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3rd Sem / Branch: Electrical Engg

Subject:-Non Conventional Sources of Energy

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 In MHD generator the conductor is made of
a) liquid metal b) gas
c) liquid metal or gas d) Copper or aluminum

Q.2 The photovoltaic cell converts
a) Chemical energy into electrical energy
b) Solar radiation into electrical energy
c) Solar radiations into thermal energy
d) Thermal energy into electrical energy

Q.3 Fuel cells for power generation have the drawbacks of
a) Very high develoment costs.
b) Low service life and low voltage
c) Nosie, pollution and maintenance problems
d) Both A & B

Q.4 The main sources of production of biogas is/are
a) Wet cow dung b) Human waste
c) Wet livestock waste d) all of the above

Q.5 In wind mills the lift force acts_____ to the direction of air flow.
a) horizontal b) perpendicular
c) Both A & B d) None of the above

Q.6 Tidal energy utilizes
a) potential energy of water
b) Kinetic energy of water
c) Both (a) and (b)
d) None of the above

Q.7 In geothermal power plants waste water is
a) Discharged back to earth
b) Discharged into sea
c) Recirculated after cooling in cooling towers
d) evaporated in ponds

Q.8 In fuel cell cathode is of
a) Oxygen b) ammonia
c) hydrogen d) carbon monoxide

Q.9 The output capacity of micro hydro power plant are upto
a) 100 KW b) 500 KW
c) 1000 KW d) 5000 KW

Q.10 The major sources energy consumption in domestic sector is / are
a) refrigerator
b) washing machines
c) geysers
d) all of the above

SECTION-B

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

Q.11 Define wind energy.

Q.12 Write the two examples of secondary source of energy.

Q.13 Expand OTES.

Q.14 Define efficiency of solar cell.

Q.15 Name basic principle of MHD.

Q.16 Define fuel cell

Q.17 Name different types of prime mover for geothermal energy conversion.

Q.18 Define wind mills.

Q.19 Write any one advantage of micro hydro plant.

Q.20 Name the types of gasifier.

SECTION-C

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

Q.21 Explain the present scenario of renewable source of energy.

Q.22 Explain the working of photovoltaic cell with the help of diagram.

Q.23 Describe the wet process of biomass conversion.

Q.24 Write the five application of bio gas.

Q.25 Explain different types of horizontal axis wind turbine.

Q.26 Explain the procedure of power generation using geothermal source.

Q.27 Describe the working of hybrid cycle OTEC system.

Q.28 Explain open cycle of MHD power generation system with the help of diagram.

Q.29 Explain the working of power generation using micro hydro power plant.

Q.30 Describe the working of solar cooker.

Q.31 Explain the working of tidal power plant.

Q.32 Explain working of fixed dome type bio gas plant.

Q.33 Write the about different wind energy storage methods.

Q.34 Give the advantages of MHD systems.

Q.35 Explain the working principle of hydrogen-oxygen Fuel cell.

SECTION-D

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

Q.36 Describe construction and working of solar furnace with the help of diagram.

Q.37 Describe in brief various dry processes for conversion of bio mass into energy.

Q.38 Explain the basic components of wind energy conversion system with the help of neat diagram.