QUESTION BANK

EXERCISE - 1

Q.1 Does wind possess kinetic for potential energy ?

Q.2 What is a turbine ?

Q.3 Name the device which converts solar energy directly into electricity.

Q.4 What do you mean by hydro energy ?

Q.5 What do you mean by tidal energy ?

Q.6 Why it is not possible to use the energy which is consumed?

Q.7 What energy transformation takes place when we light a candle and drop a metal plate from a certain height?

Q.8 What are fossil fuels?

Q.9 What was the most common source of heat energy in ancient times?

Q.10 Which fuel meets the growing demand of energy nowadays and the past?

Q.11 What made us to look for alternative source of energy?

Q.12 What are main disadvantages of using fossil fuels and how can we minimize it?

Q.13 What causes acid rain?

Q.14 What energy transformation is done by a dynamo?

Q.15 List out the different power plants from which we get electrical energy?

Q.16 Why most of the thermal power plants are set near coal or oil mines?

Q.17 Why hydro power plants are associated with dams?

Q.18 Give the reason for the coining of the word thermal power plant?

Q.19 Give few example for how our ancestors used the energy possessed by the wind and water.

Q.20 Write the working of a hydro power plant with a neat diagram?

Q.21 What are the advantages and disadvantages of using energy from water?

Q.22 What is bio- mass and write few examples of bio mass?

Q.23 How is charcoal formed and what are the advantages of using charcoal as a source of energy?

Q.24 What is the composition of bio-gas and the matter rich in the slurry left behind in the bio-gas plant?

Q.25 What is the major disadvantage of bio-mass and how can it be overcome ?

Q.26 How do nuclear energy and wind energy differ from each other and also write a similarity between them.

Q.27 What do you mean by backup facility and where do you require it?

Q.28 There is nuclear reactor of power 300MW and a wind mill farm constructed in an area of 10 hectares. Calculate for how long the windmill farm should work continuously to give energy equal to the energy produced by the reactor if the reactor doesn't function for one day?

Q.29 In a day time a nuclear reactor produces 3600×10^6J of energy. Calculate the time taken by a wind energy farm of area 4 hectares to produce that much of energy?

Q.30 What is the major source of energy for the sun?

Q.31 What substance functions as the fuel for the sun?

Q.32 For how long time our Sun will tend to supply energy from it?

Q.33 Define solar constant and give its value on the upper atmosphere and on the lower atmosphere?

Q.34 Draw the schematic picture a solar cooker?

Q.35 How do you classify the solar energy devices ? and explain.

Q.36 What energy transformation takes place in the solar cooker?

Q.37 Write the different parts of a box type solar cooker.

Q.38 Explain the working of a solar cooker.
Q.39 What is the role of a glass sheet and black coated surface of a box type solar cooker?
Q.40 Which type of solar spectrum is trapped in the solar cooker?
Q.41 To achieve higher temperature what is done in some solar cookers?
Q.42 What is a solar cell?
Q.43 What are the advantages and disadvantages of a solar cell?
Q.44 What energy transformation takes place in a solar cell?
Q.45 What factors make a solar cell very expensive?
Q.46 What are the uses of solar cells?
Q.47 What is a solar panel ?
Q.48 What is the cause for the tides on the ocean? (or) how are tides formed?
Q.49 How do you harness tidal energy?
Q.50 How wave energy is an indirect form of solar energy?

EXERCISE - 2

FILL IN THE BLANKS :

Q.1 Many of the sources ultimately derive their energy from the.....
Q.2 Solar constant = ...
Q.3 A device that utilises solar energy for cooking purposes is called a .....
Q.4 A solar cell is a device which converts solar energy directly into .....
Q.5 The energy possesses by wind is called .....
Q.6 The flowing water possesses ..... energy
Q.7 Oceans covers about ..... of the earth's surface and are the ..... source of water on the earth. Because of the large mass of water in oceans and high ..... of water, oceans at as store house of .....
Q.8 Electricity generated from sea waves is .....
Q.9 The internal heat of an earth is known as ..... energy.
Q.10 ..... is the remaining part of the sugarcane from which juice has been extracted.
Q.11 Bio-gas is a mixture of ....., carbon dioxide, ... and .....
Q.12 When a complex material is heated strongly in the absence of air, then it decomposes to the simplest substance. This process is called .....
Q.13 The material obtained from the bodies of plants and animals is called .....
Q.14 The decomposition, which takes place in the absence of oxygen by anaerobic bacteria, is called .....
Q.15 Type of radiation emitted by a hot electric iron .....

