Q.27 Describe the basic principles of energy conservation.

Q.28 Compare the flat plate type and concentrating type collector.

Q.29 Write a short note on Govt. Schemes for the promotion of use of renewable energy.

Q.30 Enlist the raw materials available for the biogas production.

Q.31 Write a short note on gasification.

Q.32 Write a short note on farm residue management.

Q.33 What are the basic criteria for site selection for setting up of biogas plant?

Q.34 What is the scope of renewable energy sources in India?

Q.35 Suggests any five methods to conserve energy in agriculture sector.

SECTION-D

Note: Long answer questions. Attempt any two questions out of three Questions. (2x10=20)

Q.36 What is wind mill? Give the classification of wind mills? Explain the problems associated with utilizing wind energy?

Q.37 Explain the working principle and constructional details of a fixed dome type biogas plant with the help of suitable sketch.

Q.38 Explain the working and construction of solar water heater with the help of suitable sketch. Also write its advantages and disadvantages.

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4th Sem.

Branch : Agri

Sub.: Renewable Sources of Energy/Non-Conv. Engy. Resources

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple type Questions. All Questions are compulsory. (10x1=10)

Q.1 Which of these energy resources is / are widely used in industries?

a) Crop Residue b) Biogas

c) Wood d) Coal and Gasoline

Q.2 Solar energy can be converted into electric energy by using of

a) Generator b) Aluminum cell

c) Photovoltaic cell d) All of these

Q.3 Which of the following is not a non-renewable energy resource?

a) Biogas b) Coal

c) Diesel d) Solar

Q.4 Which is/are the main constituent of biogas?

a) Methane b) Carbon monoxide

c) Argon d) All of these

Q.5 In a wind mill, tip speed ratio increases with

a) Increase of number of blades

b) Decrease of number of blades

c) Independent of blade number

d) None of these

Q.6 Biogas production by bacterial decomposition takes place due to

a) Anaerobic digestion b) Aerobic digestion

c) Absence of CO_2 d) Presence of oxygen

Q.7 The amount of solar energy reaching a specific location on the surface of earth at a specific time is

a) Solar radiation b) Solar constant

c) Solar radiation d) Solar energy

Q.8 For working a wind mill, the minimum speed of wind should be

a) 5 kmph b) 10 kmph

c) 15 kmph d) 20 kmph

Q.9 The combustion of fuel produces

a) Heat b) Carbon dioxide

c) Water d) All of these

Q.10 The conversion efficiency of the solar photovoltaic cell is about

a) 4-6% b) 10-12%

c) 18-20% d) 26-28%

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 _____is the conventional source of energy.

Q.12 Solar pond is used to _____.

Q.13 Define retention period.

Q.14 Define tip speed ratio.

Q.15 Define solar constant.

Q.16 Anemometer is used to measure the _____.

Q.17 Biomass is an __.

Q.18 Define biogas.

Q.19 SPV stands for ___.

Q.20 Fuel cells are the source of _____.

SECTION-C

Note: Short answer type Questions. Attempt any twelve questions out of fifteen Questions. (12x5=60)

Q.21 Explain the present scenario of renewable source of energy in India.

Q.22 What is the difference between horizontal axis wind mill and the vertical axis wind mill?

Q.23 Enlist different appliances of biogas plants.

Q.24 Explain the constructional details of flat plate box solar cooker.

Q.25 Explain the maintenance and performance of biogas plant.

Q.26 Write a short note on SPV system.