DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY,
LONERE – RAIGAD – 402 103
Summer Semester Examination, May 2018

Branch: M. Tech. (EPS) **Semester: II**

Subject with Subject Code: Modeling and simulation of Power Electronic System [MTEPS204B] **Marks: 60**

Date: 21 / 05 / 2018 **Time: 3 Hrs.**

Instructions to the Students

1. Each question carries 12 marks.
2. Attempt any five questions of the following.
3. Illustrate your answers with neat sketches, diagram etc., wherever necessary.
4. If some part or parameter is noticed to be missing, you may appropriately assume it and should mention it clearly.

Q.1.

(a) What are the challenges in computer simulation of power electronic system? **(6)**

(b) What is the role of computer simulation in analysis and of power electronic System? **(6)**

Q.2. Explain the state space representation technique used for modeling of buck converter. **(12)**

Q.3. What is the control gain linearization technique? How it is used for gain linearization of rectifier with inverse cosine technique? **(12)**

Q.4. What is state space averaging technique? How it is used for modeling and linearization of converter transfer function? **(12)**

Q.5. Explain the modeling and analysis of shunt static VAR compensator. **(12)**

Q.6. Explain in detail the modeling and analysis of STATCOM **(12)**