USN

Eighth Semester B.E. Degree Examination, July/August 2022
Operation and Maintenance of Solar Electric System

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1	a.	Explain the sun Geometry.	(08 Marks)
	b.	What is the mainstream technology for semiconductor devices to produce PV array?	(08 Marks)
	c.	Explain the affect of the earth's atmosphere on solar radiation.	(04 Marks)

OR

2	a.	Explain the procedure for Buying solar modules.	(08 Marks)
	b.	Write about the characteristic of PV cells.	(08 Marks)
	c.	What is creating a string of modules?	(04 Marks)

Module-2

3	a.	Briefly explain about the inverters.	(08 Marks)
	b.	Explain different types of string inverter.	(08 Marks)
	c.	Why are circuit breaker and fuses used in solar system?	(04 Marks)

OR

4	a.	Write a note on net metering and gross metering.	(08 Marks)
	b.	Explain different ground mounting system and their application.	(08 Marks)
	c.	What is sun tracking system?	(04 Marks)

Module-3

5	a.	What is solar pathfinder?	(08 Marks)
	b.	Explain with diagram portrait and landscape installation in site assessment.	(08 Marks)
	c.	What is fault-current protection in PV system?	(04 Marks)

OR

6	a.	Explain the choosing system components in designing grid connected PV system.	(10 Marks)
	b.	What are the losses in utility-interactive PV system?	(10 Marks)

Module-4

7	a.	Explain in detail about PV array installation.	(10 Marks)
	b.	What are the required information for installation of PV system.	(10 Marks)

OR

8	a.	What system documents are to be supplied to the owner after completion of PV installation?	(10 Marks)
	b.	How trouble shooting of PV system is done?	(10 Marks)

Module-5

9	a.	What are the main costs associated with the individual components of the PV system.	(10 Marks)
	b.	Write a note on marketing of PV system.	(10 Marks)

OR

10	a.	What are case study of A and B?	(10 Marks)
	b.	Explain the valuing of PV system.	(04 Marks)
	c.	What is feed in tariff?	(06 Marks)

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