

Roll No.

Total No. of Pages : 01

Total No. of Questions : 08

M.Tech. (Electrical Engineering) (Power Systems and Renewable Energy) (Sem.-1)

SOLAR PV ENERGY SYSTEM

Subject Code : PSRE-104A/21

M.Code : 91515

Date of Examination : 25-01-23

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 role of *Nano-technology in Solar Cells*? Discuss its advantages and disadvantages.
2. How Sun act as Energy source? What are the different types of radiations? How these radiations reaches on Earth's surface. Draw and explain the Radiation Geometry
3. How the solar radiations are estimated on horizontal and tilted surfaces? What do you understand by Solar radiation data?
4. What is Quantum well solar cell? Explain the reliability analysis of solar cell system.
5. Discuss the design and configurations of solar PV system. Explain the role of inverters and converters in Solar PV System.
6. What are the Solar cells? Explain how these types of cells are used for conversion of Solar Energy in electricity?
7. Discuss the merits and demerits of Solar cell. How its efficiency vary with band-gap and temperature.
8. What is Thermo photovoltaic effect? How photovoltaic system design is made in case of Solar cells?

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