Q) The optimum solid concentration in a biogas is --> 7-9%
Q) Compared to the fixed dome model off a biogas plant, a floating drum type plant --> Is more efficient
Q) The water content in anhydrous ethanol is --> 0.7%
Q) In energy farming, the plantation and harvesting is planned and managed so as to --> Insure the sustainability of the resource
Q) Fluidized bed gasifier produces --> Low tar and high particulate
Q) Liquefaction of biomass is carried out at --> Relatively low temperature and high pressure
Q) Storage of biomass energy is --> Inbuilt feature
Q) Bio gas is predominantly --> Methane
Q) Heating value of producer gas is --> 4 - 8 MJ/m³
Q) Bio-diesel is --> An upgraded vegetable oil
Q) In green plants which process occurs during night --> Respiration
Q) Choose carbon content in charcoal --> 75% to 80%
Q) Which process is primarily responsible for the production of biomass energy --> Photosynthesis
Q) Main advantage of Biomass energy is -->
Q) When ambient temperature of biogas plant decreases below 20°C --> The gas production decreases
Q) Which country is the largest producer of sugar cane? --> BRAZIL
Q) Increasing the pressure inside a biogas plant --> Decreases the gas production
Q) Which material should be added in the feed of a biogas plant to increase nitrogen content? -->

**Chopped leguminous plants**
Q) The percentage of ethanol in blended petrol (gasohol) is --> 20%
Q) Compared to a petrol operated engine, an ethanol operated engine --> Produces 20% more power
Q) Which process has been producing charcoal in centuries --> Carbonization
Q) Which biogas plants do not in India --> BatchType
Q) Respiration only happens --> Entireday
Q) Ethanol yield from which hydrocarbon rich plants --> Wheat, Potato
Q) Incineration of dry biomass to obtain --> Heat
Q) Anaerobic digestion of wet biomass produces --> Methane
Q) Which is high temperature pyrolysis --> 1000°C
Q) Bio gas produced in a --> Digester
Q) Bio gas usage is more in --> China
Q) Raw material for Bio-Ethanol is --> Sugar
Q) Which is the thermal process in biomass energy production --> Hydrogenation
Q) Hydrolysis is the process with the influence of --> Water
Q) Which is the final stage of anaerobic digestion --> Methanoproduction
Q) Wood gasification is a type of --> Pyrolysis
Q) Highest temperature in pyrolysis is --> 1000°C
Q) Hydro carbon has molecular weight close to --> Petroleum
Q) Ethanol boiling point is --> 78°C
Q) Wet Bio mass is converted into Bio gas by --> AnaerobicFermentation
Q) Bio gas is not used as a fuel for --> Agriculturalpumps
Q) Deen Bandhu Biogas plant is at --> NewDelhi
Q) UNDARP means --> UnitedSocio Economic Development and Research Programme
Q) Which of the following is used for biomass energy conversion --> AnimalWaste
Q) Biomass energy is mostly used in --> IC engines
Q) Corrosion is possible in --> Fixed dome type
Q) Photo Synthesis means --> Light combination
Q) NEERI means --> National Environmental Engineering Research Institute
Q) Which is the Continuous type biomass plant --> Floating type
Q) Fixed dome type biomass plant has --> Less heat loss
Q) The average thickness of the crust is about --> 30 Km
Q) The zone of likely geothermal sites corresponds roughly to --> The regions of seismic and volcanic activities
Q) Most of the worlds geothermal sites today are located --> Near the edges of Pacific plate
Q) In most hydrothermal fields, hot spots occur at a depth of about --> 2 to 3 Km
Q) The temperature in the crust increases with depth at a rate of about --> 30°C/km
Q) The temperature at the inner core of the earth is about --> 4000°C
Q) Which one of the following statements is not true for a geothermal energy system? --> It has no inherent storage feature, so extra storage facility is required
Q) The worlds total present installed electrical power generating capacity from geothermal resource is about --> 9000MW
Q) Worlds first geothermal electric power plant is located at --> Larderello, Italy
Q) The country having maximum (geothermal based) installed capacity for electric as well as thermal power is --> USA
Q) Globally geo thermal energy is growing steadily at a rate of about what percent per year? --> 8.5
Q) Water is pumped in through which well into the hot dry rock fracture --> Injection
Q) The thermal energy contained in the interior of the earth is called? --> Geothermal energy
Q) Countries which do not have Geo thermal resources --> Germany
Q) Compared to a conventional steam plant, the efficiency of geothermal plant is --> Lower
Q) How many types of geothermal sources are there? --> 4
Q) Compared to a conventional steam plant, the temperature and pressure in a geothermal plant are --> Lower
Q) In a geopressed resource, the pressure can go as high as --> 1350 atm
Q) Name the country where the worlds largest EGS project is currently under development --> Australia
Q) A geothermal resource tapped for electricity generation could provide energy for about --> 50 Years
Q) Non thermal areas having a temperature gradient of --> 10-40°C
Q) HDR means --> Hot Dry Rock
Q) Petro thermal systems is also called --> Hot Dry Rock
Q) The global electricity production from geothermal resources in 1979 was --> 1872 MW
