

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE**

**End Semester Examination – Winter 2018**

**Course: B. Tech.**

**Semester: I**

**Subject Name: Energy and Environmental Engineering**

**Subject Code: EEE1205**

**Max Marks: 60**

**Date: 15/12/2018**

**Duration: 3 Hr**

**Instructions to the Students:**

1. All the questions are compulsory.
2. The level question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.
3. Use of non-programmable scientific calculators is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

(Level/CO) Marks

**Q.1 Solve Any Two of the following.**

- |  |                     |
|--|---------------------|
| A) Explain with a neat sketch how the nuclear power plant generates electricity. Label all the major parts of the plant and their functions. | Understand/CO2    6 |
| B) Write the working of a hydro power plant with a neat diagram? What are the advantages and disadvantages of using energy from water?       | Understand/CO2    6 |
| C) Explain the working of gas turbine based power plant with a neat sketch.  | Understand/CO2    6 |

**Q.2 Solve Any Two of the following.**

- |   |                     |
|---|---------------------|
| A) With a neat sketch explain the working of Magneto Hydro Dynamics Generator.                      | Understand/CO2    6 |
| B) Mention some organic materials used in bio-mass plant. Describe the various sources of bio-mass. | Understand/CO2    6 |
| C) i) Differentiate between the power generation using solar energy and the wind energy.            | Understand/CO3    3 |
| ii) Compare the advantages of diesel based power over the coal based power generation.              | Understand/CO3    3 |

**Q.3 Solve Any one of the following.**

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|--|--------------------|
| A) Define energy conservation and energy efficiency. Explain the various measures that are taken to reduce the energy consumption of household refrigerator. | Remember/CO1    12 |
| B) What do you mean by energy star rating? Discuss how do you improve the energy conservation during shopping and transportation.                            | Remember/CO1    12 |

**Q.4 Solve Any Two of the following.**

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|---|---------------------|
| A) What are the major indoor pollutants? Where do the following indoor pollutants come from? Formaldehyde, Radon, Smoke, Asbestos, Molds. How can you prevent or control indoor pollutants? | Understand/CO4    6 |
|---|---------------------|

- |   |                |   |
|---|----------------|---|
| B) What are the six criteria pollutants in the original clean air act? Why are they chosen? List several illnesses that are caused by the dirty air.                                  | Understand/CO4 | 6 |
| C) What is particulate matter? What are the control measures to be taken to minimize the air pollution in respect of particulate matter? Discuss the effect of above on human health. | Understand/CO4 | 6 |

**Q. 5 Solve the following.**

- |  |                |   |
|--|----------------|---|
| A) Define the term soil pollution. Explain in brief the sources of soil pollution.   | Understand/CO5 | 4 |
| B) What do you mean by Biological magnification? What is the significance of BOD and COD? Explain.                         | Understand/CO4 | 4 |
| C) How do you classify noise under different categories? Explain the causes and effects of noise pollution on human health | Understand/CO4 | 4 |

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