



**XII Standard  
Computer Science (D9)  
Syllabus  
(Scope & Limitations)**

**Fresh Copy**

## STANDARD XII (PAPER I THEORY)

SR NO.	TOPIC	SCOPE AND LIMITATIONS	NO OF LECTURES
1)	Operating Systems	<p>What is operating system?            Services in OS            Overview of OS : Windows 98, Windows NT , LINUX            Concepts related to Information management (only definition)            File System, Device Drivers, Terminal I/O            Concepts related to Process management (only definition) Process, Multiprogramming, Context switching, Process states, Priority, Multitasking , Timesharing            Concepts related to memory management (only definition)            A typical map for single user computer, partitioning ,fixed &amp; variable partitioning, paging, segmentation, virtual memory.            GUI : Basic GUI features such as Windows, Task list, Drag, Resize, Close, Minimize, Maximize.            Access &amp; Security aspects of OS            Security threats, attacks on security, computer worms, computer viruses</p> <p>Ref:- Godbole – 3.1, 3.2 ,4.1, 4.4.1, 4.4.2, 5.1, 5.2, 5.3, 5.4, 5.5, 5.19.1, 5.19.2, 5.19.3, 5.20, 8.1, 8.6.18.7.1, 8.9.1.1, 8.9.1.2            Ch 12, 9.1, 9.2, 9.3, 9.5, 9.6</p>	30
2)	Data Structures	<p>Introduction to data structure, Data structure operations, Algorithmic notation, control structures.            Arrays – Representation in memory –traversing, inserting, deleting, sorting, binary search in an array. Pointers arrays, records in memory using arrays.            Link list, representation of link list in memory.            Trees, binary tree, representing binary tree in memory.            Ref:- Lipschutz sec-1.2 to 1.4, 2.3, 2.5, 4.1 to 4.8, 4.10, 4.11, 4.12, 5.1 to 5.3, 7.1 to 7.3</p>	20
3)	C++	<p>Review of C++            Arrays , pointers, references, strings            Principle of object oriented programming            Classes &amp; objects            Constructors &amp; Destructors            Operator overloading &amp; type conversion            Virtual functions &amp; polymorphism            Inheritance            working with files            Ref:- Balagurusamy-(related topic from) ch 5,6,7,8,9,11</p>	50
4)	HTML	<p>Introduction to HTML            Why HTML , Advantage &amp; drawbacks            Study of TAGS : &lt;HTML&gt; , &lt;HEAD&gt; , &lt;TITLE&gt; , &lt;BODY&gt; , &lt;P&gt; , &lt;BR&gt; , &lt;UL&gt; , &lt;LI&gt; , &lt;PRE&gt; , &lt;MARQUEE&gt;            Font styles &lt;P&gt; , &lt;I&gt; , &lt;BIG&gt; , &lt;SMALL&gt; , &lt;SUB&gt; , &lt;SUP&gt; , &lt;FONT&gt;            IMAGES : &lt;HREF&gt; , &lt;HR&gt; , &lt;IMG&gt; , SRC , ALT , HEIGHT , WIDTH , ALIGN            TABLES : &lt;TABLE&gt; , &lt;CAPTION&gt; , &lt;TR&gt; , &lt;TH&gt; , &lt;TD&gt;            Use of scripting as language support (NOTE : Only VB script using FOR,NEXT,IF....THEN...ELSE, MsgBox, InBox, DIM, SET )            Ref:- Hoyler-ch 3,4,5,6</p>	20

## STANDARD XII (PAPER I PRACTICALS)

SR. NO.	EXPERIMENTS
1)	C++ Program – Using Array and Pointers.
2)	C++ Program – with CLASS implementations.
3)	C++ Program – Using Arrays of objects.
4)	C++ Program – based on constructors & destructors.
5)	C++ Program – based on operator overloading.
6)	C++ Program – based on type conversion.
7)	C++ Program – based on single inheritance.
8)	C++ Program – Single file operation.
9)	VB Program – use of various tools in tool box.
10)	VB Program – creating & customizing menus.
11)	VB Program - use of If....Then....Else, For....Next
12)	VB Program – Use of Do....Loop, Case...Else
13)	VB Program – Designing a table.
14)	A simple project using Visual Basic.
15)	Designing a simple Web Page with Text.
16)	Designing a simple web page with text & graphics.
17)	Use of simple VB script in web page designing.

## STANDARD XII (PAPER II THEORY)

SR NO.	TOPIC	SCOPE AND LIMITATIONS	NO OF LECTURES
1)	Introduction to Microprocessor & Organization of 8085	Evaluation of Microprocessor. What is Microprocessor? Block diagram of generic Microprocessor and study of various blocks in it. Block diagram of 8085 Microprocessor. Study of various blocks & functionality of various pins on it.  Ref:- Tokhelm Sec - 4.2, 4.5 ,5.3, 8.1 to 8.3	25
2)	Instruction set & Programming of 8085	Addressing Modes in 8085, Programming model of 8085 Study of instruction Set – Data transfer, Arithmetic, Logic, Branching, Stack I/O & Machine control group instruction. Assembly language programs based on above instructions.  Ref:- Tokhelm Sec- 8.4 to 8.10, 9.1 to 9.4	45
3)	Introduction to Intel X86 family	Introduction to Advance Microprocessors Introduction to X86 family & study of major attributes of X86 family processor Programming model of X86 family of Microprocessors.  Ref:- Gilmore-Sec 10.1 to 10.3	5
4)	Introduction to Microcontroller	Introduction to Microcontroller, Study of 8051 Architecture & Programming model Overview of other Microcontroller's in the 8051 family Application of Microcontroller  Ref:- Gilmore – 9.1, 9.2,9.7	15
5)	Networking Technology	Study of transmission media : Cable media-coaxial cable, Twisted pair, fibre optic, their comparisons. Introduction to wireless media Network topologies – Access methods, Topologies (BUS, RING, STAR), Ethernet, TOKEN RING. Protocols – Internet Protocols Introduction to connectivity devices: Modem, Hubs, Repeaters, Routers  Ref:- Related topics from Networking Essential (Tech media) Ch 3, 4, 5, 6	30

## STANDARD XII (PAPER II PRACTICALS)

SR.	EXPERIMENTS
1)	Familiarization with 8085 Microprocessor Kit.
2)	Simple addition & subtraction programs using 8085.
3)	Multiplication & Division using 8085.
4)	Program for addition of decimal numbers.
5)	Use of monitor routines of the 8085 kit.
6)	Program to use $\mu p$ as two digit addition calculator using monitor routine.
7)	Program to display message on screen.
8)	Copy of memory block from one location to another memory location.
9)	Program to find minimum/maximum in a memory block.
10)	Program for searching a given number.
11)	Program using rotate instruction.
12)	Program using Stack operation .
13)	Program to generate square wave.
14)	Study of Interrupts.
15)	Study of transmission media such as coaxial, twisted pair, fiber optic cables & connectors.
16)	Study of modem, hub, repeaters & routers.
17)	Case study of existing Network topology used in the LAB.
18)	Setting up of LAN network in Laboratory (Demonstration Experiment )

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