Q) At present the technology for economic recovery of energy is available for which resource? --> Hydro thermal
Q) Magma is commonly present at depths greater than --> 24 to 40 Km
Q) The magma (molten mass) in the temperature range --> 1250°C
Q) Countries which have known Geo - thermal resources --> Japan
Q) The mineral present on the inner core of the earth --> Nickel
Q) Which of the following is not a geothermal source --> Hetero thermal
Q) In Geo thermal energy conversion, the conversion efficiency is --> 20%
Q) Hot Dry Rocks are related to --> Hydrothermal
Q) Pulp and Paper is used for forming geo thermal energy of --> Steam
Q) Low enthalpy geothermal fluids are used in the following sectors --> Agriculture Field
Q) HFU means --> Heat flow Unit
Q) HFU is $0.0418$ watt per sq.m
Q) Green house pilot project in chumathang was commissioned in the year $1974$
Q) How many known thermal areas available in India $340$
Q) The T-S diagram represents the variation of $\rightarrow$ Temperature and Entropy
Q) Hatchobaru plant build on the island in $\rightarrow$ Japan
Q) Geothermal preheat arrangement is suitable for $\rightarrow$ Low Temperatures
Q) HRE means $\rightarrow$ Helical Rotor Expander
Q) In liquid dominated system, the degree of salinity of water $\rightarrow$ 3000 to 2,80,000 ppm
Q) flashed steam systems have been not used in the following country $\rightarrow$ Brazil
Q) Semi thermal fields produce hot water at temperatures above $100^\circ$C
Q) Binary cycle system is suitable for $\rightarrow$ Water
Q) Example of dry steam fields is $\rightarrow$ Geyser
Q) The engine areas heat exchanges will require for $\rightarrow$ OTEC plants $\rightarrow$ Closed cycle
Q) The tremendous turbines would be requires for $\rightarrow$ OTEC plants $\rightarrow$ Open cycle
Q) In the claudecycle turbine system $\rightarrow$ working fluid $\rightarrow$ water
Q) In the Anderson system $\rightarrow$ is a liquid working fluid $\rightarrow$ ammonia
Q) Lambert law states that each layer of $\rightarrow$ thickness absorbs the same fraction of light that passes through it $\rightarrow$ equal
Q) The process of OTEC requires that the surface water & cold water from depth nearly ______ meters $\rightarrow$ 1000-1500m
Q) The ________ gradient can be utilized in a heat engine to generate power $\rightarrow$ temperature
Q) OTEC plants have ________ efficiency $\rightarrow$ low
Q) Hydro accurate for ________ percent of world total energy $\rightarrow 25\%$
Q) Solar energy absorption by water takes place according to ________ law of absorption $\rightarrow$ lamberts
Q) The direct electric current to decompose sea water by the process of $\rightarrow$ electrolysis
Q) The hydrogen could be combined with atmospheric nitrogen to form ________ for use as fertilizer $\rightarrow$ ammonia
Q) ________ are required to remove the gases dissolved in sea water which are non condensing one $\rightarrow$ gasesifies
Q) ________ evaporator is used to evaporate the measure into steam at low pressure $\rightarrow$ Flash
Q) A significant temperature difference at least about ________ $^\circ$C surface & deep ocean water $\rightarrow$ 20
Q) OTEC plant would be located at offshore inorder to provide access to the deep ________ water $\rightarrow$ cold
Q) The closed cycle approach was proposed by ________ in 1920 $\rightarrow$ bar jot
Q) The best sites in the tropical belt between about ________ $N \& S \rightarrow 20^\circN \& 20^\circS$
Q) The maximum thermal efficiency of heat exchanger in OTEC plants $\rightarrow 3.4\%$
Q) The major cause of low benefit in mini hydel plant $\rightarrow$ cost ratio
Q) The major limitation of mini hydel power plant $\rightarrow$ Time consumption
Q) The capacity of first hydel power plant is ________ $\rightarrow 300KW$
Q) Which of the following is major source for mini hydel plant $\rightarrow$ diesel
Q) The maximum tidal range is nearly ________ m $\rightarrow 13.5m$
Q) The output rating of bulb type design in mini hydel power plant $\rightarrow 200MW$
Q) The amplitude of tides covers a wide range from 25cm to ________ m $\rightarrow 10$
Q) ________ are oxyzen are the main products from electrolysis $\rightarrow H_2$
Q) The first tidal plant was commissioned in ___________ --> 1966
Q) The average tidal range is nearly _______ m --> 8.4 m
Q) The device are mounted on a linear spine oriented at 90° to wave direction with maximum energy called __________ mode --> Terminator
Q) The energy capture ratio of an attenuator is ______ % that of a terminator of same length --> 62
Q) When energy is required from a wave front having the same length on the devices the maximum capture rate is __________ --> unity
Q) A two dimensional progressive wave that has a free surface & is acted upon by gravity is characterized by __________ --> Wave length
Q) Advantage of tidal power generation is __________ --> free from pollution
Q) A wave energy device extracts from the sea changes it to __________ --> Mechanical motion
Q) The speed regulation of the tidal power plant is __________ --> 2.5
Q) The estimated tidal power plant in India is about __________ --> 15000MW
