

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.

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**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
 - Savonius 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 enrgy
 - 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.