TRUE-FALSE STATEMENTS –

Q.16 Our energy requirements increase with our standard of living.
Q.17 In order to fulfil our energy requirements, we try to improve the efficiency of energy usage and also try and exploit new sources of energy.
Q.18 The main constituent of biogas is not methane.
Q.19 Black colour is a very good absorber of heat and good reflector.
Q.20 The use of geothermal energy cause pollution.
Q.21 Deep drilling in the earth to obtain geothermal energy is very difficult.
Q.22 Charcoal is a better fuel than wood and coal.

Q.23 Bio-gas is a better fuel than animal dung-cakes.

Q.24 The sun-rays fall on the equatorial region more intensively than any other part of the earth.

Q.25 The calorific value of methane is less than that of butane.

EXERCISE - 3

Q.1 Most of the energy we use originally came from –
(A) the sun (B) the air (C) the soil (D) the oceans

Q.2 Electrical energy can be produced from –
(A) mechanical energy (B) chemical energy (C) radiant energy (D) All of the above

Q.3 Coal, petroleum, natural gas, and propane are fossil fuels. They are called fossil fuels because:
(A) they are burned to release energy and they cause air pollution
(B) they were formed from the buried remains of plants and tiny animals that lived hundred of millions of years ago
(C) they are nonrenewable and will run out (D) they are mixed with fossils to provide energy

Q.4 Gasoline is produced by refining which fossil fuel?
(A) natural gas (B) coal (C) petroleum (D) propane

Q.5 Propane is used instead of natural gas on many farms and in rural areas. Why is propane often used instead of natural gas?
(A) it's safer (B) it's portable (C) it's cleaner (D) it's cheaper

Q.6 What sector of the Indian economy consumes most of the nation's petroleum?
(A) residential (B) commercial (C) industrial (D) transportation

Q.7 Natural gas is transported mainly by
(A) pipelines (B) trucks (C) barges (D) all three equally

Q.8 Global warming focuses on an increase in the level of which gas in the atmosphere?
(A) ozone (B) sulfur dioxide (C) carbon dioxide (D) nitrous oxide

Q.9 Solar, biomass, geothermal, wind, and hydropower energy are all renewable sources of energy. They are called renewable because they –
(A) are clean and free to use (B) can be converted directly into heat and electricity
(C) can be replenished by nature in a short period of time
(D) do not produce air pollution

Q.10 Today, which renewable energy source provides the India with the most energy?
(A) wind (B) solar (C) geothermal (D) hydropower

Q.11 How much of the energy in burning coal reaches the consumer as electricity –
(A) 1/3 (one-third) (B) 1/2 (one-half) (C) 3/4 (three-quarters) (D) 9/10 (nine-tenths)

Q.12 In a nuclear power plant, uranium atoms
(A) combine and give off heat energy (B) split and give off heat energy
(C) burn and give off heat energy (D) split and give off electrons

Q.13 Solar energy is produced by the following reaction–
(A) Fission reaction (B) Fusion reaction (C) Chemical reaction (D) None of the above

Q.14 Which form of energy is contained in wind energy –
(A) Kinetic energy (B) Potential energy (C) Electric energy (D) Thermal energy

Q.15 In biogas, which gas is present in maximum amount–
(A) Carbon dioxide (B) Methane (C) Hydrogen (D) Oxygen

Q.16 Which one of the following is not a source of non-convential energy –
(A) Coal (B) Solar energy (C) Wind energy (D) Biogas

Q.17 White energy is freely available in ample amount of–
(A) Sunlight (B) Water gas (C) Hydrogen (D) Wind energy

Q.18 Gobar gas is –
(A) foul smelling gas (B) sweet smelling gas (C) having high caloric value (D) useless

Q.19 Biogas is produced from biomatter by –
(A) anaerobic fermentation (B) distructing distillation
(C) fractional distillation (D) mixing petrol in biomatter

Q.20 L.P.G. is mostly liquified –
(A) hydrogen (B) oxygen (C) butane (D) methane

Q.21 The volume occupied by an atom is greater then the volume of the nucleus by a factor of about –
(A) 10^1 (B) 10^5 (C) 10^{10} (D) 10^{15}

Q.22 Which of the following is true for isotopes of specimen of U^{235} and U^{238}
(A) both contain same number of neutrons
(B) both contain same of number of proton, electron and neutron
(C) both contain same number of proton and electron but U^{238} contains three more neutrons than U^{235}
(D) U^{238} contain three less neutrons than U^{235}

