

BACHELOR OF VOCATION**Solar Technology****Subject: Design of Solar Energy System****Subject Code: ST-705****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

Roll Number

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

- A. Define altitude angle.
- B. What is the temperature of solar in Kelvin?
- C. Name out one major merit and demerit of solar energy.
- D. Differentiate solar energy and solar thermal energy
- E. Write the (standard test condition) STC values for solar system.
- F. List out any four solar hybrid systems.
- G. What the temperature of solar?
- H. What are the main components are required for any solar plant?
- I. Where are Phase Change Materials used?
- J. Give one major difference between active and passive solar water heating system?



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

1. Explain the design procedure for solar PV plant for maximum electricity generation, in steps.
2. Explain solar building heating techniques with a schematic diagram
3. What is the use of solar collector? Give its classification and its complete details
4. What do you mean by solar thermal energy storage technology?
5. Explain the design and fabrication procedure for solar E Bike for two-person load, in steps.
6. Describe advantages and disadvantages of solar space heating.
7. Differentiate on grid and off grid solar PV system with diagram, in details.
8. Explain the green house effect and forced mode solar greenhouse dryer for crop cultivation.

==END OF THE PAPER==