Q.24 What do you mean by energy conservation? What is its scope?

Q25 Explain the working principle of SPV module.

Q.26 Give the benefits of improved cooking stove over traditional cooking stove.

Q.27 Write down application of solar energy in agricultural of sector.

Q.28 Differentiate flat plate collector and focusing type collector.

Q.29 Write a note on solar crop dryer.

Q.30 Write down safety measures in bio-gas plant.

Q.31 Write a note on farm residue management.

Q.32 Explain the parameters affect the biogas production.

Q.33 Write down at least four methods of conserve energy.

Q.34 What are the applications of SPV module?

Q.35 What is a solar cooker? Also write down its constructional details.

**Section-D**

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

Q.36 Give comparison between floating gas holder and fixed dome type bio-gas plant.

Q.37 Explain the principle of operation of a solar water pump with its constructional details.

Q.38 What are the different types of wind mills? Explain the construction detail of any one type of wind mill in detail.



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**4th Sem. Branch: Agri, Engg,.**
**Sub : Renewable Sources of Energy/Non-Conv. Engg. Resources**

Time : 3 Hrs. M.M. : 100

**SECTION-A**

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

Q.1 Non-conventional sources of energy are _____

a) Exhaustible b) Inexhaustible
c) Both of these d) None of these

Q.2 Which of the following biochemical conversion process is performed by microorganisms?

a) Anaerobic b) Fermentation
c) Composting d) All of these

Q.3 Which of the following is a non-renewable resource?

a) Coal b) Solar
c) Geothermal d) Tidal

Q.4 In what form is solar energy is radiated from the sun?

a) UV radiation
b) Infrared radiation
c) Electromagnetic waves
d) Transverse waves

Q.5 For proper gas production in the biogas plant, pH of slurry should be maintained between_____.

a) 3.5-4.5 b) 4.5-5.5

c) 5.5-6.5 d) 6.5-7.5

Q.6 In which of the following conditions biogas is produced?

a) Presence of oxygen

b) Action of aerobic micro oganisms

c) Action of anaerobic mircoorganisms

d) None

Q.7 Wind flows from _____ pressure area to _____ pressure area.

a) High, high b) High, low

c) Low, high d) Low, low

Q.8 Which of the following is a substrate for biogas production?

a) Municipal and residential waste

b) E-Waste

c) Metallic waste

d) Gaseous effluents

Q.9 Which of the following wind turbine is mostly used to extract wind energy?

a) Vertical-axis b) Horizontal axis

c) DC generator d) Sailing boat



Q.10 A Solar cell is an electrical device that converts the energy of light directly into electricity by the

a) Chemical effect b) Atmospheric effect

c) Photovoltaic effect d) All of these

## Section-B

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

Q.11 Solar collector.

Q.12 What are the two main products of anaerobic digestion?

Q.13 Feed stock.

Q.14 SPV

Q.15 Digester

Q.16 Write down renewable energy resources.

Q.17 Anaerobic.

Q.18 Gasification.

Q.19 Appliances of biogas plant.

Q.20 Write name of any scheme for promotion of use of renewable sources of energy.

## Section-C

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

Q.21 Give need of non-conventional and alternate energy resources.

Q.22 What are the scope and significance of wind energy?

Q.23 Given criteria for site selection of wind mill.