

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE**  
**Regular End Semester Examination – Summer 2022**

**Course: B. Tech. Branch :** Electrical Engg. & Allied Branches

**Semester : IV**

**Subject Code & Name:** (BTEEC402) POWER SYSTEM

**Max Marks: 60**

**Date: 18/08/2022**

**Duration: 3.45 Hr.**

**Instructions to the Students:**

1. All the questions are compulsory.
2. The level of 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) Draw the schematic diagram of Thermal power plant and explain function of its main component. | (Remember )   | <b>6</b> |
| B) Explain the major equipments used in electrical substation of power plant.                    | (Understand ) | <b>6</b> |
| C) Draw the schematic diagram of Nuclear power plant and explain function of its main component. | (Remember )   | <b>6</b> |

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

- |   |               |          |
|---|---------------|----------|
| A) Write a short note on transposition of power lines.                              | (Remember )   | <b>6</b> |
| B) Explain the concept of self GMD for evaluating inductance of transmission lines. | (Understand ) | <b>6</b> |
| C) Write a short note on Skin Effect, Ferranti Effect, Proximity Effect.            | (Remember )   | <b>6</b> |

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

- |   |               |          |
|---|---------------|----------|
| A) Discuss the advantages and disadvantages of (i) pin-type insulators (ii) suspension type insulators. |               | <b>6</b> |
| B) Why are insulators used with overhead lines? Discuss the desirable properties of insulators.         | (Application) | <b>6</b> |
| C) Discuss the various conductor materials used for overhead lines.                                     | (Remember )   | <b>6</b> |

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

- |   |               |          |
|---|---------------|----------|
| A) Discuss the terms voltage regulation as applied to transmission line                                 | (Application) | <b>6</b> |
| B) Explain the classification of lines based on their length of transmission.                           | (Remember )   | <b>6</b> |
| C) Deduce an expression for voltage regulation of a short transmission line, giving the vector diagram. | (Analysis)    | <b>6</b> |

**Q. 5 Solve Any Two of the following.**

- |   |               |          |
|---|---------------|----------|
| A) Write short notes on the following : (i) Distribution transformers (ii) 3-wire d.c. distribution | (Remember )   | <b>6</b> |
| B) What are the design considerations of distribution system? Explain.                              | (Understand ) | <b>6</b> |
| C) What are the advantages and disadvantages of d.c. transmission over a.c. transmission?           | (Remember )   | <b>6</b> |

**\*\*\* End \*\*\***