

**Acharya Nagarjuna University**

**Nagarjuna Nagar, Guntur Dist., A.P.**

**B.Sc. Computer Maintenance Syllabus, CBSC 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
2. VI characteristics BJT and MOSFET
3. Characteristics Op AMP
4. Characteristics Inverting and Non-Inverting OP-AMP.
5. Modulation and Demodulation of AM and FM.
6. Study of Oscillators, function of Crystal Oscillator
7. Study of Power Supplies, Voltage Regulator and Bridge Rectifier.
8. 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.

**ACHARYA NAGARJUNA UNIVERSITY**

Nagarjuna Nagar, Guntur Dist., AP

Model paper for BSC Computer Maintenance CBCS from 2015

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

Time: Three hours

Maximum Marks: 75 marks

Answer any FIVE questions.

(5\*15=75)

1. Explain the working principles of electrostatic capacitors and write down their uses. Derive and equation for energy stored in a capacitor.
2. Draw the block diagram of CRO and explain its working and mention the applications of CRO
3. Explain the Kirchoff's current and voltage laws with suitable examples.
4. Explain the Reciprocity theorem.
5. Explain in detail about maximum power transfer and also clamping circuits.
6. Explain the uses of RC, RL and RLC circuits.
7. Explain Lowpass, Highpass and Bandpass filters.
8. Discuss about Block diagram of Power Supply.

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**B.Sc. Computer Maintenance Syllabus, CBSC from 2015**

**Semester IV: Data Communication & Networking**

UNIT – I: PERSONAL COMPUTER

PERSONAL COMPUTER ORGANISATION (BLOCK DIAGRAM LEVEL), MOTHER BOARD, SUPPORTING CARDS, KEYBOARD, DISPLAY, POWER SUPPLY, DISK DRIVER AND BIOS.

UNIT – 2: DATA COMMUNICATION

SYNCHRONOUS & ASYNCHRONOUS TRANSMISSION, SERIAL, PARALLEL DATA TRANSMISSION AND STANDARDS RS-232, RS-422, RS-423, A-----& RS-449.

UNIT -3: NETWORKS

INTRODUCTION TO NETWORKING, NETWORK TOPOLOGICS, LAN FEATURES OF LAN, LAN COMPONENTS, NOVEL NETWARE AND WINDOWS CONCEPT, TWISTED PAID CABLEING CONCEPTS.

UNIT- 4: INTERNET WORKING

INTERNET AND ITS SERVICES, INTERNET APPLICATIONS, BIRDGES, ROUTERS, GATEWAYS, TCP/IP IN CLIENT/SERVER MODEL, EMAIL, [WWW.FTP](#).

UNIT – 5 TYPES OF SOFTWARE

SYSTEM SOFTWARE, APPLICATION SOFTWARE, DRIVER SOFTWARE, SOFTWARE INSTALLATION, WINDOWS AND OTHER SOFTWARE, COMPUTER VIRUSES AND ITS TYPES & ANTI-VIRUS.

## **PRACTICALS:**

1. Study of different types of network cables and practical implement the cross wired cable and straight through cable using clamping tool
2. Study of network devices in details
3. Study of network IP
4. Connect the computer in LAN
5. Study of Basic network command and network configuration commands
6. Configure a network topology using packet tracer software
7. Configure a network using distance vector routing protocol

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Model paper for BSC Computer Maintenance CBCS from 2015

**2 Year - Semester IV: Data Communication & Networking**

**Section A**

Answer ANY FIVE Questions from the following

5 \* 15 = 75 marks

1. Draw a block diagram of a computer in details in function each block.
2. Write about Synchronous and Asynchronous models in serial communication
3. Explain the following data Transmission methods: (i) RS 232(ii) RS 449
4. Explain about Network topologies in detail.
5. Compare and explain different communication media in network
6. What are the various services of internet?
7. Explain the about Hub, Router, Bridge and Gage way.
8. What is the difference between system software and application software