Q.19 How should electrical hazards be controlled in the work area

Q.20 What emergency response measures should be established on a solar work site

Q.21 Describe the working principle of a solar tracker system.

Q.22 How do you calculate the total voltage, current, and power output of solar panels connected in parallel.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain the role of an inverter in a solar power system. What types of inverters are used in grid-tied and off-grid solar systems.

Q.24 Describe the role of environmental policies in solar energy companies. How do these policies promote sustainable practices and reduce environmental impact during manufacturing and installation.

Q.25 Explain why maintaining a safe and secure work area is critical during the installation, operation, and maintenance of solar energy systems.

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Roll No. .....

6th Sem / Instrumentation & Control

Subject : Solar Panel Installation and Maintenance

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 What does "PV" stand for in PV cell

a) Power Voltage b) Passive Voltage

c) Photovoltaic d) Photo Variable

Q.2 What type of current do solar panels produce

a) AC (Alternating Current)

b) DC (Direct Current)

c) Pulsed DC

d) Three-phase AC

Q.3 In a parallel connection of solar panels, which electrical parameters is the same across all panels

a) Voltage b) Current

c) Resistance d) Power

Q.4 Before starting any installation, the company must perform

a) Advertising compaign

b) Final invoice creation

c) Site survey and feasibility check

d) Roof painting

Q.5 The angle at which a solar panel is tilted is called the

a) Horizontal angle

b) Declination

c) Tilt angle or inclination

d) Rotation angle

Q.6 What is the primary reason for using a safety harness during rooftop solar installation

a) For decoration

b) To carry tools

c) To prevent falls and injury

d) To look professional

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 What type of energy conversion takes place in a solar panel

Q.8 Write one disadvantage of solar energy

Q.9 Solar panels are usually made from which semiconductor material.

Q.10 What is the main purpose of a bypass diode in a solar panel

Q.11 In the Northen hemisphere, solar panels should ideally face

Q.12 A dual-axis solar tracker moves in_____.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Describe the working principle of a photovoltaic (PV) system.

Q.14 Why is maintenance important in a solar energy system

Q.15 Differentiate between monocrystalline and polycrystalline silicone in solar panels.

Q.16 What are the differences between electrical and mechanical safety in solar systems

Q.17 How does the tilt angle of a solar panel effect energy output.

Q.18 What key areas should a solar energy company's policy cover