

Source of Energy

DPP – 1

1. Heat liberated per gram of a fuel is called :

(A) Calorific value	(C) Heating value
(B) Mass value	(D) both (A) and (C)
2. SI unit of calorific value is :

(A) J	(C) kg
(B) J/kg	(D) none of these
3. Which of the following has least calorific value :

(A) alcohol	(C) wood
(B) biogas	(D) coal
4. Which of the following fuel is different from others ?

(A) Water gas	(C) Producer gas
(B) Coal gas	(D) Coke
5. Most of the fuels are :

(A) Carbon compounds with sulphur	(C) Carbon compounds with hydrogen
(B) Nitrogen compounds with carbon	(D) None of these
6. Gobar gas is a

(A) solid fuel	(C) gas fuel
(B) liquid fuel	(D) none of these
7. Which of the following is not a solid fuel :

(A) coke	(C) charcoal
(B) coal	(D) kerosene
8. The wind energy map gives information about the :

(A) Cause of wind	(C) Amount of rainfall
(B) Intensity of earth quake	(D) None of these
9. Energy possessed by flowing water is :

(A) Kinetic energy	(C) Heat energy
(B) Potential energy	(D) None of these
10. The device used for generating electricity from wind energy is called :

(A) Wind turbine	(C) Wind generator
(B) Wind motor	(D) Wind mill
11. What is the major difference between renewable SOE and non-renewable SOE?
12. Give any three characteristics of fuel.
13. Sources producing inexhaustible energy are calledsources.
14. Sources producing exhaustible energy are called..... sources.
15. Explain why coal and petroleum are classified as non-renewable SOE.

Source of Energy

DPP – 2

1. The chief constituent of biogas is:

(A) carbon dioxide	(C) methane
(B) ethane	(D) hydrogen
2. Biogas is produced from biomass by:

(A) anaerobic fermentation	(C) destructive distillation
(B) fractional distillation	(D) dry distillation
3. Ultimate source of heat on the surface of earth is:

(A) solar energy	(C) wind energy
(B) oceanic energy	(D) inner temperature of earth crust
4. Limitations of solar energy are:

(A) it is not available during night	(C) it is not available all the time
(B) it is not available uniformly throughout the year	(D) all of them
5. Indirectly solar energy is harnessed as:

(A) wind energy	(C) hydro energy
(B) geothermal energy	(D) Both A and C are correct
6. The device which harness solar energy directly is:

(A) coal gas plant	(C) biogas plant
(B) natural gas plant	(D) solar cell
7. The most common material for making solar cells is:

(A) silicon	(C) selenium
(B) germanium	(D) none of these
8. Which energy is used in solar cells:

(A) electrical	(C) solar
(B) chemical	(D) none
9. Which of the following is not a form of oceanic energy:

(A) Ocean wave energy	(C) Ocean thermal energy
(B) Tidal energy	(D) Solar energy
10. The energy available due to the difference in the temperature of water at the surface of the ocean and at deeper levels is called:

(A) tidal energy	(C) solar energy
(B) wind energy	(D) none of these
11. Name a part of India where wind energy is commercially harnessed.
12. State two merits of hydroelectricity.
13. Give two examples of solid, liquid and gaseous fuel.
14. Name the best type of fuel out of solid, liquid and gas.
15. A setup having a large number of windmills is called.....

Source of Energy**DPP – 3**

- In a neutral atom n_e and n_p represent number of electrons & protons, then:
(A) $n_e < n_p$ (C) $n_e > n_p$
(B) $n_e = n_p$ (D) None of these
- The mass of an α – particle is :
(A) Less than sum of the masses of 2 protons & 2 neutrons
(B) Equal to mass of four protons
(C) Equal to mass of four neutrons
(D) Equal to sum of masses of two protons and two neutrons
- Number of nucleons in the nucleus, is called:
(A) Mass number (C) Neutron number
(B) Atomic number (D) Electron number
- Central core of the atom, is called:
(A) Ion (C) Molecule
(B) Orbit (D) Nucleus
- In nuclear reactions:
(A) Energy is conserved (C) Momentum is conserved
(B) Charge is conserved (D) All are correct
- Neutron was discovered by:
(A) Rutherford (C) Chadwick
(B) Anderson (D) Millikan
- A nucleus has 16 neutrons & its mass number is 31. The atomic number of this is:
(A) 47 (C) 15
(B) 31 (D) 16
- The approximate temperature of the surface of the sun is
(A) 6000°C (C) 3000°C
(B) $10,000^\circ\text{C}$ (D) $30,000^\circ\text{C}$
- One MeV of energy is equivalent to
(A) $1.6 \times 10^{13}\text{J}$ (C) $1.6 \times 10^{-13}\text{J}$
(B) $1.6 \times 10^{19}\text{J}$ (D) $1.6 \times 10^{-19}\text{J}$
- Which of the following is a better nuclear fuel?
(A) Thorium 236 (C) Neptunium 239
(B) Uranium 235 (D) Plutonium 239
- What is geothermal energy?
- What is ocean thermal energy?
- Define nuclear energy.
- Name the particles contained in the nucleus of an atom.
- Name the particle having same mass as that of electrons, but positively charged.

Source of Energy

DPP – 4

- Choose the source of energy which is different from others :

(A) Tidal	(C) OTE
(B) Sea-wave	(D) Wind energy
- The oceans cover almost _____ percent of the surface of earth with water and act as a vast collector of _____ energy :

(A) 71, chemical	(C) 71, hydro
(B) 97, solar	(D) 17, hydro
- Fission is splitting of the nucleus into two nuclei. The fission products have :

(A) the same atomic number	(C) lower atomic number
(B) the same atomic mass	(D) higher atomic mass
- The mass number of four different elements a, b, c and d are 2, 35, 125 & 235 respectively. Which of them would provide the most suitable nuclear fission reaction :

(A) c & d	(C) a & b
(B) a & d	(D) Only d
- Neutrons are more effective for producing nuclear reaction with nuclei compared to proton because:

(A) neutrons have greater P.E.
(B) neutrons emit β – particle
(C) neutrons do not experience electrostatic repulsion of nuclear charge or electron cloud
(D) neutrons are bit lighter than protons
- The process by which non fissionable U-238 is converted into fissionable Pu-239 is called:

(A) fission	(C) enrichment
(B) fusion	(D) chain reaction
- The most abundant isotope of natural uranium is :

(A) ${}_{92}\text{U}^{238}$	(C) ${}_{92}\text{U}^{234}$
(B) ${}_{92}\text{U}^{235}$	(D) none of these
- Thermal neutrons are:

(A) extremely slow neutrons	(C) fast neutrons
(B) slow neutrons	(D) extremely fast neutrons
- In the nuclear reaction ${}_{92}\text{U}^{235} + {}_0\text{n}^1 \longrightarrow {}_{56}\text{Ba}^{141} + {}_{36}\text{Kr}^{92} + 3\text{X} + 200 \text{ MeV}$
X represents :

(A) proton	(C) electron
(B) neutron	(D) alpha particle
- Nuclear energy is:

(A) Renewable	(C) Both (A) & (B)
(B) Non-renewable	(D) None of these
- Find the missing particle in following reaction:
 ${}_{92}\text{U}^{235} + {}_0\text{n}^1 \longrightarrow {}_{56}\text{Ba}^{141} + ? + 3{}_0\text{n}^1 + \text{Energy}$
- Is there a product of nuclear fission which is utilized to produce further fission of U235? Give details.
- What is the source of energy released in nuclear fission?
- Name the model which is used to explain the process of nuclear fission.
- Name the particle which initiates chain reaction of U-235.