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**5th Sem / Branch : Elect.
Sub.: Solar Panel Installation and Maintenance**

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The efficiency of the solar cell is about

- a) 25% b) 15%
- c) 40% d) 60%

Q.2 Components of a pv solar system _____.

- a) PV array
- b) Batteries & charge controller
- c) Inverter
- d) All answers a, b, c.

Q.3 Which is the appropriate tilt angle for pv modules in regions with heavy snowfall?

- a) At least 30°
- b) At least 45°
- c) At least 60°
- d) None of the mentioned

Q.4 Lead-acid batteries are

- a) Cheap
- b) Reliable
- c) Have relatively good energy storage
- d) All answer a, b, c

Q.5 On site, your colleague has battery acid in his eyes?

- a) Run away so you don't get acid on you
- b) Call for friends
- c) Rinse his eyes with plenty of water
- d) Call the boss

Q.6 A Led lamp rated 9w is on for 40 minutes and tv of 60w is on for 2 hours. How much energy has been used?

- a) 69 wh b) 360 wh
- c) 126 wh d) 960 wh

Q.7 Solar trackers increase _____ of the solar systems by providing move direct sunlight on the collectors.

- a) Efficiency b) Voltage
- c) Current d) None of the mentioned

Q.8 Most widely used solar material is

- a) Arsenic b) Cadmium
- c) Silicon d) Steel

Q.9 The output of the solar panel is

- a) AC b) DC
- c) AC & DC d) None of the mentioned

Q.10 SAPS known as

- a) Stand alone power system
- b) Off grid system
- c) Both A & B
- d) None of the mentioned

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 The output of the Solar panel is _____.
Q.12 Name the device which interface the solar panel and solar charge controller.
Q.13 Write the one function of Net metering in PV system.
Q.14 Tell one cause of Fire accident at workplace of PV installation.
Q.15 Tell one safety to work with PV system.
Q.16 MPPT stands for _____.
Q.17 Define Incentives.
Q.18 Describe team coordination.
Q.19 The function of charge controller is _____.
Q.20 What is solar cell?

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Write the merit and demerit of Off-grid PV power generation system.
Q.22 Write five uses of solar panel.
Q.23 Name the Mechanical equipment used in PV installation and its functions.
Q.24 Describe Solar Tracking System with neat diagram.
Q.25 Explain different emergency procedures to be followed during fire accidents.
Q.26 What are the main features of Solar photovoltaic system?

- Q.27 What is solar micro grid system and what are their major components?
Q.28 List & Explain tools for installation and maintaining Photovoltaic Power system.
Q.29 Describe occupational health and safety assessment during solar installation.
Q.30 What is importance of better communication between management and individual at workplace of PV installation?
Q.31 Explain five different safety used at solar PV workplace to maintain work safe and secure.
Q.32 Write short note on delivery standards and personal management during PV installation.
Q.33 Describe importance of the individuals role in the workflow.
Q.34 Explain the series connection of solar panel.
Q.35 Write the short note about direction of sunlight assessment.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 What is solar array? Explain series & parallel connection of solar cell with suitable diagram.
Q.37 Draw the basic block diagram for solar photovoltaic power plant. Explain the each block in details?
Q.38 Explain in detail about coordination work and personnel management during work in solar PV construction & installation.