



BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Sc.(Ag)-Hons-2022

Course Name – Renewable Energy and Green Technology

Course Code - CC-BAG473(T)

(Semester IV)

Full Marks : 50

Time : 2:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 20=20

1. Choose the correct alternative from the following :

- (i) Energy resources which are being used for many decades are known as:
- | | |
|--------------------------------|------------------------------------|
| a) Conventional energy sources | b) Non-conventional energy sources |
| c) Primary energy sources | d) Fuel energy |
- (ii) Which of these resources does not produce CO_2 during electricity generation?
- | | |
|------------|------------|
| a) Coal | b) Methane |
| c) Uranium | d) Biogas |
- (iii) Choose the correct answer : on the basis of long-term availability ,resources are classified into:
- | | |
|---|--|
| a) Conventional and non- conventional resources | b) Renewable and non-renewable resources |
| c) Primary and secondary resources | d) Commercial and non commercial resources |
- (iv) Find the correct answer:World energy needs are rising due to _____
- | | |
|------------------|--|
| a) Deforestation | b) Increasing population and industrialization |
| c) Inflation | d) Natural calamities |
- (v) What is major problem with wind energy?
- | | |
|--------------------------------|---|
| a) Generates energy from wind | b) It is renewable source of energy |
| c) Requires large area of land | d) Compact and does not require large area land |
- (vi) What is the PH level of acid rain?
- | | |
|----------------|------------------|
| a) Between 3-4 | b) Between 6-8 |
| c) 7 | d) Between 11-14 |
- (vii) Which of the following is the cleanest fossil fuel?
- | | |
|---------------|-----------|
| a) Natural gs | b) Petrol |
| c) Petroleum | d) Coal |
- (viii) What is solar collector?

- a) A system to collect heat by absorbing sunlight
 b) A system to collect rainwater by absorbing sunlight
 c) A system to collect electricity by absorbing sunlight
 d) A device to reflect sunlight back
- (ix) Select the correct answer: direct solar water heating systems _____
 a) offer great overheating protection
 b) are called pumped systems
 c) offer no overheating protection
 d) offer great freeze protection
- (x) Which of the following is a product of pyrolysis of biomass?
 a) Producer gas
 b) Steel
 c) Agricultural residue
 d) Sodium
- (xi) What are two main product of anaerobic digestion?
 a) biogas and bio-fertilizer
 b) waste water
 c) producer gas
 d) syngas
- (xii) Choose the correct answer: wind turbine convert wind energy to:
 a) mechanical energy
 b) electrical energy
 c) heat energy
 d) solar energy
- (xiii) Which one of the following is the major contributor to world population?
 a) commercial resources
 b) non-commercial resources
 c) renewable energy sources
 d) nuclear energy
- (xiv) Which of the following is not a type of primary resources?
 a) crude oil
 b) coal
 c) hydrogen energy
 d) sunlight
- (xv) Which of the following are types of pyrolysis?
 a) flash and ablative
 b) intermediate and anaerobic digestion
 c) Anaerobic digestion and fermentation
 d) fermentation and intermediate
- (xvi) Which of the following are used to store manure?
 a) Silos and cellars
 b) plastic bottles
 c) glass bottles
 d) tin cans
- (xvii) Which of the following products of anaerobic digestion consists of organic humus and nutrients?
 a) biogas
 b) chorine
 c) top soil
 d) bio-fertilizers
- (xviii) Which of the following pest could potentially help us produce biofuels?
 a) cockroaches
 b) termites
 c) flies
 d) spiders
- (xix) Find the correct answer: The unit of both _____ is jule (j).
 a) power and energy
 b) energy and force
 c) work and energy
 d) power and work
- (xx) Infer the one correct option : The efficiency of various type of collector _____ with _____ temperature.
 a) increases,decreasing
 b) decreases,increasing
 c) remains same,increasing
 d) Depend upon types of collector

Group-B

(Short Answer Type Questions)

2.5 x
10=25

2. Define energy and mention its sources. (2.5)
3. Identify the various forms of energy. (2.5)
4. Construct a brief note on solar energy. (2.5)
5. Construct briefly about renewable energy. (2.5)

6. Develop a short note about wind energy. (2.5)
7. Construct briefly about non- renewable energy. (2.5)
8. Briefly explain about the solar dryer. (2.5)
9. Briefly explain about the Solar Cooker. (2.5)
10. Develop a short note on Solar Pond. (2.5)
11. Explain the advantages of wind energy. (2.5)

OR

Briefly explain the KVIC type biogas plant. (2.5)

Group-C

(Long Answer Type Questions)

5 x 1=5

12. Briefly explain about the JANATA type biogas plant. (5)

OR

Explain the application of solar energy. (5)
