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220924

2nd Sem. / Electrical

Subject : Non Conventional Sources of Energy

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Hydroelectric power plant is mainly located in ____

a) Flat areas b) Deserts

c) Hilly areas d) Deltas

Q.2 The annual depreciation of a hydro power plant is about _____

a) 0.5% to 1.5% b) 10% to 15%

c) 15% to 20% d) 20% to 25%

Q.3 Which of the following source of energy caused by uneven heating of earth's surface

a) wind b) solar

c) biomass d) Geothermal

Q.4 How is OTEC caused?

a) By wind energy

b) By geothermal energy

c) By solar energy

d) By gravitational force

Q.5 The air at the entrance of MHD duct is seeded with potasium upto _____

a) 7% b) 5%

c) 3% d) 1%

Q.6 In closed cycle MHD-steam power plant, which of the following gas is seeded in the MHD duct?

a) helium b) xenon

c) sodium vapour d) chlorine

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define efficiency of solar cell.

Q.8 Open circuit voltage means in solar cells.

Q.9 Function of induction generator in wind mills.

Q.10 MHD full form is

Q.11 Fuel cell is a _____

Q.12 Function of prime mover is _____

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Discuss wind mills.

Q.14 Explain solar cooker.

Q.15 Explain tidal energy system.

Q.16 Explain OTEC.

Q.17 Explain fuel cells.

Q.18 Discuss Flywheel storage.

Q.19 Discuss SMES.

Q.20 Discuss capacitor.

Q.21 Discuss prospectus of geothermal energy in India.

Q.22 Discuss wind energy potential scenario in India.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Describe the principle and working of solar cell. Plot and explain the voltage and current characteristics of PV cell.

Q.24 What is MHD generation? Explain basic principle of operation of such a generator.

Q.25 Describe different biomass energy resources and biomass energy conversion processes.