Q.23 Atomic nucleus contains
(A) electron & photon (B) electron, proton & neutron
(C) electron & neutron (D) proton & neutron

Q.24 The atomic number & mass number of element is Z & m then number of neutron will be -
(A) m x z (B) m + z (C) m / z (D) m – z

Q.25 Nuclei containing different number of protons but same number of neutrons are called -
(A) Iso clinics (B) isobars (C) isotones (D) isotopes

Q.26 1 amu is equivalent to -
(A) 9.31 MeV (B) 931 KeV (C) 93.1 MeV (D) 931 MeV

Q.27 The dependence of density [d] of nuclear matter on the mass number A is -
(A) $d \propto A$ (B) $d \propto \sqrt{A}$ (C) d = const. (D) $d \propto 1/A$

Q.28 The wrong statement is -
(A) Nuclear forces are strongest (B) Nuclear forces are very short range forces
(C) Nuclear force increase when the number of nucleons is increased
(D) Nuclear force is produced by the exchange of pions

Q.29 Range of nuclear force is approximately -
(A) 2×10^{-10} m (B) 1.5×10^{-20} m (C) 7.2×10^{-4} m (D) 1.4×10^{-15} m

Q.30 The mass number of a nucleus is equal to the number of -
(A) Electron it contains (B) Protons it contains (C) Neutrons it contains (D) Nucleons it contains

Q.31 The neutron was discovered by
(A) Marie Curie (B) Pierre Curie (C) James Chadwick (D) Rutherford

Q.32 The order of magnitude of the density of nuclear matter is-
(A) 10^4 kg/m^3 (B) 10^{17} kg/m^3 (C) 10^{27} kg/m^3 (D) 10^{34} kg/m^3

Q.33 Force between protons in nucleus will be -
(A) only nuclear (B) only coulomb (C) nuclear & coulomb (D) coulomb & gravitational

Q.34 The mass equivalent of 931 MeV energy is
(A) 1.66×10^{-27} kg (B) 6.02×10^{-24} kg (C) 1.66×10^{-20} kg (D) 6.02×10^{-27} kg

Q.35 Boron rods are used in nuclear reactor as -
(A) moderator (B) control rods (C) coolant (D) protective shield

Q.36 Best moderator for neutron is -
(A) berillium oxide (B) pure water (C) heavy water (D) graphite

Q.37 Nuclear fission was discovered by
(A) OttoHahn and strassman (B) Fermi (C) Bethe (D) Rutherford

Q.38 The rest mass energy of an electron is -
(A) 510 kilo eV (B) 931 kilo eV (C) 510 MeV (D) 931 MeV

Q.39 The Process by which a heavy nucleus splits into light nuclei is known as -
(A) Fission (B) α-decay (C) Fusion (D) Chain reaction

Q.40 200 MeV of energy may be obtained per fission of U^{235}. A reactor is generating 1000 kW of power. The rate of nuclear fission in the reactor is -
(A) 1000 (B) 2×10^{8} (C) 3.125×10^{16} (D) 931

Q.41 In the process of nuclear fusion -
(A) Only heavy nucleus break into light nuclei
(B) Fusion of light nuclei at normal temperature
(C) Fusion of light nuclei at high pressure and low temperature
(D) Fusion of light nuclei at high pressure and high temperature

Q.42 When $_{92}U^{235}$ undergoes fission 0.1% of its original mass is changed into energy. How much energy is released if 1kg of $_{92}U^{235}$ undergoes fission -
(A) 9×10^{10} J (B) 9×10^{11} J (C) 9×10^{12} J (D) 9×10^{13} J

Q.43 In nuclear power station energy of uranium is used for producing -
(A) Electrical energy (B) Mechanical energy (C) Heat energy (D) Magnetic energy

Q.44 Sun and stars get their radiation energy by -
(A) Fission process (B) Fusion process
(C) Disintegration process (D) Photo-electric effect

Q.45 The cause of energy liberated in nuclear reaction is -
(A) Change of potential energy into kinetic energy
(B) Kinetic energy of resultant nucleus
(C) Energy equivalent to mass lost (D) None of these

Q.46 Atom bomb consists of pieces of $_{92}U^{235}$ and a source of -
(A) Proton (B) Neutron (C) Meson (D) Electron

Q.47 When four hydrogen nuclei fuse together to form helium nucleus, then in this process-
(A) Energy is absorbed. (B) Energy is liberated.
(C) Absorption and liberation of energy depends upon the temperature.
(D) Energy is neither liberated nor absorbed.

