

**Q.35** What is the scope of renewable energy sources in India?

### **SECTION-D**

**Note :** Long Answer type question. Attempt any two questions.  $(2 \times 10 = 20)$

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

**Q.37** Explain the importance and scope of energy conservation. Give suggestions to minimize the wastage of energy. Also suggest methods to conserve energy in agriculture sector.

**Q.38** List various types of biogas plant. Explain the principle and constructional detail of a KVIC type biogas plant.

b)

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**Branch :** Agri Engg.

**Subject :** Renewable Energy Sources

**Time : 3 Hrs.**

**M.M. : 100**

### **SECTION-A**

**Note :** Multiple choice questions. All questions are compulsory.  $(10 \times 1 = 10)$

**Q.1** Spent slurry after obtaining biogas is used as

- a) Fuel
- b) Manure
- c) Food for livestock
- d) Used again for generating biogas

**Q.2** The gas holder used in fixed dome type biogas plant is:

- a) Spherical
- b) Inverted drum
- c) Conical
- d) None of these

**Q.3** The process used in biogas plants to break down biodegradable material is

- a) Digestion
- b) Aerobic digestion
- c) Anaerobic digestion
- d) Briquetting

**Q.4** The fuel combustion produces

- a) Hydrolysis
- b) Steam
- c) Fuel gas
- d) Carbon monoxide

**Q.5** Photovoltaic cell converts solar energy into

- a) Heat
- b) Electric
- c) Mechanical
- d) Chemical

- Q.6 Common energy source in Indian villages is:  
 a) Electricity      b) Coal  
 c) Sun      d) Wood and animal dung
- Q.7 Direct solar energy is used for  
 a) Solar distillation      b) Solar drying  
 c) Solar heater      d) All of these
- Q.8 Which of the following is a conventional source of energy?  
 a) Solar      b) Wind  
 c) Coal      d) Biomass
- Q.9 The important element of Solar cells is  
 a) Aluminium      b) Silver  
 c) Germanium      d) Silicon
- Q.10 Which Ministry is mainly responsible for refining, distribution, import, export of petroleum products and natural gas in India?  
 a) Ministry of Petroleum and Natural Gas  
 b) Ministry of Fossil Fuel  
 c) Ministry of Non-Renewable Energy  
 d) None of these

### **SECTION-B**

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

- Q.11 Define Energy.
- Q.12 Define solar cell.
- Q.13 Give two sources of non conventional energy.
- Q.14 What is anaerobic digestion?
- Q.15 List any two forms of energy.

- Q.16 What is green house effect?
- Q.17 Define Digested Slurry.
- Q.18 List two govt. Departments involved in promotion of renewable energy sources.
- Q.19 List two energy efficient devices.
- Q.20 Define Feed stock.

### **SECTION-C**

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Write down the safety measures in biogas plants.
- Q.22 Give five benefits of biogas.
- Q.23 Describe the working principle of solar cooker.
- Q.24 Write down the criteria for site selection of biogas plant.
- Q.25 Write down the maintenance and performance of wind mill..
- Q.26 Describe the constructional detail of a solar pump.
- Q.27 Write a short note on farm residue management.
- Q.28 List various applications of solar energy.
- Q.29 Write the benefits of improved cookstoves over the traditional cook stoves.
- Q.30 How biomass is utilized as alternate source of energy?
- Q.31 Write a short note on farm residue management.
- Q.32 Give the applications of SPV module.
- Q.33 What is the significance of solar energy?
- Q.34 Compare the flat plate type and concentrating type collector.