

1603**Code : 15EE51T***Register
Number*

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V Semester Diploma Examination, Nov./Dec.-2018**POWER ELECTRONICS****Time : 3 Hours]****[Max. Marks : 100**

- Note :** (i) Answer any **six** questions from Part-A. Answer to each question carries **5** marks.
(ii) Answer any **seven** questions from Part-B. Answer to each question carries **10** marks.

BETA CONSOLE!**PART – A**

Diploma - [All Branches]

Beta Console Education

**5**

1. List the types of power diodes and their applications.



2. Compare power MOSFET with power BJT.

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3. Explain line commutation and forced commutation.



Diploma Question Papers [2015-19]

Beta Console Education

**5**

4. Define Reliability and MTBF of SCR.

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5. Explain the types of power Electronic converters.

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6. Distinguish between Voltage Source Inverter (VSI) and Current Source Inverter (CSI).

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7. List the sources and effects of power line disturbances.

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8. Explain the operation of thyristor switched capacitors.

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9. Draw the circuit and explain the operation of DC Solid State Relay using opto coupler.

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PART – B

10. (a) Define GTO and list its applications. 5
(b) Explain the operation of N – Channel enhancement MOSFET. 5
11. (a) Draw VI characteristic curve of TRIAC and explain. 6
(b) Describe how SCR can be protected against over voltage. 4
12. Draw the synchronized UJT pulse trigger circuit and explain with waveforms. 10
13. (a) Classify Choppers based on Quadrant of operation. 5
(b) List the advantages and disadvantages of AC Servo voltage stabilizer. 5
14. Draw the circuit diagram of Single-phase Dual converter and explain the principle of operation. 10
15. Draw the circuit diagram of mid-point step-up cycle converter & explain its operation with waveforms. 10
16. Draw the block diagram of SMPS and explain its operation. 10
17. Draw and explain the circuit for interconnection of wind and hydro-generator. 10
18. Draw the circuit diagram and explain the speed control of 3 phase slip ring induction motor by static variation of External rotor resistance. 10
19. Draw the block diagram & explain the operation of switch mode welder. 10