



Code No. : 5344/S

FACULTY OF ENGINEERING
B.E. 2/4 (CSE) I Semester (Suppl.) Examination, July 2012
BASIC ELECTRONICS

Time: 3 Hours] [Max. Marks : 75

Note : Answer all questions from Part A. Answer any five questions from Part B.

PART – A

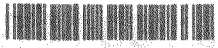
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1. What is Barkhausen criterion for oscillations ? **2**
2. What are the characteristics of an ideal OPAMP ? **3**
3. A diode acts as a switch. Justify. **2**
4. Realize OR gate using NAND gates. **3**
5. List out the applications of SCR. **2**
6. Define Ripple factor of a rectifier. **2**
7. Draw the symbols of n-p-n Transistor, n-channel FET and SCR. **3**
8. What is an extrinsic semiconductor ? **3**
9. Classify the amplifiers based on conduction angle. **3**
10. What is a transducer ? **2**

PART – B

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11. Draw the circuit diagram of a full wave rectifier and explain its working principle. Derive expressions for the Ripple factor, Regulation and efficiency. **10**
12. Explain the working of P-N junction diode with its V-I characteristics and mention the applications of P-N junction diode. **10**



- 13. a) Draw the input and output characteristics of CE transistor and discuss. 5
- b) Explain the working of zener voltage regulator with neat circuit diagram. 5
- 14. a) What are the disadvantages of negative feedback ? Explain how the input and output impedances of an amplifier are effected by the negative feedback. 5
- b) Draw the circuit of Colpitts or Hartley oscillator and explain its working. 5
- 15. How the operational amplifier acts as integrator and differentiator ? Explain. 10
- 16. What are the universal gates ? Design the half and full adder circuits using NAND gates. 10
- 17. Explain the working of CRO with neat block diagram. 10