

Program: BE Biotechnology
 Curriculum Scheme: Revised 2016
 Examination: Final Year Semester VIII
 Course Code : BTE8041
 Course Name: Engineering Stream: Non-conventional Sources of Energy

Time: 1 hour

Max. Marks: 50

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1		The higher the carbon content in the coal, the more
	a	Pollution involved
	b	Clean combustion
	c	Efficiency of coal
	d	Time for coal to burn
2		Biomass refers to ----
	a	Agricultural waste
	b	Sewage ,wood products
	c	Any organic matter
	d	Manure
3		What is the outcome of anaerobic decomposition of biomass?
	a	H ₂
	b	N ₂
	c	O ₂
	d	CH ₄

4		Which of the following is a disadvantage of renewable energy?
	a	High pollution
	b	Available only in few places
	c	High running cost
	d	Unreliable supply
5		Which of the following is not under the Ministry of New and Renewable Energy?
	a	Wind energy
	b	Solar energy
	c	Tidal energy
	d	Large hydro
6		Where is the largest Wind Farm located in India?
	a	Jaisalmer Wind Park, Rajasthan
	b	Muppandal Wind Farm, Tamil Nadu
	c	Vaspeta Wind Farm, Maharashtra
	d	Chakala Wind Farm, Maharashtra
7		The world's first 100% solar powered airport located at
	a	Cochin, Kerala
	b	Bengaluru, Karnataka
	c	Chennai, Tamil Nadu
	d	Mumbai, Maharashtra

8		The --- PV system is latest cleaner energy.
	a	Floating
	b	Panels
	c	HDPE sheets
	d	Solid base
9		Biomass can be converted to
	a	Methane gas
	b	Ethanol
	c	Biodiesel
	d	All of the above
10		Following is true for biomass and biofuels
	a	Their contribution in reduction in CO2 emissions is limited
	b	Both emit large amount of air pollution when burnt
	c	They consume large amounts of water
	d	All of the above
11		What is Zero Net Energy?
	a	Means not using energy.
	b	Means not capturing from resources.
	c	Means not to be tapped from internet.
	d	Total energy used is almost equal to renewable energy produced on site.

12		Biogas is formed in the
	a	Presence of air only
	b	Presence of water only
	c	Absence of air only
	d	Presence of water and absence of air
13		When you grow up---
	a	More efforts to have Green buldings and sustainable development. .
	b	The world will explore more coal mines
	c	Reneables wil get exhausted.
	d	The efforts will be more to use nuclear power.
14		There are four fuels which all contain only carbon and hydrogen. The fuel having highest calorific value will be one which has:
	a	More of carbon but less of hydrogen
	b	Less of carbon but more of hydrogen
	c	Equal proportions of carbon and hydrogen
	d	Less of carbon as well as less of hydrogen
15		Biogas is a better fuel than animal dung cake because
	a	Biogas has lower calorific value.
	b	Animal dung cake has high calorific value
	c	Biogas burns and leaves no residue
	d	Biogas is used as a fuel for cooking only wheareas dung cake can be used for cooking, illuminant the lanterns.

16		The most common Hybrid solar power system means--
	a	Solar power with fossil fuels storage system
	b	Solar & wind energy
	c	Solar & thermal energy
	d	Ligt& heat systems
17		Any location where the fresh water meets salty water is called _____
	a	Dredging
	b	River
	c	Delta
	d	Estuary
18		The first oil well was drilled in
	a	USA
	b	USSR
	c	UK
	d	India
19		The radiation present in the sunlight that gives us the feeling of hotness is
	a	Visible radiation
	b	Infra-red
	c	Red
	d	Ultra-violet

20		What is the energy equivalent of one atomic mass unit?
	a	93.1 MeV
	b	9.31 MeV
	c	1 MeV
	d	931 MeV
21		The commercial source of energy.....
	a	Fossil fuels,hydropower,nuclear power
	b	Wood,animal waste,agriculture waste
	c	Solar,wind,biomass
	d	None of the above
22		Minimum quantity of fuel is required.....
	a	Thermal power plant
	b	Nuclear power plant
	c	Hydro electric power plant
	d	Diesel power
23		Which of the following country generate all their electricity using renewable energy?
	a	Iceland
	b	England
	c	USA
	d	China

