

Roll No.

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Total No. of Questions : 08

M.Tech.(EE) (2018 Batch) (Sem.-3)

ENERGY CONVERSION PROCESSES

Subject Code : MTEE-301D-18

M.Code : 76542

Date of Examination : 16-12-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.

2. Each question carries TWELVE marks.

1. What is the need to convert one form of energy into another form of energy? How one kind of energy can be converted into electrical energy? Explain the need of energy conversion? Discuss in detail energy conversion methods.
2. Explain the direct and indirect methods of energy conversion? Discuss in depth with suitable examples.
3. What is the role of semiconductors in the photovoltaic cell manufacturing? How the photo devices work? What is the difference between solar cell and photo cell? Explain the working and energy conversion process in solar cell and photovoltaic cell? Are they similar? List advantages, disadvantages and applications of solar cell and photo cells.
4. What is thermoelectric generation? How do these systems convert one form of energy into electrical energy? What is the physics behind thermo electric generation systems, Explain with neat diagrams?
5. What is MHD generators? Discuss in detail the design considerations of MHD generators cycle analysis of MHD systems. Explain the concept of MHD systems.
6. Write about Plasma diode. What is the significance of plasma diode in the process of energy conversion? and explain the characteristics of plasma diode.
7. What is fuel cell ?How it works? How is the performance of fuel cell? Where the fuel cells are used? List some of the applications of fuel cell.
8. What is the difference between energy conversion and energy transformation? Explain the laws of energy conversion with appropriate examples? Explain photovoltaic cell and photoconductive cell also with neat diagrams.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.