No. of Printed Pages : 4
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180932

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 these Energy resources is/are widely used in industries? (CO1)

a) Coal and Gasoline b) Wood
c) Biogas d) Crop Residue

Q.2 What happens to earth when incoming energy is greater than the outgoing energy? (CO1)

a) Earth's temperature decreases
b) Earth's temperature increases
c) Earth's temperature is not affected
d) Water level rises

Q.3 The function of a solar collector is (CO3)

a) to generate electricity
b) to collect and stores sunlight
c) to collect and concentrate sunlight
d) to filter sunlight

Q.4 The aerobic digestion of sewage is utilized in the production of (CO4)

a) metal articles b) biofuels
c) biomass d) synthetic fuels

Q.5 Which of the following are advantage of single type blade turbines? (CO4)

a) Less weight
b) Operates at higher speed
c) Occupies less area
d) All the above

Q.6 Earth's outer layer rock is called as_____. (CO4)

a) Mantle b) Crust
c) Outer core d) Asthenosphere

Q.7 In ocean energy which of the following chemical act as a fluid? (CO4)

a) ammonia b) mercury
c) transformer oil d) water

Q.8 In a MHD generator the conductor is made of (CO5)

a) Copper b) Liquid metal
c) Gas d) Liquid metal or gas

Q.9 Which of the following is used as an electrolyte in an H_2-O_2 fuel cell? (CO5)

a) KOH b) NH_4OH
c) $Fe(OH)_2$ d) $Cu(OH)_2$

Q.10 Penstock is (CO4)

a) Pipeline b) Wall
c) Turbine d) Tank

SECTION-B

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

Q.11 Write the two examples of primary source of energy. (CO2)

Q.12 Define green house effect. (CO3)

Q.13 Write the formula of biomass. (CO4)

Q.14 Define wind energy. (CO4)

Q.15 Name different types of prime mover for geothermal energy conversion. (CO4)

Q.16 Expand OTES. (CO4)

Q.17 Write two advantages of tidal power. (CO4)

Q.18 Name basic principle of MHD. (CO5)

Q.19 Define the conversion efficiency of fuel cell. (CO5)

Q.20 Write the one difference between micro and mini 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 present scenario of renewable source of energy. (CO1)

Q.22 Explain the construction of photovoltaic cell with help of diagram. (CO3)

Q.23 Explain fermentation and pyrolysis method of bio mass conversion. (CO4)

Q.24 Classify the different types of gasifier and explain any one of them. (CO4)

Q.25 Describe the construction of different types of vertical axis wind turbine. (CO4)

Q.26 Draw and name the components used in wind mills. (CO4)

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

Q.28 Explain the procedure of power generation using geothermal sources. (CO4)

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

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

Q.31 Give 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. (CO4)

Q.34 Write advantage and disadvantages of non conventional source of energy. (CO2)

Q.35 Describe 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 flat plate box solar cooker with the help of suitable sketch. Also write its advantage and disadvantage. (CO3)

Q.37 Explain the construction and working of fixed dome type bio gas plant. (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)