24		Renwable energy often displaces conventional fuel in which of the following area
	a	Space heating
	b	Transportation
	c	Electricity generation
	d	All of the above
25		Which of the following is used as fuel for transportation
	a	Ethanol
	b	Aldehyde
	c	Ketone
	d	All of the above
26		When the sea organisms die, their remains settle on the ocean floor and they become a part of ----
	a	Gas
	b	Oil
	c	Ocean sediment
	d	Magma
27		If you could use any source of energy for heating your food which one would you prefer? State one reason for your choice.
	a	LPG
	b	Coal
	c	Oil
	d	Wood

28		Which of the following is obtained from coal tar ?
	a	Petrol
	b	Coke
	c	Air
	d	Naphthalene balls
29		Geothermal energy is possible where there is----
	a	High seismic activity and are prone to volcanoes
	b	Lot of heat in surrounding area.
	c	Green forests
	d	Hot water ponds
30		When coal burns in air then----
	a	Carbon dioxide is formed
	b	Sulphur dioxide is formed
	c	Carbon monoxide is formed
	d	Hydrogen gas is formed
31		Name the windmill which has four blades mounted on a central post.
	a	Post mill
	b	Smock mill
	c	Tower mill
	d	Fan mill

32		Rocks that allow fluids to pass through them are known as
	a	Semi-rocks
	b	Partial rocks
	c	Permeable rocks
	d	Total rocks
33		Which are the main constituents of fuel from given options?
	a	Carbon and Nitrogen
	b	Oxygen and Hydrogen
	c	Carbon and Hydrogen
	d	Helium and Oxygen
34		Which fuel is used widely in steam power plants?
	a	Oil
	b	Gas
	c	Coal
	d	Petroleum
35		What is the phenomenon of the formation of coal called?
	a	Metamorphism
	b	Diagenesis
	c	Photosynthesis
	d	Protolith

36		On what basis is the coal classified?
	a	Period of formation
	b	Depending on capacity to burn
	c	Region/area where is it formed
	d	Physical and chemical composition
37		Energy in the form of heat and light is obtained by
	a	Biomass
	b	Fossil fuels
	c	Sun
	d	Wind
38		How many forms of fossil fuels are there
	a	One
	b	Two
	c	Three
	d	Four
39		Which is the best site for tapping wind energy?
	a	Mountains
	b	Sea coast
	c	Plains
	d	Can not say

40		What is the characteristic required to have good wind power?
	a	High annual wind speed
	b	Humid equatorial region
	c	Frequency of cyclones
	d	Area where lots of trees present
41		The rise of sea-water during high tide is caused by the gravitational pull of the:
	a	Sun
	b	Earth
	c	Moon
	d	Mars
42		The main source of production of biogas is.....
	a	Human waste
	b	Wet cow dung
	c	Wet livestock waste
	d	All of the above
43		A good fuel should possess
	a	High ignition temperature
	b	Moderate ignition temperature
	c	High calorific value
	d	Both high calorific value and moderate ignition temperature

44		Both power and manure is provided by:
	a	Nuclear plants
	b	Thermal plants
	c	Biogas plants
	d	Hydroelectric plant
45		The one thing that is common to all fossil fuels is that they:
	a	Were originally formed in marine environment
	b	Contain carbon
	c	Have undergone the same set of geological processes during their formation
	d	Represent the remains of one living organisms
46		The most abundantly available fossil fuel in India is
	a	Coal
	b	Natural Gas
	c	Petroleum
	d	Oil
47		Where is the first oil well drilled in Asia?
	a	Karachi, Pakistan
	b	Assam, India
	c	Tokyo, Japan
	d	Kandy, Sri Lanka

