Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_

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**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **14ME2049** | **Duration :** | **3hrs** |
| **Sub. Name :** | **RENEWABLE ENERGY SOURCES** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Discuss the history of world energy consumption pattern? | CO1 | 10 |
| b. | Describe the working principle of a sun shine recorder with a sketch? | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Discuss the advantages of renewable energy sources in detail? | CO1 | 10 |
| b. | Describe the types of solar radiation? | CO1 | 10 |
|  |  |  |  |  |
| 3. | a. | What are the main components of a solar concentrating collector? Explain the function of each? | CO2 | 10 |
| b. | Explain the working principle of a solar air heater? | CO2 | 10 |
| (OR) | | | | |
| 4. | a. | Discuss the advantages of solar energy? | CO3 | 10 |
| b. | Describe the working principle of a solar cell? | CO3 | 10 |
|  |  |  |  |  |
| 5. | a. | Explain the bio chemical conversion process of biomass? | CO4 | 10 |
| b. | Discuss the various biomass resources? | CO4 | 10 |
| (OR) | | | | |
| 6. | a. | What are the types of gasification? Explain? | CO4 | 10 |
| b. | Explain the working principle of a floating drum type biogas plant? | CO4 | 10 |
|  |  |  |  |  |
| 7. | a. | List down the problems in wind energy generation? | CO5 | 10 |
| b. | What are the advantages and disadvantages of wind power? | CO5 | 10 |
| (OR) | | | | |
| 8. | a. | Explain how wind energy is stored in batteries? | CO5 | 10 |
| b. | Discuss the factors to be considered for selecting site to install wind mills? | CO5 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Briefly explain geothermal energy resources? | CO6 | 10 |
| b. | What are the methods of producing hydrogen? Explain | CO6 | 10 |