



BIOLOGY

BOOKS - BAL BHARTI

TOWARDS GREEN ENERGY

Exercise

1. Remake the table taking into account relation between entries in three columns.

| I | II | III |
|-----------------|------------------|------------------------|
| Coal | Potential energy | Wind electricity plant |
| Uranium | Kinetic Energy | Hydro electric plant |
| Water Reservoir | Nuclear Energy | Thermal plant |
| Wind | Thermal Energy | Nuclear power plant |



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2. Answer the following questions in brief:

Which fuel is used in thermal power plant?

What are the problems associated with this type of power generation?



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3. Other than thermal power plant, which power plants use thermal energy for power generation? In what different ways is the thermal energy obtained?



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4. Which types of power generation involves maximum number of steps of energy

conversion? In which type of power generation is the number minimum?



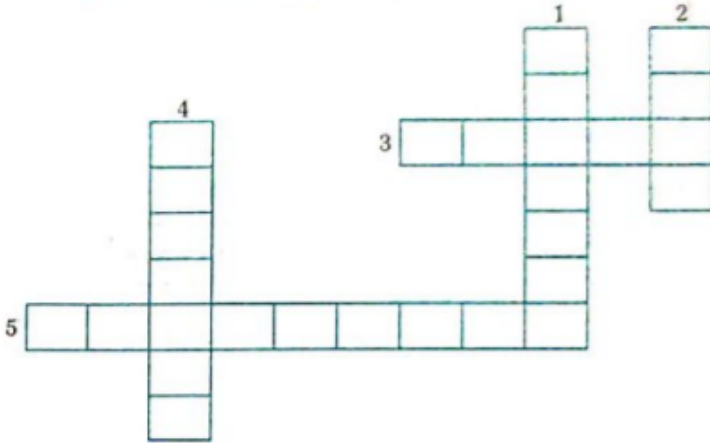
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5. Activity-based Questions :

Solve the following crossword puzzle.

Maximum energy generation in India is done

using..... energy.

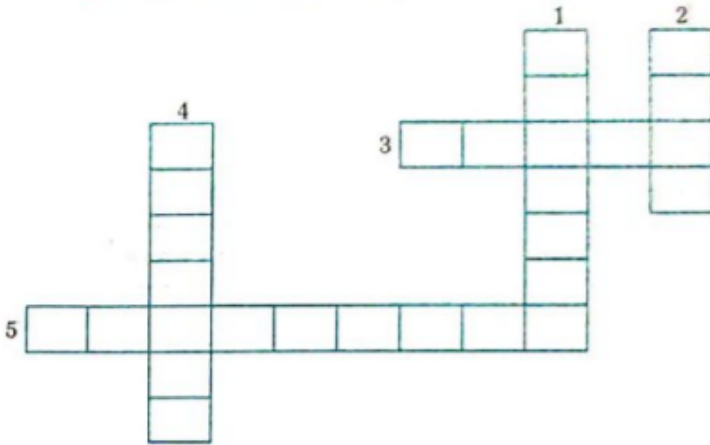


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6. Activity-based Questions :

Solve the following crossword puzzle.

..... energy is a renewable source of energy.

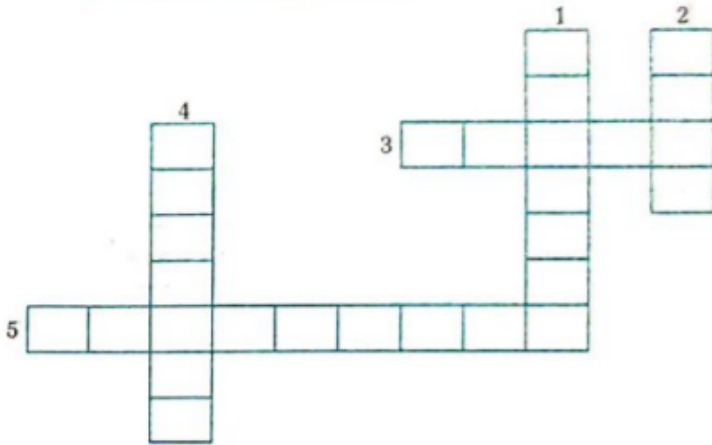


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7. Activity-based Questions :

Solve the following crossword puzzle.

Solar energy can be called energy.

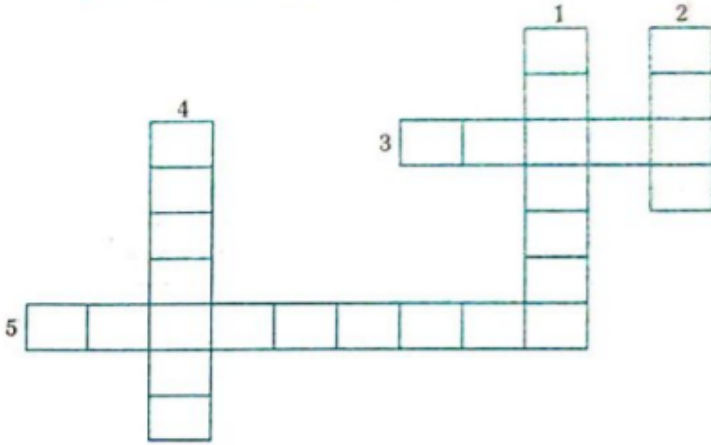


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8. Activity-based Questions :

Solve the following crossword puzzle.

..... energy of wind is used in windmills.