48		The advantage of Fluidised bed combustion boilers are
	a	Higher combustion efficiency
	b	High ash content
	c	Only higher heating value fuel can be used.
	d	High temperature combustion
49		Which of the following was the first solar powered aircraft to complete a circumnavigation of the world?
	a	Solar impulse
	b	Solar impulse 2
	c	Solar impulse 3
	d	Solar impulse 4
50		Which of the following gases is the main constituent of natural gas?
	a	Methane
	b	Ethane
	c	Propane
	d	Butane
51		Which of the following organism produces biogas from cow dung slurry in the biogas plant?
	a	Aerobic bacteria
	b	Anaerobic bacteria
	c	Protozoa
	d	Fungi

52		Tidal energy development needs
	a	Huge capacity and long construction time.
	b	Huge capacity and low construction time.
	c	Low capacity and long construction time.
	d	Low capacity and low construction time.
53		Minimum quantity of fuel is required.....
	a	Thermal power plant
	b	Nuclear power plant
	c	Hydro electric power plant
	d	Diesel power
54		Which of the following is obtained from coal tar ?
	a	Petrol
	b	Coke
	c	Air
	d	Naphthalene balls
55		Solar thermal electricity
	a	Electromagnetic to electricity
	b	Solar to heat water to steam and to turbines
	c	Solar to mechanical to turbines
	d	Heat to Turbines

56		Choose the correct statement
	a	Sun can be taken as an inexhaustible source of energy
	b	There is infinite storage of fossil fuel inside the earth
	c	Hydro and wind energy plants are non-polluting sources of energy
	d	Waste from a nuclear power plant can be easily disposed off
57		The largest installed wind power generation in India belongs to -----
	a	Tamilnadu
	b	Andhra pradesh
	c	Punjab
	d	Maharashtra
58		Uneven heating occurs on land surface and water bodies are due to
	a	Air Currents
	b	Solar radiation
	c	Lunar eclipse
	d	None of the above
59		Geothermal electric plants were traditionally built exclusively
	a	Near the water source
	b	Near the dam
	c	On the edges of tectonic plates
	d	Near the plateau

60		Today India is a --- player in the global wind energy market.
	a	Major
	b	Minor
	c	Largest
	d	Not big timer
61		Which is one of most important materials as solar grade silicon?
	a	Crushed silicon
	b	Crystalline silicon
	c	Powdered silicon
	d	Silicon
62		In remote areas where limited access to fresh water
	a	Supplying water on large scale
	b	Less amount of solar radiation
	c	None of above
	d	Suggest the collectors used in optical system.
63		What is the type of wind energy?
	a	Conventional energy
	b	Renewable energy
	c	Non - renewable energy
	d	Commercial energy

64		Which is the best site for tapping wind energy.
	a	Mountains
	b	Sea coast
	c	Plains
	d	Can not say
65		In which of the following region winds are stronger and constant
	a	Dry n sunny region
	b	Offshore
	c	Low altitudes sites
	d	All of the above
66		Following country met more than 40% of its electricity demand from wind energy
	a	Denmark
	b	Portugal
	c	Ireland
	d	Spain
67		In which country, the world's first Geothermal power station is established?
	a	India
	b	Italy
	c	USA
	d	New Zealand

69		Following are the signs of the large amount of heat lying in the earth's interior on day today basis.
	a	Volcanoes
	b	Geysers
	c	Hot springs
	d	All of the above
70		The commercial source of energy.....
	a	Fossil fuels,hydropower,nuclear power
	b	Wood,animal waste,agriculture waste
	c	Solar,wind,biomass
	d	None of the above
71		Which of the following country generate all their electricity using renewable energy?
	a	Iceland
	b	England
	c	USA
	d	China
72		Renewable energy often displaces conventional fuel in which of the following area
	a	Space heating
	b	Water spraying
	c	Insulation
	d	Turbines

73		The use of -----is essential for the production of electrical energy.
	a	Turbines
	b	Wind power
	c	Water
	d	Shaft
74		If you could use any source of energy for heating your food whichfollowing one is prefer to use.
	a	LPG
	b	Coal
	c	Oil
	d	Wood
75		Beam radiations are measured with
	a	Anemometer
	b	Pyrheliometer
	c	Sunshine recorder
	d	All of the above
76		Can you use solar cookers for canning & preservation of food?
	a	Yes
	b	No
	c	Difficult to comment
	d	May be possible

