

Nuclear Science

Question No. 01

Nuclear power is _____ thermal power.

- (A) Cheaper than
- (B) Costlier than
- (C) Equal in amount
- (D) They cannot be related

Answer: Option A

Question No. 02

Radioactive substances can be produced readily in

- (A) An electron gun
- (B) An atomic pile
- (C) A transistor
- (D) A Wilson cloud chamber

Answer: Option B

Question No. 03

Which among the following is a positively charged particle emitted by a radioactive element?

- (A) Beta ray
- (B) Alpha ray
- (C) Cathode ray
- (D) Gamma ray

Answer: Option B

Question No. 04

Isotopes are separated by

- (A) Crystallisation
- (B) Sublimation
- (C) Distillation
- (D) Filtration

Answer: Option C

Question No. 05

Which of the following shows the masses of the three elementary particles in decreasing order?

- (A) Leptons, Baryons, Mesons
- (B) Mesons, Baryons, Leptons
- (C) Baryons, Mesons, Leptons
- (D) Leptons, Mesons, Baryons

Answer: Option C

Question No. 06

The age of most ancient geological formations is estimated by

- (A) Ra - Si method
- (B) Potassium - argon method
- (C) C¹⁴ method
- (D) Uranium - lead method

Answer: Option D

Question No. 07

'No two electrons in an atom can have the same set of four quantum numbers' is

- (A) Newton's law
- (B) Bohr's law
- (C) Aufbau principle
- (D) Pauli's exclusion principle

Answer: Option D

Question No. 08

Nuclear fission is caused by the impact of

- (A) Neutron
- (B) Proton
- (C) Deuteron
- (D) Electron

Answer: Option A

Question No. 09

How many colours the sunlight spectrum has?

- (A) Three
- (B) Seven
- (C) Four
- (D) Five

Answer: Option B

Question No. 10

Who suggested that most of the mass of the atom is located in the nucleus?

- (A) Thompson
- (B) Bohr
- (C) Rutherford
- (D) Einstein

Answer: Option C

Question No. 11

In an atomic explosion, enormous energy is released which is due to

- (A) Conversion of chemical energy into heat energy
- (B) Conversion of mechanical energy into nuclear energy
- (C) Conversion of mass into energy

(D) Conversion of neutrons into protons

Answer: Option C

Question No. 12

Which of the following has a least penetrating power?

(A) All have same penetrating power

(B) Beta Particles

(C) Alpha particles

(D) Gamma rays

Answer: Option C

Question No. 13

Which of the following is used as a moderator in nuclear reactor?

(A) Thorium

(B) Graphite

(C) Radium

(D) Ordinary water

Answer: Option B

Question No. 14

Atoms are composed of

(A) Electrons and protons

(B) Electrons only

(C) Protons only

(D) Electrons and nuclei

Answer: Option D

Question No. 15

The wavelength of X-rays is of the order of

(A) 10 micron

(B) 1 angstrom

(C) 1 cm

(D) 1 m

Answer: Option B

Question No. 16

Mesons are found in

(A) Laser beam

(B) X-rays

(C) Gamma rays

(D) Cosmic rays

Answer: Option D

Question No. 17

Which radioactive pollutant has recently drawn to public, due to its occurrence in the building material?

- (A) Thorium
- (B) Radium
- (C) Plutonium
- (D) Radon

Answer: Option A

Question No. 18

What is the wavelength of visible spectrum?

- (A) 8500 - 9800 angstrom
- (B) 7800 - 8000 angstrom
- (C) 3900 - 7600 angstrom
- (D) 1300 - 3000 angstrom

Answer: Option C

Question No. 19

The isotope of uranium capable of sustaining chain reaction is

- (A) U-235
- (B) U-245
- (C) U-239
- (D) U-238

Answer: Option A

Question No. 20

In an atomic nucleus, neutrons and protons are held together by

- (A) Gravitational forces
- (B) Exchange forces
- (C) Coulombic forces
- (D) Magnetic forces

Answer: Option B

Question No. 21

Atoms of an element differ from those of all other elements in

- (A) Atomic number and electronic configuration
- (B) Number of neutrons and number of valence electrons
- (C) Atomic number and number of valence electrons
- (D) Number of neutrons and electronic configuration

Answer: Option A

Question No. 22

Which of the following rays are more penetrating?

- (A) Beta rays
- (B) Alpha rays

(C) Gamma rays

(D) X-rays

Answer: Option C

Question No. 23

According to Avogadro's Hypothesis, the smallest particle of an element or a compound, that can exist independently, is called _____.

(A) A molecule

(B) A cation

(C) An anion

(D) An atom

Answer: Option A

Question No. 24

The dark lines in the solar spectrum are due to

(A) Absorption of corresponding wavelengths by the outer layers of the sun

(B) Destructive interference between waves of certain definite wavelengths

(C) Absorption of corresponding wavelengths by the prism used in the photograph

(D) Absence of corresponding wavelengths from the light emitted by the core of the sun

Answer: Option A