

- Q.27 Explain the working principle of Horizontal axis wind turbine.
- Q.28 Explain the limitation of conventional energy sources.
- Q.29 Write disadvantages of thermal power plant.
- Q.30 Write the name and uses of any five petroleum products.
- Q.31 Write the importance of renewable energy sources.
- Q.32 Describe in brief solar energy. Also explain its merits and demerits.
- Q.33 Write the advantages and disadvantage of Hydraulic power plants.
- Q.34 Explain Geothermal energy sources in brief.
- Q.35 Discuss any one of the following.
- (i) Tidal energy                      (ii) Solar cells

#### SECTION-D

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

- Q.36 Describe the fractional distillation process of petroleum refining and enlist the different petroleum product with their uses.
- Q.37 Explain the construction and working of bomb calorimeter with the help of neat diagram.
- Q.38 Explain the working principle of rotary kiln used in cement industries.

No. of Printed Pages : 4  
Roll No. ....

180546/120546/030564C

**4th Sem.**  
**Branch : Chem.**  
**Subject : Energy Technology**

**Time : 3 Hrs.**

**M.M. : 100**

#### SECTION-A

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

- Q.1 Which of the following is a renewable energy source
- a) Petrol                                      b) Diesel  
c) Coal                                         d) Wind
- Q.2 LPG stands for
- a) Liquefied Product Gas  
b) Liquified Petroleum Gas  
c) Liquefied Petroleum Growth  
d) Large Petroleum Gas
- Q.3 SI unit of energy is \_\_\_\_\_.
- a) Joule                                         b) Joule / Sec  
c) Newton                                      d) Newton / Sec
- Q.4 Combustion requires
- a) Supply of Oxygen                      b) A Combustible fuel  
c) Source of heat energy                 d) All of the above

- Q.5 A fuel is a substance which
- Burns to produce energy
  - Is of no use
  - Undergoes oxidation on burning
  - None of these
- Q.6 Moisture content is minimum in
- Bituminous coal
  - Anthracite coal
  - Lignite coal
  - Any other variety
- Q.7 Energy may be defined as
- The capacity to do work
  - Mass into acceleration
  - Rate of doing work
  - None of these
- Q.8 Which of the following is a vertical axis windmill
- Multiblade type
  - Sail type
  - Savonious type
  - Propeller type
- Q.9 The function of the wind mill is to extract energy from the wind and to produce
- Thermal energy
  - Mechanical energy
  - Chemical energy
  - Electrical energy
- Q.10 The absorptivity of the black absorber plate coated with a common flat black paint is typically
- 80%
  - 100%
  - 94%
  - 50%

## SECTION-B

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

- Q.11 Write two application of solar energy.
- Q.12 Define nonrenewable energy.
- Q.13 Write the formula of water gas.
- Q.14 What are the advantages of wind turbine?
- Q.15 State the origin of coal.
- Q.16 Define furnace.
- Q.17 State necessity of washing coal.
- Q.18 Define fuel.
- Q.19 Write two uses of bio-gas.
- Q.20 Write any one example of solid fuel used for steam generation.

## SECTION-C

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

- Q.21 Classify renewable sources of energy. Also write their advantages.
- Q.22 Enlist five favourable conditions for safe storage of coal.
- Q.23 Describe in brief the fisher-tropsch process.
- Q.24 Describe the concept of draught in furnaces.
- Q.25 Explain proximate analysis of coal and its significance.
- Q.26 Draw the neat sketch of nuclear power plant.