REG. NO.												

ST.ANNE'S

COLLEGE OF ENGINEERING AND TECHNOLOGY

EE8703 - RENEWABLE ENERGY SYSTEMS
UNIT 1 – RENEWABLE ENERGY (RE) SOURCES

1. **Major causes for acid rain is _____**
   a) Sulphuric acid
   b) Hydrochloric acid
   c) Nitric acid

2. **Chemicals discharged into the air that have a direct impact on the environment are _____**
   a) Primary pollutant
   b) Secondary pollutant
   c) Tertiary pollutant

3. **Motor vehicles are the major sources for _____**
   a) NO_X
   b) SO_X
   c) CO_2

4. **Motor vehicles are the main source of _____ pollution in urban areas**
   a) CO
   b) CO_2
   c) SO_X

5. **Gasoline, petroleum, coal, kerosene, charcoal, natural gas, etc., are all a form of_____.**
   a) hydrocarbons
   b) NO_X
   c) SO_X

6. **India uses about _____ million T of coal every year to produce electricity**
   a) 500
   b) 100
   c) 250

7. **_____is a process that occurs when fly ash is wet**
   a) **Leaching**
   b) Filtering
   c) Sorting

8. **Greenhouse gases are gases in earth's atmosphere that trap _____**
   a) **Heat**
   b) Light
   c) Wind

9. **Most of the emissions of human-caused (anthropogenic) greenhouse gases come primarily from burning _____**
   a) **fossil fuels**
   b) Bio mass
   c) Plastic

10. **In India, TN alone has about 8326.86MW, thus about _____of the total installed capacity of RE**
   a) **25%**
   b) 15%
   c) 5%

11. **_____is a form of energy that meet our today's demand of energy without putting them in danger**
   a) **Sustainable energy**
   b) Renewable energy
   c) conventional energy

12. **_____are not considered as sustainable energy sources because they are limited, cause immense pollution**
   a) **Fossil fuels**
   b) Solar
   c) Wind

13. **_____ does not include any sources that are derived from fossil fuels or waste products**
   a) **Sustainable energy**
   b) Renewable energy
   c) conventional energy

14._____seeks to reduce negative impacts on the environment and the health and comfort of human beings

a) Sustainable design
b) Architect design
c) Structural design

15. Sustainable design _____ non-renewable energy consumption

a) minimize
b) Maximize
c) equal

16._____ has also been awarded the LEED (Leadership in Energy and Environmental Design) Gold rating

a) Anna Centenary Library
b) World Bank
c) Express Avenue

17. Renewable energy has a direct relationship with _____development

a) sustainable
b) Urban
c) Rural

18._____is based on the idea that there is a continuous supply of energy

a) energy security
b) economy security
c) Social security

19. the energy sector has been perceived as a key to _____development

a) economic
b) Social
c) Cultural

20._____seeks to ensure that energy is clean, affordable, available and accessible to all

a) **sustainable development**
b) social development
c) Cultural development

21. Major advantage of RES is that it is _____

a) sustainable

b) Unsustainable
c) indefensible

22. Renewable energy facilities generally require _____ maintenance than traditional generators

a) Less
b) more
c) equal

23. A wind farm, when installed on agricultural land has _____ environmental impacts than all other energy sources

a) Lowest
b) highest
c) equal

24. No emissions is produced by WTG during its _____

a) Operation
b) production
c) destruction

25. _____ sound and infrasound are emitted from wind turbines.

a) Low frequency
b) high frequency
c) medium frequency

26. The scale of the PV system plays a _____ role in the level of environmental impact

a) Major
b) Minor
c) Slight

27. Electricity generation using geothermal resources involves much _____ greenhouse gas (GHG) emission rates than that of fossil fuels

a) Lower
b) higher
c) medium

28. _____ contributes to global warming due to burning or gasifying the feedstock

a) **Biomass**
b) PV

c) Wind

29. The continual use of warm surface water and cold deepwater over long periods of time, leads to _____ at depth and cooling at the surface

a) slight warming
b) stocky warming
c) sturdy warming

30. The dampening of waves may _____erosion on the shoreline

a) Reduce
b) increase
c) surge

31. Hydrogen can be produced from carbon-free energy sources which eventually _____ greenhouse gas emissions

a) Eliminate
b) retain
c) keep

32. When the temperature generation below 90˚C is adequate, the _____ collector shall be used

a) flat plate
b) concentric
c) parabolic

33. Usually Copper, Steel, Aluminum with tubing of copper is generally used as the _____

a) Absorber
b) reflector
c) collector

34. The Flat plate collector, heats the water up to _____˚C

a) 70˚C
b) 80˚C
c) 90˚C

35. The advantage of the flat plate collector based power generation system is that, it accepts both the _____ radiation

a) direct and diffused
b) direct

c) diffused

36._____ cells are made of semi-conducting material that generates electrical energy when they absorb light

a) Photovoltaic (PV)
b) flat plate collector
c) concentric collector

37.PV cells work on the phenomena called the _____ effect

a) photo voltaic
b) heat exchange
c) kinetic energy

38._____control is the technology used to control the angle of the blades in a wind turbine

a) Pitch
b) yaw
c) phase

39.OTEC produces electricity from the natural thermal gradient of the _____

a) Ocean
b) pond
c) lake

40._____ is a process by which microorganism's breakdown biodegradable material in the absence of oxygen

a) Anaerobic Digestion
b) Pyrolysis
c) Gasification

41.An induction generator produces electrical power when its rotor is turned faster than the _____ speed

a) Synchronous
b) rated
c) fixed

42.The angular speed of the rotating magnetic field is called the _____ speed

a) Synchronous
b) rated
c) fixed

43. The electromagnetic interaction of the rotor current (flux developed by the rotor current) and the stator flux produces the _____

a) Torque
b) slip
c) emf

44. The _____ of the rotor is defined as the ratio of the speed of the rotating magnetic field sweeping past the rotor and the synchronous speed of the stator magnetic field

a) Slip
b) torque
c) emf

45. The induction generator, as a machine has one major drawback of requiring _____ power for excitation

a) Reactive
b) real
c) both

46. In case of standalone systems SCIG, the excitation power can be provided by an external _____connected to the generator terminals

a) Capacitor
b) inductor
c) resistor

47. In the region of _____slip, the machine works as the generator powering the electrical load connected to its terminals

a) Negative
b) positive
c) zero

48. In the region of _____ slip, it works as the motor turning the mechanical load connected to its shaft

a) Positive
b) negative
c) zero

49. An optimum torque is developed in DFIG, when the two vectors are _____to each other

a) Normal

b) parallel
c) 45 degree

50. The mechanical power generated in the rotor circuit is given by the equation, _____.

a) Rr(1–s)/s
b) Rr/s
c) Rr(1–s)