

CLASS X- PHYSICS
SOURCES OF ENERGY

ASSIGNMENT-2

MULTIPLE CHOICE QUESTION - 2.1

1. The device in which the nuclear fission and release of energy is controlled, is known as :
(A) Thermopile (B) Thermostat (C) Nuclear reactor (D) Cloud chamber
2. For a sustained chain reaction, the reproduction factor should be :
(A) zero (B) one (C) two (D) three
3. Moderator is used in nuclear reactor for :
(A) slowing neutrons (B) accelerating neutrons
(C) stopping neutrons (D) heating the neutrons
4. The fusion reaction occur at :
(A) low pressures (B) low temperature
(C) extremely high temperature (D) high temperature and low pressures
5. The source of energy of the sun is :
(A) Nuclear fission (B) Chemical reaction (C) Nuclear fusion (D) None of these
6. The number of neutrons in an atom X of atomic number Z and mass number A is :-
(A) zero (B) Z (C) A - Z (D) A
7. When a beta particle is given out, the atomic number of the parent atom :
(A) Increase by unity (B) Decrease by unity (C) Remains the same (D) Is halved
8. Which of the following has least penetrating power ?
(A) Alpha particles (B) Gamma rays
(C) Beta particles (D) All have the same penetrating power

SUBJECTIVE QUESTION - 2.2

1. Differentiate between nuclear fission and nuclear fusion.
2. Define nuclear fusion reaction. Describe the conditions for the occurrence of a nuclear fusion reaction.
3. It is said that energy from nuclear fusion would create fewer pollution problems than energy from fission. Can you give reason, why ?
4. 48 k J energy is produced in 60 s in a nuclear reactor. Find the number of fissions which would be taking place per second if the energy released per fission is 3.2×10^{-11} J.