Q.26 List any five petroleum products after refining of crude oil and state their uses.

Q.27 Differenciate between water gas and producer gas and which has more colorific value?

Q.28 Describe the concept of drought in furnace in detail.

Q.29 Write any five uses of natural gas.

Q.30 Explain continuous rotary Kiln in detail.

Q.31 State any five uses of LPG. Write the full of L.P.G.

Q.32 Explain different turbines used to produce tidal energy.

Q.33 Describe the geothermal power plant in brief.

Q.34 Explain Photosynthesis.

Q.35 Explain working principle of solar cells.

Section-D

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

Q.36 Explain working principle of blast furnace with neat and clean diagram. Write any four advantages and disadvantages.

Q.37 Explain the working of nuclear plant with its elementary block diagram.

Q.38 Dscribe the manufacture of synthetic fuels from coal by Bergius process and Fischer tropsch process.

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4th Sem. Branch: Chemical Engineering
Sub : Energy Technology

Time : 3 Hrs. M.M. : 100

SECTION-A

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

Q.1 What is primary component of crude oil?

a) Sulfur b) Hydrogen

c) Carbon d) Nitrogen

Q.2 Which of the following is (are) renewable resources(s).

a) Wind b) Geothermal heat

c) Tides d) All of the above

Q.3 What is the solid residue that remains after heating of coal in the absence of air?

a) Resin b) Powder

c) Coke d) Whisker

Q.4 Which of the following component is present in natural gas.?

a) Urea b) Methane

c) Benzyl peroxide d) Sulphuric acid

Q.5 Which of the following is used to produce bio-gas from bio-mass.

a) Aerobic treatment b) Anaerobic treatment

c) Fermentation d) Pyrolysis

Q.6 In hydro power plant which energy of water is used to produce electricity.

a) Potential energy b) Kinetic energy

c) Mechanical energy d) Both A & B

Q.7 In which form solar energy is radiated from the sun?

a) UV rays b) Electromagnetic waves

c) Infrared rays d) Transfer waves

Q.8 Washing of coal.

a) Reduce its sulphur and ash content

b) Improves its coking properties

c) Controls its fusibilities

d) All of the above

Q.9 Water gas is a mixture of .

a) Hydrogen & Oxygen

b) Carbon monoxide & nitrogen

c) Carbon-Monoxide & Hydrogen

d) Hydrogen & Nitrogen

Q.10 How crude oil is separated?

a) Crystallization b) Sublimation

c) Fractional distillation d) None of these

Section-B

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

Q.11 Write names of any two non-renewable sources of energy?

Q.12 What is Carbonization?

Q.13 State the composition of LPG?

Q.14 State two functions of furnace.

Q.15 What is the boiling point range of gasoline?

Q.16 Write name of any one types of solar collector.

Q.17 Name the fuel used in Nuclear Power Plant.

Q.18 Write two uses of producer gas.

Q.19 State approximate % carbon in coal.

Q.20 Define furnace.

Section-C

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

Q.21 What are non-conventional energy sources. Write any two merits and demerits.

Q.22 Explain types of carbonization in detail.

Q.23 Explain net calorific value and write its formula.

Q.24 Write any five uses of petroleum products.

Q25 Explain proximate analysis of coal and its significance.