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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 MHD generator provides \_\_\_\_\_ output.
- a) DC                                      b) AC
- c) Both DC & AC                      d) None of these
- Q.2 The main source of Biomass is
- a) Living organic materials
- b) Living Inorganic materials
- c) Both A & B
- d) None of these
- Q.3 Generally solar cells are made up of \_\_\_\_\_
- a) Silver                                      b) Aluminium
- c) Silicon                                      d) None of above

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- Q.4 Renewable energy has
- a) Low carbon emission
- b) High carbon emission
- c) Very High Carbon emission
- d) None of these

Q.5 Geothermal energy has a \_\_\_\_\_ energy inside the earth

- a) Photon                                      b) Heat
- c) Light    d) None of these

Q.6 The fuel cell is \_\_\_\_\_ cell

- a) Oxygen                                      b) Electrochemical
- c) Chemical                                      d) None of these

**SECTION-B**

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

- Q.7 Write one use of biogas.
- Q.8 Does MHD has any rotating parts (Yes/No)
- Q.9 Write the name of electrodes of fuel cell.
- Q.10 Write the full name of HAWT.

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Q.11 Define solar array.

Q.12 Define conventional sources of energy.

### SECTION-C

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

Q.13 Define the conversion efficiency of fuel cell. Also write various applications of fuel cells?

Q.14 Describe the working of solar water heating system.

Q.15 Explain the block diagram of basic components of WECS.

Q.16 Explain working principle of tidal plants.

Q.17 Explain open cycle system OTEC.

Q.18 Describe prospects of geothermal energy in India.

Q.19 Write short note on photosynthesis process.

Q.20 Write short note on flywheel storage system.

Q.21 What are the advantages and disadvantages of renewable energy sources?

Q.22 What are the components of hydro power plant? Explain briefly?

### SECTION-D

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

Q.23 Explain the working principle of MHD generator with the help of diagram.

Q.24 Explain the working of standalone and grid connected solar PV system with the help of neat diagram. Also explain the working of solar water pumping system.

Q.25 What are the components of hydroelectric power plants? Explain with the help of a diagram.