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Roll No. .....

4th Semester/ Agriculture
Subject : Solar Technology

Time : 3 Hrs. M.M. : 60

SECTION-A

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

Q.1 What is the main source of energy for solar technology? (CO1)

a) Wind b) Water
c) Sun d) Fossil fuel

Q.2 Which type of solar panel is the most efficient? (CO2)

a) Non-crystalline b) Polycrystalline
c) Thin film d) Amorphous silicon

Q.3 What is the function of a solar inverter in a photovoltaic (PV) system? (CO2)

a) Convert DC to AC
b) Store solar energy
c) Absorb sunlight
d) Track the position of the sun

SECTION-D

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

Q.23 Describe the working principle of solar water pumping with all details. (CO4)

Q.24 Describe the SPV module in detail, including its principle components and application. (CO2)

Q. 25 Discuss the advantages and limitations of solar furnaces. (CO4)

Q.4 What is the typical lifespan of a solar panel? (CO3)

a) 10-15 years b) 20-30 years

c) 50 years d) None of the above

Q.5 Which materials is most commonly used in making solar cells? (CO2)

a) Silicon b) Copper

c) Aluminium d) Iron

Q.6 What is the unit of measurement for solar panel power output? (CO1)

a) Ampere b) Joule

c) Watt d) Newton

SECTION-B

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

Q.7 The device that converts sunlight directly into _____ is called a solar cell. (CO1)

Q.8 The solar thermal power plant uses _____ to generate electricity. (CO2)

Q.9 The layer in a solar cell that creates and electric field is called the _____. (CO3)

Q.10 The photovoltaic effect was first discovered by _____ in the year 1839. (CO1)

Q.11 The most commonly used semi conductor material in solar cells is _____. (CO2)

Q.12 Solar energy collectors are classified into _____ and _____ types. (CO2)

SECTION-C

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

Q.13 What are the principles of thermal collectors and storage in solar energy. (CO2)

Q.14 Define a solar collector. How are they classified? (CO2)

Q.15 Explain the working principle of s solar flat plate collector. (CO3)

Q.16 What are the advantages and limitations of flat plate collectors with adjustable mirrors? (CO3)

Q.17 What is thermal energy storage? How does it work? (CO4)

Q.18 How does a solar water heater with natural circulation work? (CO4)

Q.19 How does a solar air flat plate collector work? (CO2)

Q.20 Explain the working principle of a solar pond. (CO4)

Q.21 What is chemical and thermochemical energy storage? (CO2)

Q.22 What is solar energy storage? (CO1)