

**(DCS / DIT 212)**

**B. Tech. DEGREE EXAMINATION, MAY - 2015**

**(Examination at the end of Second Year)**

**COMPUTER SCIENCE & IT**

**Paper - II : Basic Electronics**

**Time : 3 Hours**

**Maximum Marks : 75**

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**Answer question No.1 compulsory (15)**

**Answer ONE question from each unit (4 × 15 = 60)**

- 1) a) What are intrinsic and extrinsic semiconductors. (2)
- b) Define ripple factor and regulation of a rectifier. (2)
- c) Give applications of LED. (2)
- d) Define Barkhausen criteria. (2)
- e) Draw op amp as a summer. (2)
- f) What is a clipper? (1)
- g) What are h-parameters? (2)
- h) What is the need of feed back. (2)

**UNIT - I**

- 2) a) Draw a self bias circuit and derive an expression for the stability factor.
- b) Explain the working of a half wave rectifier.

OR

- 3) a) Draw neat figures and explain the function of a clipper.
- b) Draw input and output characteristics of a BJT in CE configuration and explain.

## UNIT - II

- 4) a) Explain the working of a Depletion type MOSFET.  
b) Draw a neat figure and explain the principle of CRT.

OR

- 5) a) Draw the VI characteristics and explain the function of a UJT.  
b) Explain the principle of operation of LCD.

## UNIT - III

- 6) a) Explain the operation of a class C amplifier.  
b) Draw the input and output waveforms and explain Hartely oscillator operation.

OR

- 7) a) Explain the operation of wein bridge oscillator.  
b) Explain the class B amplifier operation with neat waveforms.

## UNIT - IV

- 8) a) Explain how op amp can be used as an integrator.  
b) Discuss the features of IC voltage regulator.

OR

- 9) a) Draw a Differentiator using op amps and explain its operation.  
b) List the ideal characteristics of an op amp.

