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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – April/May– 2017**

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| **Code :** | **15EE2008** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BATTERY TECHNOLOGY FOR RENEWABLE ENERGY** | **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. | Draw a neat sketch and Explain about Battery Construction in detail. | CO2 | 15 |
| b. | Define Free Energy. | CO2 | 2 |
| c. | Explain the objectives of the international battery standards. | CO2 | 3 |
| (OR) | | | | |
| 2. | a. | Mention four common causes for battery failures. | CO3 | 5 |
| b. | Classify the different types of Batteries and explain applications of each battery. | CO2 | 15 |
| 3. | a. | How will you charge Primary batteries? | CO2 | 5 |
| b. | With neat diagram, Explain the Operation of Primary Battery. | CO2 | 15 |
| (OR) | | | | |
| 4. |  | Explain different types of Primary Batteries. | CO2 | 20 |
| 5. | a. | Improvise the design to lifetime usage of rechargeable batteries. | CO3 | 10 |
| b. | List out any three major characteristics and applications of secondary batteries used for specific renewable energy system. | CO1 | 10 |
| (OR) | | | | |
| 6. | . | Illustrate Lead acid batteries with neat sketch. | CO2 | 20 |
| 7. |  | Explain different types and characteristics of Portable Electrically Rechargeable Batteries with neat diagram. | CO1 | 20 |
| (OR) | | | | |
| 8. | a. | Classify the different types of Metal/Air batteries with illustration. | CO2 | 15 |
| b. | Compare silver and non-silver cathode batteries. | CO2 | 5 |
|  | | **Compulsory:** |  |  |
| 9. |  | With a neat sketch, explain the operations of fuel cell. | CO1 | 20 |

ALL THE BEST