

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONER

Regular End Semester Examination – Summer 2022

Course: B. Tech.

Branch: Electrical

Semester: VIII

Subject Code & Name: BTEEP801:3 High Power Multi Level Converters

Max Marks: 60

Date: 04/07/2022

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 calculator is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

UNIT-I

Q.1 Solve Any Two of the following.

- A) Describe briefly half bridge converter with circuit diagram
- B) Explain the different types of basic converter & draw neat circuit diagram?
- C) What is the PWM Principle? Give its application & advantages?

(Level/CO) Marks

Remember 6

Remember 6

Understand 6

UNIT-II

Q.2 Solve Any Two of the following.

- A) Explain the buck-boost converter with neat circuit diagram?
- B) Describe briefly 3 phase full bridge converter with circuit diagram-
- C) Briefly describe space vector pulse width modulation technique?

Understand 6

Remember 6

Remember 6

UNIT-III

Q.3 Solve Any Two of the following.

- A) Explain the design of component of MMC?
- B) Explain the cascade H-bridge multilevel converter with diagram?
- C) Briefly describe the flying capacitor converter with neat circuit diagram?

Understand 6

Understand 6

Remember 6

UNIT-IV

Q.4 Solve Any Two of the following.

- A) Explain the Modular Multilevel converter (MMC) with diagram?
- B) Explain the Neutral Point Clamped Converter (NPC) with diagram?
- C) Describe briefly Diode-Clamped Multilevel Converters?

Understand 6

Understand 6

Understand 6

UNIT-V

Q.5 Solve Any Two of the following.

- A) Why is the need of gate driver circuit? Explain the MOSFET gate driver circuit with diagram?
- B) Explain the characteristics of IGBT with diagram?
- C) Briefly describe modelling control circuit and VSC connected to grid?

Remember 6

Remember 6

Understand 6

*** End ***