Academic Year Plan -2019-20

F.Y.J.C. – COMPUTER SCIENCE (Theory)

MONTH	PAPER I	PAPER II
AUG	**CHAPTER 1:** Number Systems & Binary Arithmetic : 1. Introduction 1.1 Number systems 1.2 Decimal Number System 1.3 Binary Number System 1.4 Octal Number System 1.5 Hexadecimal Number System 2. Number Conversion 2.1 Decimal to Binary 2.2 Binary to Decimal 2.3 Decimal to Octal 2.4 Octal to Decimal 2.5 Decimal to Hexadecimal 2.5 Hexa-Decimal to Decimal 2.6 Binary to Octal 2.7 Binary to Hexadecimal 3. Binary Arithmetic 3.1 Binary Addition 3.2 Binary Subtraction 4. ubtraction by Complement method 4.1 One's complement 4.2 Two's complement	**CHAPTER 1:** Study of Logic Gates : 1. Introduction- Basic Gates 1.1 AND,OR, NOT Gates 1.2 Derived Gates- 1.3 NAND, NOR, 1.4 EX OR gates. 1.5 Basic building & Universal building blocks. 1.6 NAND Gate as AND,OR, NOT Gates 1.7 NOR Gate as AND,OR, NOT Gates 1.8 DeMorgan's Theorem Theorem1 Theorem 2 **1.8** Half adder 1.9 Full Adder.

SEP	**CHAPTER 2:** **Program Analysis :** 2. Concept of Programming 2.1 Analysis of problem , Design steps 2.1 Algorithms 2.2 Examples of Algorithm 2.3 Flow Charts 2.4 Examples of Flow Charts 2.5 Structured programming 2.6 Searching and Sorting	**CHAPTER 2:** **Combinational circuits & Sequential Circuits** 2.1 Introduction to Combinational Circuits 2.2 Multiplexers 2.3 Types of Multiplexers - 2:1 , 4:1, 8:1 , 16:1 Multiplexers **2.4** Demultiplexers **2.5** 1:4 , 1:8, 1:16 DeMultiplexers
OCT	**CHAPTER 3 :** **C++ Programming :** **3. Introduction to C++** 3.1 C++ Character set 3.2 Tokens 3.3 Keywords 3.4 Variables 3.4 Constants 3.5 Operators 3.7 I/O Operators- 3.8 Insertion & Extraction 3.9 I/O streams 3.10 Data types of C++ Basic / User defined data types, / Derived data types,	2.6 Encoder , 2.7 Decoders **2.8** Introduction to **Sequential Circuits** 2.9 Flip Flop 2.10 Types of Flip Flops 2.11 RS FlipFlop, 2.11 JK FlipFlop 2.12 Study of Counters 2.13 Registers

NOV	**CHAPTER 3:** **C++ Programming :** 3.20 Control Structures - 3.20 If statement 3.21 Nested If 3.22 if else if Ladder 3.23 Switch statement 3.24 Iteration Statements 3.25 for loop 3.26 while loop 3.27 do while loop 3.28 Nested Loops 3.29 C++ Programs	**CHAPTER 3:** **Study of components-** 3.1 Resistors 3.2 Construction of resistors 3.3 Types of resistors 3.4 Fixed Resistors 3.5 Carbon Composition 3.6 Wire wound 3.7 Metal Film

DEC	**CHAPTER 4:** **Visual Basic :** 4.1 Introduction to Visual Basic, 4.2 Visual Basic Environment 4.3 Menu bar 4.4 Tool bars 4.5 Properties 4.6 Form Layout 4.7 Visual Basic programming : 4.8 Variables 4.9 Constants 4.10 A r ray 4.11 Control flow statements 4.12 Loop statements, 4.13 Programming- A simple VB Project – simple calculator	3.8 Capacitors 3.9 Types Capacitors 3.10 Constructions 3.11 Mica Capacitor 3.12 Ceramic Capacitor 3.13 Paper Capacitor 3.14 Plastic Capacitor 3.15 Charging/Discharging Of Capacitors 3.16 Inductors **CHAPTER 4:** **Semiconductor components-** 4.1 Introduction to semiconductors 4.2 Types of semiconductors 4.3 P type semiconductor 4.4 N type semiconductor 4.5 Semiconductor Junction/

JAN	**CHAPTER 5:** **Introduction to Networking** 5.1 Networking Terms 5.2 Concept Of Networking 5.3 Models Of Networking 5.4 Centralized 5.5 Collaborative 5.6 Distributed 5.7 Server / Types of servers 5.8 Peer to Peer Network 5.9 Client server Network 5.10 LAN 5.11 WAN	Diode 4.6 Un biasing & Biasing 4.7 Forward biasing 4.8 Reverse Biasing 4.9 Characteristics Of Diode Type of diodes 4.10 Type of diodes 4.11 Transistor 4.12 Types of Transistor 4.13 Working of Transistor

FEB	**CHAPTER 5:** 5.12 Topology 5.13 Types Of Topology 5.14 Bus topology 5.15 Ring topology 5.16 Star Topology 5.17 Mesh Topology 5.18 Advantages /disadvantages 5.19 Network Applications – Email, Voice M ail, FTP,WWW,	**CHAPTER 5 :** **Functional Hardware Parts of PC:** **5**.1 Study of systems board / motherboard layout **5.2** Study of CPU **5.3 P**roperties of CPU 5.4 Memory 5.5 Types Of memory 5.6 Conventional memory 5.7 Expandable Memory 5.8 Extended memory 5.9 ROM 5.10 RAM 5.11 Bus 5.12 Types of Bus 5.13 EISA Bus 5.14 PCI Bus 5.15 USB 5.16 Controllers
M AR	**CHAPTER 3:** **C++ Programming :** **3.30 Jump statements** 3.31 goto statement 3.32 break statement 3.33 continue statement **3.34 Functions** 3.35 Function Definition 3.36 Function Prototype 3.37 Need of Prototype 3.38 Programs using Functions	**CHAPTER 6** **Peripheral Devices –** 6.1 Mouse- types 6.2 Scanner- their use and types . 6.3 Printer – 6.4 Types - DOT Matrix , Ink- Jet , Laser . 6.5 Floppy disk and hard disk 6.6 Drivers – Floppy drive, CD-ROM Drive

APRIL	REVISION	REVISION

F.Y.J.C. – COMPUTER SCIENCE (Practical)

M ONTH	PAPER I	PAPER II

AUG	1)Study of Win 98 Desktop (a) My computer (b) Task bar (c) Navigation with help of Mouse (d) Maximize, minimize, close, restore buttons 2)Study of Win 98- start menu, execution of a package like word, etc	Study of BASIC GATES using TTL or CMOS Chips
SEP	3)File operations using Explorer 4)C++ program – study of structure of C++ program involving different data types 5)C++ program –using operators	Study of UNIVERSAL BLOCKS using IC's 7400,7402
OCT	6)C++ program – using control structures. 7) C++ Program – using functions	Study of HALF ADDER using Gates
NOV	8)C++ Program- using unformatted I/O/ Operations	Study of FULL ADDER using IC 7483

DEC	9)VB program – study of integrated Development Environment and navigation through various windows and menus	Study of decoder chip BCD TO Decimal using IC 7445
JAN	10) VB Program – study of toolbox and property Editor	Study of Multiplexer using IC 7415
FEB	11)VB Program – use of buttons, labels,	Study of Input Devices: keyboard, Mouse
M AR	12) VB Program – program a simple Addition/ subtraction calculator	Study of scanner and printer
APRIL	EXAMINATION	EXAMINATION