**(Revision – 2021)** Signature ………………….

Reg. No……………………

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER2024**

**Renewable Energy and Environment 6012A**

[Maximum Marks: **75**] [Time: **3** Hours]

PART-A

1. **Answer *all* the following questions in one word or one sentence. Each question carries**

***‘one’* mark.**

(9 x 1 = 9 Marks)

**Module Outcome Cognitive level**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. | Define Nonrenewable Energy | M1.01 | R |
| 2. | Write any two different Nonrenewable energy technologies | M1.02 | R |
| 3. | Write any 2 advantages of solar thermal energy | M2.01 | R |
| 4. | Write the strength of PV system | M2.03 | U |
| 5. | Write the parts of wind turbine generator | M3.01 | R |
| 6. | Write the Limitations Tidal energy | M3.03 | R |
| 7. | What are the advantage of Wave Energy | M3.02 | R |
| 8. | Define biomass | M4.01 | U |
| 9. | Write the unit of calorific value | M4.02 | R |

PART-B

1. **Answer any *eight* questions from the following. Each question carries *‘three’* marks.**

(8 x 3 = 24 Marks)

**Module Outcome Cognitive level**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. | Write the difference between Renewable energy and Nonrenewable energy technologies | M1.01 | U |
| 2. | Write the limitations of non renewable energy systems | M1.04 | U |
| 3. | Explain the detail about geothermal energy technologies | M1.03 | R |
| 4. | Write the advantages solar thermal system | M2.01 | U |
| 5. | Explain the detail about Photovoltaic electric conversion | M2.03 | R |
| 6. | Explain the Applications of wind energy | M3.01 | U |
| 7. | Write any Four different PV technologies in use today | M3.03 | U |
| 8. | Explain the applications of Bio energy | M3.04 | U |
| 9. | Write properties of solid, liquid and gaseous fuel for biomass power plants | M4.02 | U |
| 10. | Write the Advantages biomass | M4.01 | R |

PART-C

Answer all questions. Each question carries *‘seven’* marks

(6 x 7 = 42 Marks)

**Module Outcome Cognitive level**

|  |  |  |  |
| --- | --- | --- | --- |
| III.  IV. | Explain the detail about Renewable Energy Scenario in India and around the World  **OR**  Explain the detail about solar Thermal power station with neat diagram | M1.05  M1.03 | U  R |
| V. | With the help of neat sketch explain about solar Distillation plant  **OR**  Explain the detail about any 3 PV technologies | M2.01 | U |
| VI. | M2.04 | U |
| VII. | Explain the detail about Wind Map of India and Wind Data and Energy Estimation  **OR**  Explain the following with the details  1)Wave energy  **2) ocean thermal energy** | M3.04 | U |
| VIII. | M3.03 | U |
| IX. | Compare Horizontal axis wind turbine and vertical axis wind turbine **OR**  Explain the detail about site selection of wind energy | M3.03 | U |
| X. | M3.04 | U |
| XI. | Write the classification of biogas plants  **OR**  Explain the detail about floating type biogas plant | M4.03 | U |
| XII. | M4.01 | U |
| XIII. | Explain the detail about geothermal power plant  OR  Explain the detail about Thermal power station with neat diagram | M1.04 | U |
| XIV. | M1.05 | U |

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