

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular End Semester Examination – Summer 2022

Course: B. Tech. Branch : Electrical Engineering & Allied Branches Semester :VII

Subject Code & Name: BTEEC701 Power System Operation And Control

Max Marks: 60

Date:13/08/2022

Duration: 3.45 Hrs.

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.

12

- A) Explain Structure of Electrical Power System With neat Diagram. (Understand) 6
- B) Explain in brief a) Active Power b) Reactive Power c) Complex power. (Understand) 6
- C) What is Per Unit System? And Write all the advantages of PU System. (Understand) 6

Q.2 Solve Any Two of the following.

12

- A) What is Natural or Surge Impedance Loading? (Remember) 6
- B) Explain in detail power transfer and stability considerations in Electrical power System. (Understand) 6
- C) Explain No load Tap changing transformer with neat diagram. (Understand) 6

Q. 3 Solve Any Two of the following.

12

- A) Explain Schematic diagram And Physical description of Synchronous generator. (Understand) 6
- B) What is dq0 transformation? And why we use the dq0 transformation. (Understand) 6
- C) Write and explain basic equation of synchronous generator. (Remember) 6

Q.4 Solve the following.

12

- A) Explain Speed governor system in detail. (Understand) 6
- B) Why synchronous generators require excitation system? Write working of excitation system. (Remember) 6

Q. 5 Solve the following.

12

- A) Derive the swing equation using classical model. (Remember) 6
- B) Explain reactive power compensation and write basic type of reactive power compensation (Remember) 6

***** End *****