

- Q.25 Write the steps involved during site survey for PV installation.
- Q.26 Explain the Parallel connection of solar panel.
- Q.27 Explain the term panel mounting structure.
- Q.28 Explain the term angle of tilt.
- Q.29 Write a short note on incentives policy in PV installation and maintenance industry.
- Q.30 Explain, how build up the team coordination between colleagues at workplace.
- Q.31 Write a short note on Solar Tracking system
- Q.32 Write the maintenance procedure of solar panel.
- Q.33 Explain the different types of solar panel mounting.
- Q.34 Describe the steps for placement of solar panel mounting on roof.
- Q.35 Write about the emergency procedure during the fire accidents in PV installation area.

#### **SECTION-D**

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Explain the component used and steps involved in solar panel installation.
- Q.37 Explain, in details the operating hazardous tools and equipment used in solar panel manufacturing industry.
- Q.38 Design a solar panel component rating for a house having one 10watt LED used 7 hours, one fab 50 watt used 10 hours, one TV120 watt used 5 hours, one computer 200 watt used 5 hours. The system will be powered by 24 volt, 330 Wp solar module rating.

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#### **5th Sem / Elect**

#### **Subject:- Solar Panel Installation and Maintenance**

Time : 3Hrs.

M.M. : 100

#### **SECTION-A**

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

- Q.1 Photovoltaic directly converts \_\_\_\_\_ into \_\_\_\_\_.  
 a) Solar, energy, mechanical energy  
 b) Solar energy, electricity  
 c) Heat energy, solar energy  
 d) Heat energy, pressure
- Q.2 What are the disadvantages of Solar panel?  
 a) Initial cost is high  
 b) Dependent on sunlight  
 c) Large area required  
 d) All of the above
- Q.3 Filed junction Box is the interface between solar panel and \_\_\_\_\_.  
 a) Charge controller      b) Inverter  
 c) Net meter      d) None of the above
- Q.4 To keep track of how much electricity of your solar panels produce and how much electricity you use from the grid, a special meter is required is known  
 a) Energy meter      b) Net meter  
 c) Solar meter      d) Any of the above

- Q.5 DC is converted into AC through  
 a) Battery                  b) Inverter  
 c) Charge controller      d) Solar panel
- Q.6 The mounting apparatus which fixes the solar array to the ground or roof is known as  
 a) Rack                  b) Inter connector  
 c) Box                  d) Any of the above
- Q.7 Appx. space needed for 1kw solar system is  
 a) 80 sqft                  b) 100 sqft  
 c) 120 sqft                  d) 150 sqft
- Q.8 A tool used by electricians to route new wiring through walls and conduit is known as  
 a) Hand tool                  b) Angle finder  
 c) Fish tape                  d) Compass
- Q.9 To check the Solar cell temperature, use a tool known as  
 a) Non contact thermometer  
 b) Digital Multimeter  
 c) Digital clamp on meter  
 d) Any of the above
- Q.10 Fall protection tools used for PV installation on rooftop are  
 a) Guardrail system  
 b) Safety net systems  
 c) Personal fall arrest system  
 d) All of the above

## SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Assemble of interconnected solar cell is known as solar module. (True/False)
- Q.12 Solar panels are used only for electricity generation. (True/False)
- Q.13 In PV direct system storage device is required. (True/False)
- Q.14 Solar charge controller prevents the batteries from overcharge. (True/False)
- Q.15 Write the name of energy storage device.
- Q.16 Write the use of solar pathfinder in installation of PV system
- Q.17 Expand PV.
- Q.18 Solar panel should be covered with an opaque sheet to prevent heat or energy buildup. (True/False)
- Q.19 Solar panel is connected in series to increase the output\_\_\_\_\_.
- Q.20 Full form of PPE.

## SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Write about On-grid Solar power Generation system.
- Q.22 Describe the handling procedure of Solar Panels during Installation.
- Q.23 Write the functions of basic electrical system used in PV installation.
- Q.24 Enlist the tools used in installation of PV system.