Q) The combination of the open & closed cycle called --> hybrid cycle
Q) Average power per unit begin in a single basis system is becomes ______ watts --> 0.225R²
Q) The diameter of generator in high level reservoir wave machine to produce 1mw power --> 20m
Q) The average wave power potential in India is __________ --> 5-10
Q) For a wave height of 2m and the period of 6sec, the linear power output is about __________ --> 10
Q) The wave energy device extracts energy from sea and change it to __________ --> mechanical
Q) The wave energy research & development was initiated by govt. of India in ___________ --> 1982
Q) The purpose of composite piston in wave energy conversion process --> pressure
Q) The unit wave propagation velocity is __________ --> m/sec
Q) The average wave power potential in India is __________ --> 5-10
Q) The estimated wave energy potential in India is around 40000 MW for its __________ km long --> 6000
Q) The disadvantage of wave energy conversion is __________ --> complexity
Q) The temperature of hydrogen in thermo chemical method --> 700c-1000c
Q) The purpose of composite piston in wave energy conversion process --> pressure
Q) Thermoelectric cooling can be achieved through __________ --> Peltier effect
Q) A temp gradient in semiconductors in addition to different cause heat flow, called __________ --> Fourier law
Q) The advantages fuel cell over conventional power plants --> no cooling water is needed
Q) The efficiency is hydro electrical power plant --> 90%
Q) A light weight regenerative fuel cell used in airplane called __________ --> helios
Q) The maximum efficiency of energy conversion fuel cell is __________
Q) Emf cell is based on the principle of __________ --> electro chemical cell
Q) The general requirement for fuel cell --> reactivity & invariance
Q) In an MHD generator, _______ ionized gas serves as the moving conductor --> high velocity
Q) The power o/p varies directly as _______ --> conductivity
Q) In thermo dynamics, heat engine uses an ___ gas as a working substance --> Electron gas
Q) A diode that transformer heat to electricity by law of __________ --> thermonic emission
Q) _______ describe the heat release in material with current through it --> Kelvin heat
Q) _______ ionization processes, which are due to the collision of agitated particles constituting the gas --> thermal
Q) The heat released is proportional to ________ the difference in peltier coefficient of material -> current
Q) Thermoelectric temp sensing & power generation can be achieved by ________ -> Seebeck effect
Q) Voltage difference can be used to determine the in known temperature with the help of ________ -> thermocouple
Q) An incremental temperature change in material cause a corresponding change in voltage is given by ________ -> Seebeck effect
Q) The disadvantage of solar cell is ________ -> high cost
Q) Solar cells are mainly manufactured with silicon, because of ________ -> high purity
Q) The flux density of super conducting magnets are around ________ Wb/m^2 -> 10
Q) For MHD system, the working fluid is ________ -> air
Q) The solar array converts the insulation to useful ________ electric power -> DC -> curve
Q) ________ factor related to the operating unit at maximum power -> curve
Q) The efficiency of photovoltaic system in 1954 in ________ -> 6%
Q) The generation of an emf as a result of the absorbing of ionizing radiation called ________ -> Photovoltaic effect
Q) The most commonly used photovoltaic cells are barrier layer type like ________ cells -> Cu-Co2
Q) ________ type of cells are used in automatic control system -> photovoltaic cells
Q) Advantage of molten carbonate fuel cell is ________ -> Less cost of fuels
Q) The cell efficiency of MCFC system ________ c temperature -> 60%
Q) The SPFC system cell operates at ________ c temperature -> 40-60
Q) The desirable properties of an ideal ion exchange membranes is ________ -> zero
Q) Fuel cells are operate on the principle of ________ -> electrochemistry
Q) The electrolyte used in hydro oxygen fuel cell is ________ -> potassium
Q) In MHD system the coal is combusting at the temp of ________ -> 3000°k
Q) The efficiency of MHD plant is nearly ________ -> 20%
Q) In open cycle MHD system ________ is burn to produce hot gas -> Coal
Q) The efficiency of open cycle MHD system is nearly -> 47%
Q) High voltage atomic battery performance can be independent on ________ -> temperature
Q) ________ Battery can be used in small radio systems -> LV
Q) ________ are particularly suitable for thermo electric applications -> Semiconductor
Q) A Carnot gas cycle operating in a parameter. -> temp
Q) The maximum power o/p from EGD is about ________ watch per channel. -> 10-30W
Q) ________ are used to convert chemical energy to dc electrical energy -> Fluid cell
Q) The flow of conducting fluid in the presence of magnetic & electric field called ________ -> magneto hydro dynamic system
Q) Corona effect can be used in ________ type generator. -> Electro-gas dynamic generator
Q) The mech potential energy of fluid directly into electrical energy called ________ -> Electro static mech system
Q) Electro gas dynamic generator are operated at ________ temperature. -> low