



**XI STANDARD
COMPUTER SCIENCE (D9)
SYLLABUS
(SCOPE & LIMITATIONS)**

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STANDARD XI (PAPER I THEORY)

SR NO.	TOPIC	SCOPE AND LIMITATIONS	NO OF LECTURES
1)	Number systems and binary arithmetic	Binary Numbers, Decimal, Octal, Hexadecimal numbers, BCD Conversion from one number system to another ASCII Code, Binary Addition, Subtraction by One's & Two's compliment Binary multiplication & division Ref:- Malvino –Sec- 1.1 to 4.6, 5.1, 5.2, 5.6, 5.9	8
2)	Program Analysis	Analysis of problem , Pseudo code, design steps, flow charts Structural Programming Concepts Modular Programming Concepts Algorithms Ref:- Dromey (related topics from ch 1 , 3)	8
3)	Introduction to C++	Introduction to structure of C++ program Keywords, Identifiers, Basic data types, User defined data types , Derived data types, constants, type compatibility, Declaration of variables Operators in C++, memory management operators, manipulators Functions in C++, Standard C++ library , I/O functions, Prototyping, Call by Reference, Return by Reference , Unformatted I/O operations Simple programs in C++ Ref:- Balagurusamy (Related topics from) ch 2,3,3,10	40
4)	Visual Basic	Introduction to Visual Basic Visual Basic Environment – Menu bar, tool bars, toolbox, properties setting, form layout Visual Basic Programming – Variables, Constants, defining variables, arrays, relational operators, control flow statements, loop statements, nesting of loops Use of built in functions Event driven programming A simple VB project – Simple calculator Ref:- Petroutsos –(Related topic from ch 1,2,3)	40
5)	Introduction to Networking & Internet	Networking terms & concepts Centralized, Distributed, Collaborative Configurations – Server based, Peer to peer Network Security, LAN, WAN Network applications – Email, Voice mail, FTP ,WWW, E-Commerce, Chat, BBS, User group Ref:- Networking essentials –(TechMedia)Ch 1	24

STANDARD XI (PAPER I PRACTICALS)

SR.	EXPERIMENTS
1)	Study of Win 98 desktop (a) My computer (b)Task bar (c) Navigation with the help of mouse (d) Maximize, Minimize, Close, Restore windows
2)	Study of Win 98 – Start menu, Execution of package like word etc.
3)	File operation using explorer
4)	C++ Program - study of structure of C++ program involving different data types.
5)	C++ Program – using operators.
6)	C++ Program – using control structures.
7)	C++ Program – using functions.
8)	C++ Program – using unformatted I/O operations.
9)	VB Programs – Study of Integrated Development Environment & Navigation through various windows & menus.
10)	VB Programs – Study of Toolbox & property editor
11)	VB Programs – Use of buttons, Labels, Text windows, Picture boxes, Check boxes, Option buttons
12)	VB Programs – A simple addition / subtraction calculator.
13)	Internet – Study how to write & send a email
14)	Internet – Study of browser & access sites on hard disk.
15)	Internet – Use of Chat (optional)
16)	Internet – Study of FTP.



STANDARD XI (PAPER II THEORY)

SR. NO.	TOPIC	SCOPE AND LIMITATIONS	NO OF LECTURES
1)	Study of Components & Circuits	<p>Study of Components –Resistors, Capacitors, Inductors & transformers.</p> <p>Semiconductors Components – diodes, transistors, zener diode , LED</p> <p>Transistor as switch, single stage amplifier, clock circuit</p> <p>Regulated power supply, concept of SMPS power supply</p> <p>Logic families – TTL & CMOS, their comparative study & input parameters.</p> <p>Ref :- Bhargava- Sec 1.4.1, 4.1 to 4.3, 4.9.3, 4.9.5, 5.1 to 5.4, 8.2</p> <p>Malvino :- Sec 6.1 to 6.3, 7.2 to 7.4</p>	15
2)	Circuits Logic Gates and Sequential	<p>Logic gates-study of basic gates: AND, OR, NOT their truth table.</p> <p>Study of NAND, NOR, EXOR gates.</p> <p>Basic building block, simple combinational circuits, Half adder, Full adder</p> <p>Sequential circuits-Flip Flop-RS, D, Toggle, JK flip flop, Registers, shift registers , counters, decoders, multiplexers, demultiplexer</p> <p>Ref :- Malvino-1.2 to 1.7, 3.7, 5.7, 8.1 to 8.6, 10.1 to 10.5, 11.1, 3.1, 3.2</p>	25
3)	Functional hardware parts of PC	<p>Study of System Motherboard layout.</p> <p>Study of CPU properties with reference to Pentium chip</p> <p>PC Memory, Types of memory-Conventional, Extended, Expanded, Semiconductor memory & its types.</p> <p>Introduction to PC Expansion Buses –What is BUS?</p> <p>Interrupts & Direct Memory Access channels</p> <p>Features of EISA, PCI & USB buses</p> <p>What is controller? Video adapter, Floppy disk & Hard disk controller,</p> <p>Ref:- Minasi- Related topics from ch 3</p>	35
4)	Peripheral devices	<p>Video –Video board characteristics, resolutions & color, video monitor characteristics-Dot Pitch, Horizontal scan frequency, Multi-Sync</p> <p>Keyboard –Keyboard working</p> <p>Mouse-types, Scanner-their use & types</p> <p>Printer-types Dot Matrix, Ink –jet, laser</p> <p>Drives-Floppy drive, Hard disk , CD-ROM</p> <p>Multimedia kits-Sound boards</p> <p>Modem, plug & play</p> <p>Ref:- Minasi-Related topics from ch 15, 17, 18, 19, 20, 21, 22,24</p>	45

STANDARD XI (PAPER II PRACTICALS)

SR. NO.	EXPERIMENTS
1)	Study of BASIC GATES using TTL or CMOS chips
2)	Study of UNIVERSAL BLOCKS using IC's 7400, 7402
3)	Study of Tri state buffer IC 74125
4)	Study of square wave generator using IC 7414 or (IC 40106)
5)	Study of Half adder using gates.
6)	Study of Full adder using IC 7483
7)	Study of Concept of Addressing using Diode Matrix ROM
8)	Study of Decoder chip BCD to Decimal using IC 7445.
9)	Study of Multiplexer using IC 74154
10)	Study of Input devices: Keyboard, Mouse
11)	Study of Scanner & Printer
12)	Study of Multimedia-recording a voice, playing AVI file etc.

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