Q.48 Two lighter nuclei are fused together to form a nucleus of medium atomic mass and energy is released in this process because-
(A) Binding energy of lighter nuclei is more. (B) Binding energy per nucleon of lighter nuclei is more.
(C) Binding energy per nucleon of medium nucleus is more.
(D) Energy is always released when two nuclei are fused.

Q.49 Neutron ratio (available/used per fission in atomic reactor and atom bomb are-
(A) $r > 1$ in atomic reactor and $r < 1$ in bomb. (B) $r = 1$ in atomic reactor and $r > 1$ in bomb.
(C) $r > 1$ in both atomic reactor and bomb. (D) $r < 1$ in both atomic reactor and bomb.

Q.50 The nuclear fuel in the sun is –
(A) helium (B) uranium (C) alpha particles (D) hydrogen

Q.51 In atomic explosion, a temperature of about 10 million degrees is developed at the moment of explosion. The wavelength of light coming from the hot region of the atomic explosion lie in the region-
(A) ultraviolet region (B) visible region (C) infrared region (D) x-ray region

Q.52 In nuclear fission process energy releases because–
(A) Mass of particles is more than mass of nucleus
(B) binding energy of products formed due to nuclear fission is more than parent fissionable material
(C) binding energy of products formed due to nuclear fission is less than parent fissionable material
(D) mass of some particles converts in to energy

Q.53 For nuclear fusion reaction–
(A) Heavy nucleus are required (B) Light nucleus are required
(C) Both type (D) None of these

Q.54 Fission of nuclei is possible because the binding energy per nucleon in them–
(A) increases with mass number at low mass numbers
(B) decreases with mass number at low mass number
(C) increases with mass number at high mass numbers
(D) decreases with mass number at high mass number

Q.55 A solar water heater cannot be used to get hot water on
(A) a sunny day (B) a cloudy day (C) a hot day (D) a windy day

Q.56 Which of the following is not an example of a bio-mass energy source –
(A) wood (B) gobar-gas (C) nuclear energy (D) coal

Q.57 Most of the sources of energy we use represent stored solar energy. Which of the following is not ultimately derived from the Sun's energy?
(A) geothermal energy (B) wind energy (C) nuclear energy (D) bio-mass.

Q.58 When light is incident on surface, photo electrons are emitted. For photoelectrons-
(A) The value of kinetic energy is same
(B) Kinetic energy does not depend on the wave length of incident light
(C) The value of kinetic energy is equal to or less than a maximum energy
(D) None of the above

Q.59 The phenomenon of photo electric emission depends on-
(A) Only wave length of incident light (B) Only work function of surface
(C) Only nature of surface (D) All of the above

Q.60 Photo electric effect is the phenomenon in which-
(A) Photons come out of a metal when it is hit by a beam of electrons
(B) Photons come out of the nucleus of an atom under the action of an electric filed
(C) Electrons come out of metal with a constant velocity depending on frequency and intensity of incident light
(D) Electrons come out of a metal with different velocity not greater than a certain value which depends only on the frequency of the incident light wave and not on its intensity.

EXERCISE - 4

MATCH THE COLUMN–

Each question contains statements given in two columns which have to be matched. Statements (A, B, C, D) in **column I** have to be matched with statements (p, q, r, s) in **column II**.

Q.1 Match the processes given in Column I with the nuclear reactions given in Column II. Symbol Q stands for energy released.

Column I	**Column II**
(A) Alpha decay	(p) $^{235}_{92}U + {}^{1}_{0}n \rightarrow {}^{141}_{56}Ba + {}^{92}_{36}Kr + 3\left({}^{1}_{0}n\right) + Q$
(B) Beta decay	(q) $^{3}_{1}H + {}^{2}_{1}H \rightarrow {}^{4}_{2}He + Q$
(C) Nuclear fission	(r) $^{230}_{90}Th \rightarrow {}^{226}_{90}Ra + {}^{4}_{2}He + Q$
(D) Nuclear fusion	(s) $^{137}_{55}Cs \rightarrow {}^{137}_{56}Ba + e^{-} + \bar{\nu} + Q$

Q.2 Column II give fission probability relative to U^{236} for nuclide given in column I match them correctly.

