

ACHARYA NAGARJUNA UNIVERSITY

Nagarjuna Nagar, Guntur Dist., AP

B.Sc. Computer Maintenance Syllabus, CBCS from 2015

Semester II: Electronic Devices and Linear Integrated Circuits

UNIT 1: Working Principles, IV Characteristics, Applications of Diode, Zener diode, Varactor, Photo diode and LED

UNIT 2: Transistors: Configuration, Biasing, Operating Point, VI characteristics, Load line, UJT characteristics, FET characteristics, MOSFET.

UNIT 3: Amplifiers: different types/ classification of amplifiers, biasing point, gain, output impedance, Frequency Response - Op-Amp: Inverting and Non inverting OP AMP, different parameters of OP-AMP, Cascade of amplifiers feedback amplifiers, Applications of OP-AMP

UNIT 4: Modulators: Introduction to Amplitude, Frequency, Phase and Pulse Modulation, Oscillators: Introduction, Tuned, Phase shift oscillator, Crystal Oscillator

UNIT 5: Power Supplies: Block diagram of Power Supply, transformer, Half & Full wave rectifier, Bridge rectifier, Voltage Regulator with operational principles and design, Regulated Power Supply: Zener, Series, Shunted and Feedback - Multivibrators

Reference books

1. Jacob Millman and Christos. C.Halkias (2008) Integrated Electronics, Tata McGraw-Hill.
2. DV Prasad Electronic Components, Primer House 3rd Edition,
3. NN Bhargava, SC Gupta, Basic Electronics & Linear Circuits, Tata McGrawhill
4. Sebha RSA Text book of Applied Electronics, S Chand and company.

Computer maintenance Lab-II

(ELECTRONIC DEVICES LAB)

(All experiments should be done)

1. VI characteristics of PN-Junction Diode and Zener Diode
3. VI characteristics BJT and MOSFET
4. Characteristics Op AMP
5. Characteristics Inverting and Non-Inverting OP-AMP.
6. Modulation and Demodulation of AM and FM.
7. Study of Oscillators, function of Crystal Oscillator
8. Study of Power Supplies, Voltage Regulator and Bridge Rectifier.
9. Square Wave Generation using bistable multivibrator

Lab manuals:

1. Zbar, Malvino and Miller, Basic electronics, A test Lab Manual, Tata McGraw Hill.
2. Sugaraj Samuel R. Horsley Solomon. B.E.S. PRACTICALS.

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Model paper for BSC Computer Maintenance CBCS from 2015

1 Year - Semester II: Electronic Devices & Linear Integrated Circuits

Section A

Answer ANY FIVE Questions from the following 5 * 5 = 25 marks

1. What is a Zener diode and draw the voltage to current curve?
2. Draw the VI characteristics MOSFET?
3. Explain the biasing point of amplifier?
4. What is a non – inverting op amp and give two ways of using it?
5. What are the functions of Oscillators?
6. Discuss the differences between pulse and phase modulation?
7. Explain Regulated Power Supply?
8. Draw the block diagram of a Multivibrator?

Section B

Answer ALL the questions 5 * 10 = 50marks

9. Explain the characteristics and working principles of LED?

(OR)

Explain the operation of a diode with a two neat curves?

10. What is a BJT and discuss its operation with VI characteristics?

(OR)

What is a FET and discuss its operation with VI characteristics?

11. Explain any four parameters of an amplifier?

(OR)

Define and explain characteristics of an Op AMP?

12. Define Crystal Oscillator, draw the block diagram and explain how it is designed? (OR)

Define modulation and explain four types of modulation with an example?

13. What is a full wave rectifier? Draw a block diagram and explain its characteristics? (OR)

Explain Voltage Regulator with operational principles?