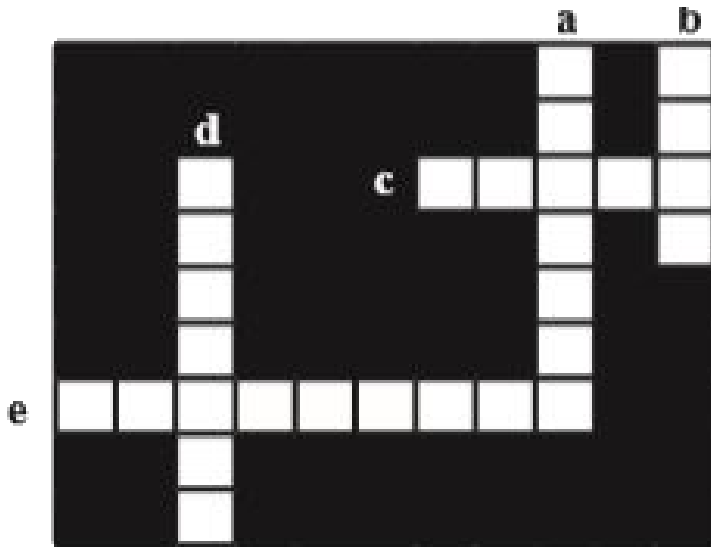


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9. Solve the following crossword puzzle.

..... energy of water in dams is used for

generation of electricity.



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10. Explain the difference.

Conventional and Non-conventional Sources of energy.



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11. Explain the difference.

Thermal electricity generation and solar thermal electricity generation.



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12. What is meant by green energy? Which energy sources can be called as green energy sources and why? Give example.



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13. Explain the following sentences.

Energy obtained from fossil fuels is not green energy.



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14. Explain the following sentences.

Saving energy is the need of the hour.



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15. Answer the following questions.

How can we get the required amount of energy by connecting solar panels?



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16. Answer the following questions.

What are the advantages and limitations of solar energy?



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17. Give scientific reasons

The construction of turbine is different for different types of power plants.



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18. Give scientific reasons

It is absolutely necessary to control the fission reaction in nuclear power plants.



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19. Give scientific reasons

Hydroelectric energy, solar energy and wind energy are called renewable energies.



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20. Give scientific reasons

It is possible to produce energy from mW to MW using solar photovoltaic cells.



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21. Draw a schematic diagram of solar thermal electric energy generation.



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22. Give your opinion about whether hydroelectric plants are environment friendly or not?



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23. Draw neat and labelled diagrams.

Energy transformation in solar thermal electric energy generation.



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24. Diagram based questions:

One solar panel produces a potential difference of 18 V and current 3A. Describe how you can obtain a potential difference of 72 volts and current of 9 A with a solar array

using solar panels. You can use sign of a battery for a solar panel.



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25. Write short note on

Electrical energy generation and environment.



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Can You Recall

1. What is Energy?



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2. What are different types of Energy?



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3. What are the different forms of energy?



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Can You Tell

1. Where do we use electrical energy in our day-to-day life?



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2. How is Electric energy produced?



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3. How does nuclear fission take place?



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Let S Think

1. Why is the energy in the coal called chemical energy?



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2. Why steam is used to rotate the turbine?



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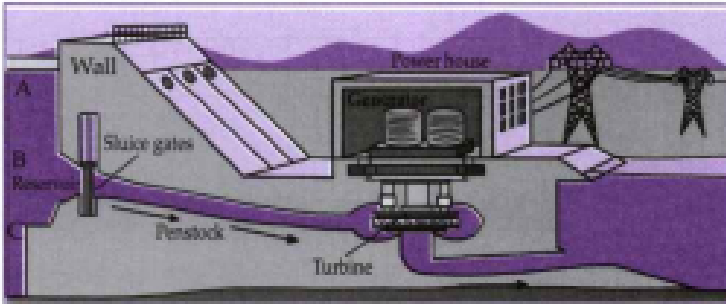
3. Which electricity, generation process is eco-friendly and which is not?



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Use Your Brain Power

1.



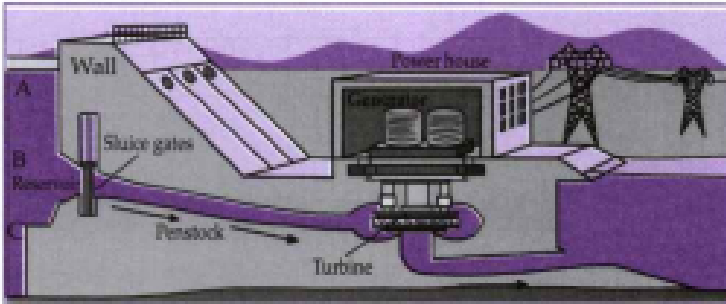
Use your brain power :

With reference to point B, potential energy of how much water reservoir in the dam will be converted into kinetic energy?



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2.



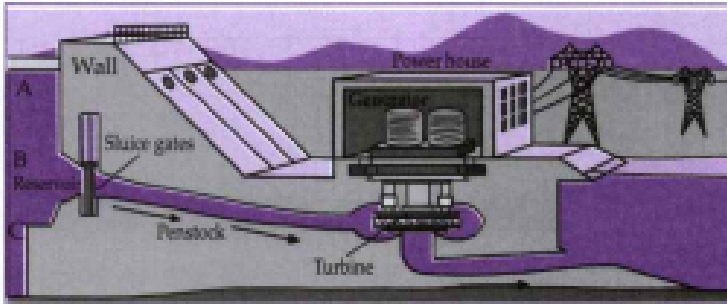
Use your brain power :

What will be the effect on electricity generation, if the channel taking water to turbines starts at point A?



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3.



Use your brain power :

What will be the effect on electricity generation, if the channel taking water to turbine starts at point C.



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