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Roll No .....

**EC-601 (GS)**  
**B.E. VI Semester**  
 Examination, May 2018  
**Grading System (GS)**  
**Industrial Electronics**

Time : Three Hours

Maximum Marks : 70

**Note:** i) Attempt any five questions.  
 ii) All questions carry equal marks.

1. Draw the circuit diagram of a series pass transistor voltage regulator. rgpvonline.com
2. Write short note on SMPS.
3. Why do we need parallel operation of an SCR? What are the difficulties observed while using parallel operation?
4. Draw the circuit diagram of an single phase half wave controlled rectifier with R-L load. Derive the expression for average output voltage (D.C)
5. Give the constructional details of IGBT. Also draw its V-I characteristics.

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6. Draw the circuit diagram of a Triac for power control and explain the same.
7. Draw the block diagram of a regulated power supply using op-amp. Explain the function of each block.
8. Answer any four of the following:
  - a) Draw the circuit of Pi filter (II) and explain.
  - b) Explain  $\frac{di}{dt}$  and  $\frac{dv}{dt}$  of an SCR.
  - c) Give advantages of MOSFET over BJT.
  - d) Draw the circuit diagram of non-inverting amplifier using op-amp.
  - e) What are the factors while selecting PLC?
  - f) Draw the functional block diagram of PLC and explain the function of each block.

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