B.Sc. Computer Maintenance Syllabus, CBSC from 2015

Semester III: Electronic Devices and Linear Integrated Circuits

UNIT – I

INTRODUCTION TO TTL, ECL, CMOS, LOGIC- FAMILIES OF GATES,
REALIZATION OF LOGIC FUNCTIONS USING NAND, AND, NOR GATES.
SIMPLIFICATION OF LOGIC EQUATIONS USING K-MAPS.

UNIT-II   COMBINATIONAL LOGIC CIRCUITS

adders: - HALF ADDER, FULL ADDER, PARALLES BINARY ADDER.
Subtractor: - HALF SUBTRACTOR, FULL SUBTRACTOR, ENCODER, DECODER,
MULTIPLEXER AND DEMULTIPLEXER

UNIT- III   CODE CONVERTERS

CODE CONVERTERS, BCD TO DECIMAL, BCD TO EXCESS-3, BINARY TO GRARY
CODE CONVERTERS AND BCD TO SEVEN SEGEMETN DISPLAY.

UNIT-IV   SEQUENTIAL LOGIC CIRCUIT

COUNTERS: - RIPPLE, DECADE, SYNCHARONOUS AND UP-DOWN COUNTER
AND MOD-N COUNTER, RING COUNTER.

UNIT- V   SHIFT REGISTER

SERIAL AND PARALLEL DATA CONVERTERS-ANALOG TO DIGITAL AND
DIGITAL TO ANALOG, CONVERTERS.
PRACTICALS:

1. LOGIC GATES
2. BASIC GATES USING UNIVERSAL GATES
3. COMBINATIONAL LOGIC CIRCUITS
4. FLIP-FLOPS
5. DECADE COUNTER
6. UP-DOWN COUNTER
7. SHIFT REGISTER
2 Year - Semester III: Electronic Devices and Linear Integrated Circuits

Section A

Answer ANY FIVE Questions from the following $5 \times 15 = 75$ marks

1. Using Karnaugh map method, minimize the bellowing function and realize using minimum number of gates $F=\Sigma(0,2,4,5,6,7,8,10,13,15)$.

2. Explain briefly how: (i) Binary to gray code converter works. (ii) BCD to decimal converter works.

3. Design a parallel binary adder.

4. Explain neatly mod-n counter with example.

5. Define a Ripple Counter and explain its taking.

6. What is operation of analog to digital converter?

7. Design full subtraction using minimum number of gates.

8. Design 8x1 multiplexer using NAND gates and 4-bit synchronous binary counter.
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


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
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 Gate way.
8. What is the difference between system software and application software