77		Which is economical way suggested for collection & storage of solar radiation?
	a	Solar pond
	b	Flat plate collector
	c	Concentrating collector
	d	Air heater
78		Solar energy can be directly converted to electrical energy by which of the following de-vices?
	a	solar cooker
	b	solar heater
	c	solar cell
	d	solar geyser
79		Energy in the form of heat and light is obtained by
	a	Biomass
	b	Fossil fuels
	c	Sun
	d	Wind
80		Which renewable resource generate maximum power in India?
	a	Wind
	b	Solar
	c	Geothermal
	d	Biomass

81		Wind is caused due to
	a	Uneven heating of earth's surface
	b	Cyclic movement
	c	Air
	d	Water
82		What happens if the turbine generators are smaller and operate much longer?
	a	Resulting work is reduced
	b	High power generation
	c	Less power loss
	d	Less sound is created
83		The following factors affects the distribution of wind energy
	a	Mountain chains
	b	The hills, trees and buildings
	c	Frictional effect of the surface
	d	All of the above
84		What is the characteristic required to have higher wind power?
	a	High annual wind speed
	b	Plains
	c	Frequency of cyclones
	d	Area where lots of trees present

85		Wind energy is harnessed as _____ energy with the help of windmill or turbine.
	a	Mechanical
	b	Solar
	c	Electrical
	d	Heat
86		Where can you get High Wind Speed in India?
	a	Western Rajasthan
	b	Maharashtra
	c	Kerala
	d	Himachal pradesh
87		What is use of wind mill on small scale?
	a	To have aesthetics
	b	To pump water on farms
	c	To run turbine
	d	All of above
88		Which is the major pollutant in Geothermal ?
	a	H ₂ S
	b	CO
	c	N ₂
	d	SO ₂

89		Which type of solar collectors are used to achieve temperatures above 250 °C?
	a	Flat plate collectors
	b	Air heaters
	c	Concentrating collectors
	d	Solar driers
90		How much wind power does India hold?
	a	12000 MW
	b	20000 MW
	c	5000 MW
	d	140000 MW
91		What is the characteristic required to have good wind power?
	a	High annual wind speed
	b	Humid equatorial region
	c	Frequency of cyclones
	d	Area where lots of trees present
92		The hot water is sent into the
	a	Pipe
	b	Vapour
	c	Valve
	d	Heat exchanger

93		Unlike other power plants, in geothermal power plants, no _____ is burnt.
	a	Kerosene
	b	Petrol
	c	Bio gas
	d	Fossil fuel
94		There can be ---- dominated & ---- dominated geothermal plants.
	a	Liquid & solid
	b	Liquid & vapour
	c	Liquid & crystalline substances
	d	Gas & solid
95		When the water is ejected from earth's interior in the form tall columns of hot water, it is called
	a	Geyser
	b	Hot springs
	c	Both Hot springs & geysers
	d	None of the above
96		What is the temperature range of water stored in solar pond?
	a	20 -40 °C
	b	30 – 50 °C
	c	60 - 90 °C
	d	40 - 60 °C

97		Photovoltaic cell or solar cell converts _____ into _____
	a	Thermal energy into electricity
	b	Electromagnetic radiation directly into electricity
	c	Solar radiation into thermal energy
	d	Solar radiation into kinetic energy
98		Solar radiations are measured by less expensive manner by---
	a	Pyrheliometer
	b	Sunshine recorder
	c	Anemometer
	d	Solar data register
99		In PV system design it is essential to know the amount of --- available at-----, at a given time.
	a	Darkness, duration
	b	Location, sunlight
	c	Sunlight, location
	d	Darkness, location.
100		The most important factor in solar sensors is
	a	Location
	b	Duration
	c	Wind
	d	Forests

101		The types of solar radiations are--
	a	Direct, Diffuse
	b	Indirect, Diffuse
	c	Indirect, long wave
	d	Direct,Short wave