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Electrical Engg.
Subject:- Non Conventional Energy Sources

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Which of the following is not a type of primary resource? (CO2)

a) Crude oil b) Coal
c) Hydrogen Energy d) Sunlight

Q.2 What are three relevant bands of solar radiation? (CO1)

a) UV, infrared and far infrared
b) UV, visible and infrared
c) Ultrasonic, infrared and visible
d) UV, ultrasonic and near infrared

Q.3 Material used for making solar cell is _____ (CO3)

a) Silicon b) Carbon
c) Sodium d) Magnesium

Q.4 Which gas has a major share in biogas? (CO4)

a) Nitrogen b) Methane
c) carbon monoxide d) Hydrogen

Q.5 Which of the following is the energy used for storing Wind energy? (CO4)

Q.29 Draw and explain the working of closed cycle OTEC system. (CO4)

Q.30 Explain open cycle MHD power generation system with the help of diagram. (CO5)

Q.31 Write the five applications of fuel cell. (CO5)

Q.32 Explain the working of power generation using mini hydro power plant. (CO5)

Q.33 Describe the working of solar furnace. (CO3)

Q.34 Write the difference between solar pond and solar still. (CO3)

Q.35 Explain the working of tidal power plant. (CO4)

SECTION-D

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

Q.36 Explain the construction and working of photovoltaic cell with help of diagram. (CO3)

Q.37 Explain the generation of power by using gasifier with the help of suitable diagram. (CO4)

Q.38 Explain the design and operating principle of fuel cell. Also write its advantages and disadvantages. (CO5)

(**Note:** Course outcome/CO is for office use only)

a) Kinetic b) Potential
c) Chemical d) Electrical

Q.6 What is hot molten rock called? (CO4)
a) Lava b) Magma
c) Igneous rocks d) Volcano

Q.7 Which type of turbine is commonly used in tidal energy? (CO4)
a) Francis turbine b) Kaplan turbine
c) Pelton wheel d) Gorlov turbine

Q.8 The nature of the current developed in MHD generator is (CO5)
a) dc b) ac
c) Both (a) and (b) d) None of these

Q.9 Which of the following is supplied to the cathode of a fuel cell? (CO5)
a) Hydrogen b) Nitrogen
c) Oxygen d) Chlorine

Q.10 What is the Capacity of Micro Hydro Power Plant? (CO5)
a) Upto 100 kW b) 101 kW -1000 kW
c) 1001 kW- 6000 kW d) 6001 kW-10000 kW

SECTION-B

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

Q.11 Define Secondary Source of Energy . (CO2)

Q.12 Define efficiency of solar cell. (CO3)

Q.13 Name the types of gasifier. (CO4)

Q.14 Write the one difference between lift force and drag force. (CO4)

Q.15 Define geo thermal energy. (CO4)

Q.16 Write two limitation of OTEC system. (CO4)

Q.17 Define tide. (CO4)

Q.18 Write two advantages of MHD. (CO5)

Q.19 Define fuel cell. (CO5)

Q.20 Give two advantages of micro hydro power plant. (CO5)

SECTION-C

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

Q.21 Explain the future prospect of renewable source of energy. (CO1)

Q.22 Explain working of solar water heater. (CO3)

Q.23 Describe the dry process of biomass conversion. (CO4)

Q.24 Draw the diagram of fixed dome type bio-gas plant. (CO4)

Q.25 Explain different types of horizontal axis wind turbine. (CO4)

Q.26 Write a short note on energy storage by flywheel and hydro pump storage method. (CO4)

Q.27 Explain the working of liquid dominated geothermal system. (CO4)

Q.28 Classify and explain prime movers for geothermal energy conversion. (CO4)