



PHYSICS

BOOKS - OSWAAL PHYSICS (KANNADA ENGLISH)

SOURCES OF ENERGY

**Topic 1 Sources Of Energy Multiple Choice
Questions**

1. "Coal is a non renewable source of energy"

Because

A. Coal is replenished soon in the nature

B. Coal is abundant in nature

C. The reserves of coal are depleting at faster rate and it is difficult to replenish.

D. Coal leaves residue when burnt

Answer: C



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2. Which one of the following is the best fuel ?

A. Kerosene

B. LPG

C. Coal

D. Petroleum

Answer: B



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Topic 1 Sources Of Energy Match The Column

1. Match the Column

Column A	Column B
(1) Biogas	(a) LPG
(2) Best fuel	(b) Methane
(3) Nuclear energy	(c) Uranium-235



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Topic 1 Sources Of Energy Very Short Answer Type Questions

1. Write any two advantages of bio-energy.



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2. Write the full form of CNG.



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3. What are the two disadvantages of burning fossil fuels ?



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4. Mention any two limitations of using fossil fuels.



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5. Write two disadvantages of Nuclear Energy.



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6. Name two combustible components of biogas.



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7. List two characteristics of a good source of energy.



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8. What are hot spots inside earth's crust ?



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9. Name the two major components present in the left-over slurry of a biogas plant.



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10. Name one fuel used in nuclear reactor.



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11. Name the reaction responsible for the large energy production in the sun.



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12. Name an efficient fuel obtained from cowdung and other animal and plant wastes. Also mention its main constituent.



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13. Write the sequence of events taking place in a biogas plant.



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14. Describe the areas where acid rains are most likely expected.



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15. Define the term-biomass. Name any two biomass energy sources.



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16. Now-a-days bio-diesel is used in transportation vehicles as an alternate to diesel. Write two advantages of this measure.



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Topic 1 Sources Of Energy Short Answer Type Questions I

1. What is a nuclear fusion reaction ? List any two advantages of nuclear fusion reactions.



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2. List four gases generated in a biogas plant.



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3. Mention the main use of slurry left behind in the biogas of plant. State the characteristics of the slurry on which this use is based.



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4. Give two advantages of using nuclear energy.



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5. Name the major constituent of biogas. List three characteristics to prove it as an excellent fuel.



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6. Why is charcoal considered to be a better fuel than wood?



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7. List any two disadvantages of using fossil fuels.



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8. Fossil fuels are classified as non-renewable sources of energy. Why ?



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9. Wood takes a long time to grow, but even then it is considered a renewable source of energy. Comment.



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10. Why does a car parked in sunlight remains hot from inside even when there is no sunlight in the car?



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Topic 1 Sources Of Energy Short Answer Type Questions li

1. Name the process by which nuclear energy is generated and also name one substance used

for it. Give two advantages and two hazards of nuclear energy.



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2. Draw a neat diagram of a biogas plant and label

(i) inlet of slurry,

(ii) digester and

(iii) gas outlet.



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3. Differentiate between renewable and non-renewable sources of energy. Give two examples of each.



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4. Explain the principle and working of a biogas plant.



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5. Out of the two elements A and B with mass number 2 and 235 respectively, which one is suitable for making :

(i) a nuclear reactor

(ii) a hydrogen bomb.

Name the nuclear reaction involved in each case. Write one difference between the two types of nuclear reactions.



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6. If energy can neither be created nor destroyed, explain with an example why we should worry about our energy resources ?



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7. Make a list of three features due to which L.P.G is considered to be a good fuel ?



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8. List two ways in which animal dung can be utilized as a fuel. Out of these two which one do you think is better ? Justify your answer.



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9. List any three parameters, which categorizes any source of energy as a good source of energy.



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10. List any three qualities of an ideal source of energy.



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11. State any three advantages of using charcoal over wood?



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12. (i) List any two criteria for selecting a good fuel.

(ii) Explain how does burning of fossil fuels cause air and soil pollution.



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13. Biomass is the material contained in the bodies of plants and animals. It includes the waste from trees and grass, crops, forestry, agricultural and urban wastes. The excreta of

living organisms and their bodies after death also contributes biomass.

(i) Comment on the statement "Biomass is a fuel". Justify the statement by giving two reasons.

