

1278**Code : 15EC61T****Register
Number**

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VI Semester Diploma Examination, April/May-2018**INDUSTRIAL AUTOMATION****Time : 3 Hours]****[Max. Marks : 100**

- Note :** (i) Answer any six full questions from Part – A
(ii) Answer any seven full questions from Part – B

BETA CONSOLE!**PART – A**

Diploma - [All Branches]

Beta Console Education

3+

6 × 5 = 30

1. List any five applications of SCR. **5**
2. Explain the characteristics of IGBT. **5**
3. Mention different methods of protection of SCR. **5**
4. Explain resonant commutation of SCR. **5**
5. Compare voltage source inverter and current source inverter. **5**
6. Define inverter and mention any three applications. **5**
7. Explain the photo-electric control of SCR. **5**
8. Explain the need for electronic control of motors. **5**
9. Explain PLC up/down counters with examples. **5**



Diploma Question Papers [2015-19]

Beta Console Education

3+

PART - B

10. Explain the characteristics and working principle of MOSFET. 10
11. Sketch and explain full wave bridge controlled rectifier. 10
12. Sketch and explain RC-triggering method to turn on SCR. 10
13. Explain 4 quadrant choppers with circuit diagram. 10
14. Sketch and explain single phase to single phase midpoint cyclo-converter. 10
15. Sketch and explain the field control method for speed control of DC shunt motor. 10
16. (a) Construct ladder diagram for the logic expression $y = AB + BC + CD$. 5
(b) Describe general characteristics of registers. 5
17. Write the block diagram of PLC system and explain. 10
18. (a) Define DCS and mention its features. 5
(b) List the advantages & applications of DCS. 5
19. With block diagram, explain typical SCADA system. 10