

2207E072

BACHELOR OF VOCATION
Solar Technology
Subject: Solar PV Energy Conversion-II
Subject Code: ST-706
Semester: Sixth
July 2022
Theory (External): 35 Marks
Time: 03 Hours

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 01 mark.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 05 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled

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SECTION –A (SHORT/OBJECTIVE TYPE QUESTIONS)
(10x1=10 Marks)

- A. What is typical value range of open circuit voltage and short circuit current of a solar cell?
- B. What is difference between solar cell and module?
- C. What is difference between semi-transparent and opaque PV module?
- D. Define Netmetering.
- E. Write the (standard test condition) STC values for solar system.
- F. Define Feed-in-Tariff.
- G. Compare off grid and on grid PV systems
- H. What are the main components are required for any solar plant?
- I. Give reason to do load estimation.
- J. Define power condition unit (PCU)

SECTION –B (ESSAY TYPE QUESTIONS)
(5x5=25 Marks)

1. Explain the procedure for sizing the PV array, Batteries, inverter and location in detail.
2. Compare the selection of inverter for on-grid and off-grid rooftop PV system.
3. Draw the grid connected PV system and explain in detail.
4. Discuss about the cable losses and voltage drops. How can it be minimized through technology?
5. Give the procedure to earn money by producing power from PV to supply to grid.
6. During installation of rooftop PV plant, what are major points to be focused and why?
7. Explain stand-alone solar PV system with diagram, in details.
8. List out the power quality issues for solar power integration and explain in detail.

==END OF THE PAPER==