

Concept : Fuels

1. (a) What are the different states in which fuels exist? (1)
- (b) From the different states of fuel, write the name of one fuel each that can be used in the kitchen. (1)

**Score (2) Time (2 minute)**

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Concept : Combustion

2. From a heap of burning substances, a partially burnt book was obtained.
  - (a) Though a lot of other things were burnt completely, the book was burnt partially only. Why? (1)
  - (b) What are the advantages of complete combustion? (1)
  - (c) What are the problems of partial combustion? (1)

**Score (3) Time (6 minute)**

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Concept : Combustion

3. Establish the need for pollution test for vehicles.

**Score (1) Time (3 minute)**

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Concept : Fuels

4. (a) What do you mean by non renewable fuels?
- (b) How were these fuels formed in nature?
- (c) Write two examples for such a fuel.
- (d) Write two examples for renewable fuel

**Score (5) Time (5 minute)**

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Concept : Different types of fuels

5. (a) Coal is classified into four different types. Which are they ?
- (b) On what basis are they classified?
- (c) Which are the substances that can be obtained by distillation of coal?

**Score (4) Time (5 minute)**

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Concept : Calorific value

6. (a) Hydrogen is a fuel of high calorific value. Still why is it not used as a domestic fuel?
- (b) What are the specialities of a house hold fuel?
- (c) What does the term calorific value signify?

**Score (3) Time (4 minute)**

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**Concept :** Renewable fuels

7. (a) How does the biomass change into biogas in a biogas plant?  
(b) Of these two, which is more advantageous? Why have you reached such a conclusion?  
(c) What are the advantages of community biogas plants?

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**Score (3) Time (5 minute)**

**Concept :** Solar energy

8. (a) What is the energy change in a solar panel?  
(b) What are the conditions in which no energy conversion takes place in a solar panel in working condition?  
(c) Which are the situations in which we depend on solar panel only?

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**Score (3) Time (4 minute)**

**Concept :** Solar cooker

9. Write the limitations of a solar cooker

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**Score (1) Time (2 minute)**

**Concept :** Renewable sources of energy

10. It is not possible to establish wind farms at all places. Why?

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**Score (1) Time (2 minute)**

**Concept :** Renewable sources of energy

11. Which are the ways of harnessing ocean energy?

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**Score (1) Time (2 minute)**

**Concept :** Renewable sources of energy

12. What do you understand by geothermal energy?  
Is it possible to utilise it in Kerala? Justify the answer

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**Score (2) Time (4 minute)**

**Concept :** Nuclear energy

13. Suggest the ways of releasing nuclear energy from a nucleus. How are energy produced from them?

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**Score (2) Time (4 minute)**