- The burning of coal is not environmental friendly because it produces harmful by products and gas emissions such as Sulphur dioxide and nitrogen oxide that cause pollution to the environment including acid rain.
- Coal energy is non renewable energy source.
- Coal is fast depleting because we consume too much of it.
- Coal mining ruins the environment and puts the lives of people, especially the coal miners in danger.

4. What are the uses of petroleum ? Mention any three.

Answer – Uses of petroleum are :-

- It is the major source of power for vehicles.
- It provides the most important lubricating agent and is used as important raw material.
- Petroleum refineries act as a “ nodal industry' for many industries like textile, fertilizer and chemical industry.

5. Why is there need to conserve energy resources ? State any four measures to conserve energy resources.

Answer – Needs to conserve energy resources are:-

- Most of the energy resources are limited.
- It takes millions of yours to form important energy resources like coal or petroleum.
- Overuse of this energy resources also leads to pollution.
- Energy is basic requirement for economic development. Every sector of the economy needs energy for its development.

We can conserve energy resources by using following methods :-

- There is need to develop a sustainable path of energy development, i.e, energy development but not at the cost of environment or needs of future generation.
 - Judicious use of limited energy resources.
 - Wastage of minerals should be minimised.
 - We should encourage recycling of energy resources.
6. “ There is urgent need to increase the use of renewable energy resources.” Explain.

Answer – Need for using renewable energy resources :

- i. Over dependency on fossil fuels – The growing consumption of energy has resulted in the country becoming increasingly dependent on fossil fuels such as coal and gas.
- ii. Slow rate of formation – The rate of formation of fossil fuels is very slow as compared to their demand. The rate at which we are using fossil fuels there is fear of energy crisis.
- iii. Pollution – Moreover, increasing use of fossil fuels also causes serious environmental problems. Hence, there is pressing need to use renewable energy sources like solar energy, wind, tide, biomass and energy from waste material. These are called non conventional energy resources.
- iv. Abundance of renewable energy resource – India is a tropical country so it has enormous possibilities of tapping solar and wind energy. India is blessed with an abundance of sunlight, water, wind and biomass.

7. “Solar energy is the hope of future.” Explain.

Answer – Solar energy is generated from a renewable source and its production does not emit harmful pollutants and emissions.

- i. Renewable resources – Another advantage of solar energy is that it is inexhaustible and unlike fossil fuels, the source of energy for solar power is renewable. The sun is the source to generate solar energy and the sun is freely available everywhere and is not going to exhaust in the future.
 - ii. Reduction in Deforestation – Solar energy can be helpful in reducing the dependency of rural households on firewood. This will reduce the rate of deforestation.
 - iii. Low maintenance cost – A solar energy system is maintenance free. So it reduces the cost of production of power.
8. “In recent years multipurpose projects and large dams have come under great scrutiny.” Give Reason.

Answer – In recent years multipurpose projects and large dams have come under great scrutiny, and opposition due to the following reasons :-

- i. High cost – The initial cost of building the dams is very high. It requires a lot of capital and engineering skills along with modern machinery which is not available in India.
- ii. Non-availability of water throughout the year – Most of the rivers in India flow only for a few months. So water is not sufficient to build a dam.
- iii. Disputes between different states – This is one of the major causes of delay in many projects. States have disputes over sharing of water, height of the dam and so on.
- iv. Change in the cropping pattern – Multipurpose projects are responsible for providing assured means of irrigation to farmers. Due to this most of the farmers have changed the cropping pattern, shifting to water-intensive and commercial crops.

Q.7 Assignment – On the political map of India mark and locate the following dams :-

- a) Bhakra Nangal
- b) Damodar Valley Project

- c) Hirakud Project**
- d) Rihand Project**
- e) Tungabhadra Project**
- f) Chambal Project**
- g) Kosi project**
- h) Nagarjuna Sagar Project**
- i) Narmada Valley Project**