(ii) What is Bagasse ?



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Topic 1 Sources Of Energy Long Answer Type Question

1. Hydrogen compounds are abundantly available on earth, and it has high calorific value. But this is not used as a common fuel. Give any two reasons. What are the processes that are being developed to use hydrogen as a common fuel ?



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**Topic 2 Alternative Or Non Conventional Sources
Of Energy Multiple Choice Questions**

1. Which of the following sources of energy cannot be used as a source of energy on a cloudy day ?

A. Geothermal energy

B. Tidal energy

C. Nuclear energy

D. Solar energy

Answer: D



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2. The energy of water flowing through rivers and stored in dam is used as a form of :

- A. Kinetic energy
- B. Wave energy
- C. Potential energy
- D. Turbine energy

Answer: C



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Topic 2 Alternative Or Non Conventional Sources Of Energy Match The Column

1. Match the Column

Column A	Column B
(1) Solar cooker	(a) Solar energy into electricity
(2) Solar cell	(b) Heat energy into electricity
(3) Hydropower plant	(c) Solar energy into heat
(4) Thermal power plant	(d) Mechanical/potential into electric



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Topic 2 Alternative Or Non Conventional Sources Of Energy Very Short Answer Type Questions

1. Define a solar panel.



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2. List two non-conventional sources of energy.



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3. What is a wind energy farm ?



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4. Name two constituents of biogas, one of them should be chief constituent.



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5. Name the component of a solar cooker that produces a green house effect inside it.



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6. Name the part of a biogas plant where reactions take place in the absence of oxygen.



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7. Name any one material used to make a solar cell and also mention the range of voltage produced by a typical cell.



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8. A black surface absorbs more heat radiations as compared to a white surface under identical conditions. List two solar devices which make use of this property in their design.



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9. List two forms of energy in which solar energy manifests itself in oceans.



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10. Name any two elements that are used in fabricating solar cells.



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11. List any two advantages of using wind energy.



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12. List two indirect ways of using solar energy.



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13. Mention two different ways of harnessing energy from ocean.



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14. What should be the minimum wind speed to maintain the required speed of the turbine

in a wind energy farm ?



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15. Why is the outer surface of a solar cooker blackened?



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16. List any two limitations in harnessing wind energy.



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17. Why is a solar cooker painted black from outside ?



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18. Mention the main purpose of using a plane mirror in solar cookers.



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19. Mention the purpose of blackening the interior of a solar cooker.



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20. Mention any one reason due to which most of the thermal power plants are set up near coal or oil fields.



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21. State the transformation of energy taking place in a solar cell panel.



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22. Compare the energy produced during fission of a uranium atom with the energy produced due to combustion of a carbon atom from coal.



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23. State the necessary conditions to operate an ocean thermal energy conversion plant.



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24. Windmill works with the energy of the blowing wind. Then, how is the supply of electricity maintained in a windmill when there is no wind ?



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25. Why are black surfaces, and not the white surfaces, used for making solar cookers ?



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Topic 2 Alternative Or Non Conventional Sources Of Energy Short Answer Type Questions I

1. Expand OTEC. On what principle is it based ?



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2. (i) What is solar cell panel ?

(ii) Name any two elements that are used for making solar cell panels.



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3. List two reasons which limit the usage of solar cells for harnessing energy for domestic use.



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4. List any four reasons why we need to look for alternate sources of energy.



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5. Name any two energy sources that you would consider to be renewable. Give reasons for your choice.



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6. (a) Hydrogen is used as a rocket fuel. Why ?

(b) List two limitations of using solar cookers.



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7. How has the traditional use of wind and water energy been modified for our convenience ?



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8. What kind of mirror-concave, convex or plain would be best suited for use in a solar cooker ? Why ?



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Topic 2 Alternative Or Non Conventional Sources Of Energy Short Answer Type Questions Ii

1. Explain geothermal energy. How can it be harnessed to produce electrical energy ?



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2. What is Solar cell panel ? Name two materials used for making solar cell. Write two limitations of solar cells.

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3. Explain ocean-thermal energy and how can it be harnessed. Mention any two limitations in obtaining the energy from the oceans ?

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4. What is a solar cell ? Why and how is a solar cell application and panel prepared ? List two limitations of these panels.



