

CBCS SCHEME

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BAU515B

Fifth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025 Principles of Alternative Energies

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

| Module – 1 | | | M | L | C |
|------------|----|--|----|----|-----|
| Q.1 | a. | With a neat sketch explain pyroheliometer of measuring solar radiation. | 10 | L2 | CO1 |
| | b. | In detail explain flat plate collector with a neat sketch. | 10 | L2 | CO1 |
| OR | | | | | |
| Q.2 | a. | With a neat sketch outline about solar pond. | 10 | L2 | CO1 |
| | b. | In detail explain about the principle of photovoltaic conversion of solar energy. | 10 | L2 | CO1 |
| Module – 2 | | | | | |
| Q.3 | a. | With a neat sketch explain wind energy conversion system (WECS). | 10 | L3 | CO2 |
| | b. | Enlight on site consideration with respect to wind energy conversion. | 10 | L1 | CO2 |
| OR | | | | | |
| Q.4 | a. | With a neat sketch explain about derrieres type vertical type wind turbine. | 10 | L3 | CO2 |
| | b. | List the advantages and disadvantages of wind energy conversion system. | 10 | L1 | CO2 |
| Module – 3 | | | | | |
| Q.5 | a. | List the advantages and disadvantages of geothermal energy. | 10 | L1 | CO3 |
| | b. | With a neat sketch analyzes vapour dominated power plant. | 10 | L3 | CO3 |
| OR | | | | | |
| Q.6 | a. | Enlight on operational and environmental problems associated with geothermal energy. | 10 | L1 | CO3 |
| | b. | With a neat sketch explain geothermal energy field resources. | 10 | L3 | CO3 |
| Module – 4 | | | | | |
| Q.7 | a. | With a neat sketch explain open cycle ocean thermal energy conversion system. | 10 | L3 | CO4 |
| | b. | List the advantages and disadvantages associated with Ocean Thermal Energy Conversion System (OTEC). | 10 | L2 | CO4 |
| OR | | | | | |
| Q.8 | a. | With a neat sketch out time double basin arrangement of Tidal energy harnessing system. | 10 | L3 | CO4 |
| | b. | List out the advantages and disadvantages of Tidal power system. | 10 | L2 | CO4 |
| Module – 5 | | | | | |
| Q.9 | a. | In detail explain about electrolysis method of hydrogen production. | 10 | L4 | CO3 |
| | b. | Discuss in detail about hydrogen storage methods. | 10 | L4 | CO4 |
| OR | | | | | |
| Q.10 | a. | With a neat sketch explain bulb turbine. | 10 | L4 | CO3 |
| | b. | Enlight on design considerations for mini and micro hydel projects. | 10 | L4 | CO4 |
