

3/17

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

1. Explain the V-I characteristics of solar cells with figure.
2. Explain the effect of various parameters on the solar PV plant.
3. What the use of Partial shading and bypass diodes in photovoltaic system.
4. Explain different types of solar cells based on the active material used in their fabrication.
5. Explain the process of fabrication of PV modules.
6. What are the advantages and disadvantages of thin films-based PV modules?
7. explain lead acid battery characteristics and models for solar systems.
8. What the things in mind to design PV power plant? Draw the flow chart of it and explain.

===END OF PAPER===

2112E121

BACHELOR OF VOCATION
Solar Technology
Subject: Solar PV Energy Conversion-I
Subject Code: ST-602
Semester: Third
December 2021
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 1 mark.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 5 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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| Roll Number | | | | | | | | | |
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SECTION –A (SHORT/OBJECTIVE TYPE QUESTIONS)
(10x1=10 Marks)

- A. A solar cell is a _____
a) P-type semiconductor
b) N-type semiconductor
c) Intrinsic semiconductor
d) P-N Junction
- B. Which of the following materials cannot be used as solar cells materials?
a) Si
b) GaAs
c) CdS
d) PbS
- C. The principle of a solar cell is same as the photodiode.
a) True
b) False
- D. Write typical value range of open circuit voltage and short circuit current of a solar cell?
- E. What is the difference between Photodiode and Solar cell?
a) No External Bias in Photodiode
b) No External Bias in Solar cell
c) Larger surface area in photodiode
d) No difference

- F. A module in a solar panel refers to
a) Series arrangement of solar cells.
b) Parallel arrangement of solar cells.
c) Series and parallel arrangement of solar cells.
d) None of the above.
- G. What is difference between semi-transparent and opaque PV module?
- H. Maximum efficiency is obtained in
a) Flat plate collector
b) Evacuated tube collector
c) Line focusing collector
d) Paraboloid dish collector
- I. The output of the solar cell is of the order
a) 0.5 W
b) 1.0 W
c) 5.0 W
d) 10.25 W
- J. Which of the following type of collector is used for low-temperature systems?
a) Line focusing parabolic collector
b) Paraboloid dish collector
c) Flat plate collector
d) None of the above