

M.Tech. Mechanical Engineering Design (CBCS) Semester - III
MED32(C) - Open Elective - Renewable Energy Technology

P. Pages : 1

Time : Three Hours



GUG/S/23/14205

Max. Marks : 70

- Notes :
1. All questions carry equal marks.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Solve **any five** questions.
 5. Illustrate your answers wherever necessary with the help of neat sketches.
 6. Diagrams and Chemical equation should be given wherever necessary.

1. a) Explain in brief Indian Energy Scenario? 7
b) Write short note on Clean Development Mechanism (CDM). 7
2. a) Define the following terms- 8
i) Solar radiation ii) Thermal collection
iii) Solar radiation geometry iv) Measuring solar radiation
b) Why solar radiation occurs the earth's surface 6
3. a) Discuss the method of solar radiative properties and Characteristics of materials. 7
b) Explain solar air heaters use in method of solar Energy. 7
4. a) Write short note on photovoltaic conversion in Renewable energy systems. 7
b) Write performance of characteristics in photovoltaic Conversion? 7
5. a) Explain MHD power generation with neat diagram? 7
b) Define the following term- 7
i) Oceans energy ii) Nuclear energy iii) Wind energy
6. a) Write down the economic analysis of overview of Solar economic of renewable energy system? 8
b) Explain cost benefit analysis and its optimization system? 6
7. a) explain world's production and reserves of commercial Energy sources? 8
b) Discuss the solar radiation outside the earth's atmosphere. 6
8. Write short notes **any three**. 14
i) Energy alternatives ii) Solar collection and conversion
iii) Concentrating collectors iv) Photovoltaic conversion
v) Hydropower renewable energy sources.