Column I	**Column II**
(A) U^{236}	(p) 0.001
(B) U^{239}	(q) 1
(C) Pu^{240}	(r) 1.5
(D) Am^{244}	(s) 0.0002

Q.3 Match the processes in column I with their properties in Column II.

Column I	**Column II**
(A) Nuclear fission	(p) involves weak nuclear forces
(B) Nuclear fusion	(q) involves conversion of matter into energy
(C) β-decay	(r) atoms of higher atomic number are used
(D) Exothermic nuclear	(s) atoms of lower atomic reaction number are used

Q.4 Match the following columns

Column I	**Column II**
(A) Nuclear fusion	(p) Converts some matter into energy
(B) Nuclear fission	(q) Generally possible for nuclei with low atomic no.
(C) β-decay	(r) Generally possible for nuclei with higher atomic number
(D) Exothermic nuclear	(s) Essentially proceeds by reaction weak nuclear forces

ASSERTION & REASON TYPE

Each question contains STATEMENT-1 (Assertion) and STATEMENT-2 (Reason). Each question has 5 choices (A), (B), (C), (D) and (E) out of which ONLY ONE is correct.

(A) Statement-1 is True, Statement-2 is True; Statement-2 is a correct explanation for Statement-1.

(B) Statement-1 is True, Statement-2 is True; Statement-2 is NOT a correct explanation for Statement-1.

(C) Statement -1 is True, Statement-2 is False.

(D) Statement -1 is False, Statement-2 is True.

(E) Statement -1 is False, Statement-2 is False.

Q.5 **Statement 1 :** Nuclear forces are independent of charges.

Statement 2 : Nuclear force is not a central force.

Q.6 **Statement 1 :** The strength of photoelectric current depends upon the intensity of incident radiation.
Statement 2 : A photon of energy E (= hν) possesses a mass equal to E/c^2 and momentum equal to E/c.

Q.7 **Statement 1 :** Binding energy (or mass defect) of hydrogen nucleus is zero.
Statement 2 : Hydrogen nucleus contain only one nucleon.

Q.8 **Statement 1 :** U^{235} nucleus, by absorbing a slow neutron undergoes nuclear fission with the evolution of a significant quantity of heat
Statement 2 : During nuclear fission a part of the original mass of U^{235} is lost and gets converted into heat.

Q.9 **Statement 1 :** The rest mass energy of a nucleus is smaller than the rest mass energy of its constituent nucleons in free state.
Statement 2 : Nucleons are bound together in a nucleus.

Q.10 **Statement 1 :** In a decay process of a nucleus, the mass of products is less than that of the parent.
Statement 2 : The rest mass energy of the products must be less than that of the parents.

Q.11 **Statement 1 :** In street light circuits, photo-cells are used to switch on and off the lights automatically at dusk and dawn.
Statement 2 : A photocell can convert a change in intensity of illumination into a change in photocurrent that can be used to control lighting system.

EXERCISE - 5

PREVIOUS YEARS BOARD QUESTIONS

Q.1 Name the process of large energy production in the sun.

Q.2 Why CNG considered as environmental friendly fuel ?

Q.3 Name two main combustible components of biogas.

Q.4 Name any two elements that are used in fabricating solar cells.

Q.5 A decoration light has red, blue, green and yellow bulbs in series, which one of them would give off light of longest and shortest wavelength ?

Q.6 Which two components of sunlight are not visible to us ?

Q.7 How sunlight is converted to heat in a box type solar cooker?

Q.8 Name any one element that is used in making solar cells. On what property of the element in this use based ?

Q.9 Name the major constituent of natural gas.

Q.10 State the energy transformation taking place when a boy is ridding a bicycle.

Q.11 What is power ? Write its S.I. unit.

Q.12 What is the order of electric current produced by a solar cell measuring 4 cm^2 ?

Q.13 Which component of sunlight facilitates drying of wheat during harvesting ?

Q.14 Write any two harmful radiations emitted by nuclear wastes.

Q.15 Name any two radiations emitted by the sun that are not visible to human eye.

Q.16 Name the component of sunlight prolonged exposure to which may cause skin cancer.

Q.17 Mention any two harmful effects of nuclear radiations on human body.

Q.18 Name any two semiconductors which are used in manufacture of solar cells.

Q.19 Name the main constituents of gas.

Q.20 In what respect fuel oil is better than coal ?

Q.21 How many joules of energy is needed to raise the temperature of one kilogram of water through 1ºC ?

Q.22 A torch cell converts one form of energy to another form. Name these forms.

Q.23 In which form would you like to convert cow dung to maximum advantage ?

