

PARUL UNIVERSITY
COLLEGE OF AGRICULTURE
B.Sc. (Hons.) Agriculture, Winter, 2019 - 20 Examination

Semester: 6**Date: 20/12/2019****Subject Code: 20106351****Time: 10:30 am to 01:00pm****Subject Name: Renewable Energy****Total Marks: 60****Instructions**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Do as Directed.**A. Fill in the blanks. (Each of 0.50 marks)****(10)**

1. Photovoltaic cells are made of
2. The prime source of water on earth is
3. is used commonly in India to generate electricity.
4. The full form of CNG is
5. The electricity produced in dams are known as
6. The major constituent element in earths atmosphere is
7. The greenhouse gases are responsible for
8. The full form of LPG is
9. is the major constituent in Bio Gas.
10. Energy derived from hotspots beneath earth is called
11. method is used to generate energy from biomass.
12. The unit of Energy is
13. With increase in height, the wind speed will
14. Charcoal is obtained from
15. gas is produced by downdraught gasifier.
16. The chemical formula for methane is
17. Updraught gasifier is also known as
18. Shredder is used to the biomass volume.
19. Solar cell is used to convert solar energy into
20. Solar energy can be converted directly into electrical energy with the help of

B. Multiple choice type questions. (Each of 0.50 mark)**(10)**

1. Which of the following is not a fossil fuel?

a) Coal	c) Uranium
b) Petroleum	d) Natural gas
2. Most of the energy used on earth today originally came from which of these source?

a) The sun	c) Soil
b) The moon	d) Oceans
3. Pick the odd one

a) Coal	c) Oil
b) Geothermal	d) Natural Gas
4. Which among the following is not a renewable energy source?

a) Solar energy	c) Geothermal energy
b) Biomass energy	d) Hydro power
5. Pick the odd one

a) Diesel	c) Petrol
b) Gasoline	d) Coal
6. Which of the following source of energy can be replenished after a short period of time?

a) Solar energy	c) Coal
b) Hydro energy	d) Both (a) and (b)
7. Which of the following energy can be used to generate electricity directly?

a) Solar energy	c) Petroleum
b) Wind energy	d) Natural Gas

8. Which of the following is a non renewable source of energy?
 - a) Coal
 - b) Sun
 - c) Petroleum
 - d) Both (a) and (c)
9. Which of the following product is obtained from petroleum?
 - a) Natural gas
 - b) Gasoline
 - c) Vegetable oil
 - d) Coal
10. Bio-diesel is produced from oils or fats using the process known as
 - a) Transaction
 - b) Transformation
 - c) Transesterification
 - d) Transportation
11. The basic steps for large scale production of ethanol are
 - a) Dehydration
 - b) Distillation
 - c) Fermentation
 - d) All the above
12. Which plant has been cited as a high yield source of bio – diesel?
 - a) Jatropha
 - b) Mustard
 - c) Sesame
 - d) All the above
13. Anemometer is used to measure
 - a) Wind Direction
 - b) Wind rotation
 - c) Wind speed
 - d) All the above
14. Biogas contain how much % of methane?
 - a) 5-15
 - b) 20-30
 - c) 50-55
 - d) 65-75
15. Sunshine recorder measures
 - a) Bright sunshine
 - b) Rainfall
 - c) Cloudy weather
 - d) None of the above
16. Energizer is used for
 - a) Solar fencing
 - b) Solar pond
 - c) Solar light
 - d) Solar water heater
17. Solar gradient is the phenomenon observed in
 - a) Solar fencing
 - b) Solar pond
 - c) Solar light
 - d) Solar water heater
18. The way heat circulates through liquids and gases is known as
 - a) Circulation
 - b) Conduction
 - c) Convection
 - d) Radiation
19. Which type of reflector is used in solar box type cookers?
 - a) Aluminium foil
 - b) Plain glass
 - c) Mirror
 - d) Silver foil
20. Wind is used to
 - a) Draw underground water
 - b) Generate electricity
 - c) Operate flour mills
 - d) All of the above

C. Give the sentence true or false. (Each of 0.50 mark)

(05)

1. Wind mills can be used only on land.
2. Solar energy is a conventional energy source.
3. Wind energy is a non conventional energy source.
4. Conduction, convection and radiation are modes of heat transfer.
5. Deforestation reduces global warming.
6. Anemometer is used to measure wind speed.
7. Bio diesel is renewable.
8. Solar still is used for purification of water.
9. The amount of oxygen in atmosphere is 78%
10. Conventional energy can also be called as Non renewable energy sources.

Q.2 Do as Directed.

A. Match group A with group B. (Each of 0.50 marks)

(05)

- | A | B |
|----------------|--------------------------|
| 1) Petrol | a) Solar Power |
| 2) Coal | b) Bio mass |
| 3) Natural gas | c) Environment Technolgy |
| 4) Uranium | d) Nuclear fuel |
| 5) Sun | e) Gaseous fossil fuel |
| 6) Water | f) Liquid fossil fuel |

- 7) Green technology
- 8) Wood
- 9) Solar still
- 10) Parabolic solar cooker

- g) Solid fossil fuel
- h) Purification of water
- i) Used for cooking
- j) Hydro Power

B. Define the following. (Any ten)

(05)

1. Solar Energy.
2. Wind Energy
3. Briquettes
4. Updraught Gasifier
5. Downdraught Gasifier
6. Pyrolysis
7. Shredder
8. Solar lantern
9. Photovoltaic cell
10. Solar ponds
11. Parabolic solar cooker
12. Solar street light

C. Answer the following. (Any ten)

(10)

1. How many types of renewable energy are there normally said to be?
2. How many types of renewable energy are solar in origin?
3. Why is solar sometimes termed the primary renewable energy?
4. What are photovoltaics?
5. What is solar thermal electricity?
6. What types of biofuels are there?
7. Is wood a renewable energy?
8. Do biofuels have any social impact?
9. What is the difference between biofuels and fossil fuels?
10. Are fossil fuels renewable?
11. Is peat biomass or a fossil fuel?
12. What is the difference between stored and instantaneous renewable energy?

Q.3 Write short notes. (Any five)

(10)

13. Types of Biogas Plant
14. Agriculture wastes
15. Construction of Biogas Plant
16. Solar Energy
17. Construction of Wind Mill
18. Explain Biodiesel production from Jatropha Seeds

Q.4 Differentiate the following. (Any five)

(05)

1. Thermochemical and Biochemical conversion of Biomass
2. On shore and Off shore Wind Mill
3. Box Type and Parabolic Solar Cooker
4. Updraught and Downdraught Gasifier
5. Renewable and Non Renewable Energy Source
6. Direct and Indirect Solar Dryer