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5. What is geothermal energy ? How can it be used commercially ? List in tabular form three distinguishing features between a thermal power plant and a geothermal power plant.





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6. List three advantages of harnessing wind energy.



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7. Mention any three factors on which the selection of a good source of energy depends.



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8. List three advantages of using solar cells.



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9. Write three reasons for the opposition of the construction of Tehri dam on the river Ganga.



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10. (a) Why are solar heating devices painted black ?

(b) Name two such devices and state two limitations of these.



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11. List three factors responsible for the wind. State three limitations in harnessing wind energy.



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12. (i) Name the device used to convert :

(a) Solar energy into heat.

(b) Solar energy into electricity.

(ii) Mention two limitations of solar energy.



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13. State the energy transformation taking place at hydropower plants. List two advantages of setting up hydropower plants.



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14. Explain generation of electricity in a thermal power plant.



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15. Mention the transformation of energy that takes place in a thermal power plant. Briefly.



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16. Mention why is it not possible to make use of solar cells to meet all our energy needs. State three reasons to support your answer.



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17. Describe how a hydropower plant produces electricity. Write any two advantages of hydroelectric energy.



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18. Describe how hydro-energy can be converted into electrical energy. Write any two limitations of hydro-energy.



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19. You would have seen at the roofs of the minister's house, hospital, hotels etc., solar panel for electricity and solar heater for hot water are placed. Now a days most of the people are preferring these methods.

(i) What kind of source of energy is used here

?

(ii) How it will affect our environment



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20. Conserving energy has become the need of the society and nature, be it in the transport, house hold or industries. Energy conservation has been recognized as a national issue for long time.

As a responsible citizen of India, what steps would you take to conserve energy ?



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21. Draw a well labelled diagram of a solar cooker. Identify two components in its structure that helps in maximizing heat absorption in it.



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**Topic 2 Alternative Or Non Conventional Sources
Of Energy Long Answer Type Questions**

1. It is said that a difference of 20°C in temperature of water at two levels can be exploited to generate electricity. Name the power plant that can be used for this purpose. Describe the process and give its main advantage.



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Ncert Corner Intext Questions

1. What is a good source of energy ?



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2. What is a good fuel ?



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3. It you could use any source of energy for heating your food, which one would you use and why ?



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4. What are the disadvantages of fossil fuels ?



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5. Why are we looking at alternate source of energy.



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6. How has the traditional use of wind and water energy been modified for our convenience ?



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7. What kind of mirror-concave, convex or plane- would be best suited for use in a solar cooker ? Why ?



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8. What are the limitations of the energy that can be obtained from the oceans ?



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9. What is geothermal energy ?



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10. What are the advantage of nuclear energy?



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11. Can any source of energy be pollution-free ?



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12. Hydrogen has been used as a rocket fuel.

Would you consider it a cleaner fuel than CNG

? Why or why not ?



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13. Name two energy sources that you would consider to be renewable. Give reasons for your choices.



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14. Give the names of two energy sources that you would consider to be exhaustible. Give reasons for your choices.



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1. A solar water heater cannot be used to get hot water on :

- A. a sunny day
- B. a cloudy day
- C. a hot day
- D. a windy day

Answer: B



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2. Which of the following is not an example of a bio-mass energy source ?

A. Wood

B. Gobar Gas

C. Nuclear energy

D. Coal

Answer: C



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3. Most of the sources of energy we use represent stored solar energy. Which of the following is not ultimately derived from the sun's energy ?

A. geothermal energy

B. wind energy

C. nuclear energy

D. Biomass

Answer: A



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4. Compare and contrast fossil fuels and the Sun as direct source of energy.

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5. Compare and contrast biomass and hydro electricity as sources of energy.

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6. What are the limitations of extracting energy from :

I) The Wind II) Waves III) tides .



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7. On what basis would you classify energy sources as :

(i) renewable and non-renewable ?

(ii) exhaustible and inexhaustible ?

Are the options given in (a) and (b) the same ?





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8. What are the qualities of an ideal source of energy?



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9. What are the advantages and disadvantages of using a solar cooker? Are there places where solar cookers would have limited utility?



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10. What are the environmental consequences of the increasing demand for energy ? What steps would you suggest to reduce energy consumption ?



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