Q.24 Name the device which directly convert solar energy to electrical energy.

Q.25 Lights from two different sources A and B have wavelength 0.3 micron and 0.7 micron respectively. Which one of the two light carry more energy per photon ?

Q.26 State the composition of water gas.

Q.27 The mass number of three elements A, B and C are 2, 180 and 230 respectively. Which one of them is suitable to make a hydrogen bomb ?

Q.28 What is the range of temperature which can be attained in a box type solar cooker in two to three hours exposure to sun.

Q.29 Mention any two uses of wind energy.

Q.30 Name the type of nuclear reaction by which the Sun produces its energy. List two conditions which are present at the centre of the Sun responsible for this reaction.

Q.31 What is the cause of release of unusually large energies in nuclear fission reactions ? How is the energy per fission calculated?

Q.32 Define a 'nuclear fusion reaction'. Describe the conditions for the occurrence of a nuclear fusion reaction.

Q.33 Give one example of a nuclear fusion reaction. Describe one method for making such reaction possible.

Q.34 The sue of dry wood as domestic fuel is not considered as good. State two reasons for it.

Q.35 Why burning of firewood in traditional chulhas is considered disadvantageous ? (Give two reasons)

Q.36 In which forms the solar energy stored in the oceans ? Mention any two forms that could be harnessed to obtain energy in usable form.

Q.37 Electricity generated at hydroelectric power stations is considered to be another form of solar energy. Explain.

Q.38 People at hill stations often get sunburns on their skin. Which component of sunlight is responsible for this ? Why is this effect not usually observed near sea level ?

Q.39 How is biogas produced ? Which component of biogas is useful as a fuel ?

Q.40 Name two fuels which are produced from water. Give their composition.

ANSWER KEY

EXERCISE - 1

(1) Kinetic energy **(3)** Solar cell.

EXERCISE - 2

(1) Sun **(2)** 1.4 kW/m^2 **(3)** solar cooker. **(4)** electricity. **(5)** wind energy
(6) kinetic **(7)** 70.8%, biggest, heat capacity, energy **(8)** tidal energy **(9)** geothermal
(10) Bagasse **(11)** methane, hydrogen, hydrogen sulphide **(12)** destructive distillation.
(13) biomass **(14)** anaerobic degradation **(15)** Infrared radiations.
(16) True **(17)** True **(18)** False **(19)** False **(20)** False
(21) True **(22)** True **(23)** True **(24)** True **(25)** False

EXERCISE - 3

Q	1	2	3	4	5	6	7	8	9	10	11
A	A	D	B	C	B	D	A	C	C	D	A
Q	12	13	14	15	16	17	18	19	20	21	22
A	B	B	A	B	A	A	C	A	C	C	C
Q	23	24	25	26	27	28	29	30	31	32	33
A	D	D	C	D	C	C	D	D	C	B	C
Q	34	35	36	37	38	39	40	41	42	43	44
A	A	B	C	A	A	A	C	D	A	A	B
Q	45	46	47	48	49	50	51	52	53	54	55
A	C	B	B	C	B	D	D	B	C	D	B
Q	56	57	58	59	60						
A	C	C	C	D	C						

EXERCISE - 4

(1) (A) → r (B) → s (C) → p (D) → q
(2) (A) → q (B) → p (C) → r (D) → s
(3) (A) → q, r (B) → q, s (C) → p (D) → q
(4) (A) → p, q (B) → p, r (C) → s, p (D) → p, q, r
(5) (B) **(6)** (B) **(7)** (A) **(8)** (A)
(9) (A) **(10)** (A) **(11)** (A)

EXERCISE - 5

(1) Nuclear fusion reaction.
(2) CNG gas create less pollution.
(3) (i) Methane (ii) Hydrogen.
(4) Silicon and Germanium.
(5) Longest Wavelength – Red ; Shortest Wavelength – Blue.
(6) Infra-red and Ultra-violet.
(8) Germanium or Silicon.
(12) 0.4 to 0.5 volt at 6.0 mA.
(13) Infra-red radiation.
(14) α, β and γ rays. (Any two)
(15) Infra-red and Ultra-violet.
(16) Ultra-violet light.
(17) (i) Genetical disorders (ii) Skin cancer.
(18) Silicon and Germanium.
(21) 4180 joules.
(23) Biogas.
(24) Solar cell.
(28) 100ºC to 140ºC.
(29) (i) To produce electricity. (ii) To lift water or grind materials.