

## PLANNED SYLLABUS COVERAGE (Theory)

GP Kangra SYLLABUS COVERAGE		Department: Computer Engineering    Subject : <i>operating system</i>				
		Course : Diploma			Duration: <i>3 years</i>	
		Total Period: 56			Theory : 56	
Sr No	Period Nos	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1	1-9	Unit 1 : Overview of Operating Systems	Objectives and Functions of Operating Systems, Operating Systems Evolution - Batch Processing Systems, Multiprogramming Systems, Multiprocessing Systems, Time Sharing Systems, Personal Computer Operating Systems, Handheld Computer Systems, Real Time Systems, Distributed Systems; Operating System Architecture - Monolithic vs Microkernel ..		Modern Operating Systems by Andrew S. Tanenbaum	
2	10-20	Unit 2 : Processes and Threads	Process, Process States, Process Life Cycle, Process Control Block (PCB), Threads, Multithreading, Inter-process Communication, Process Synchronization, Race Condition, Critical Section Problem and its Solutions, Deadlocks - Characterization, Necessary Conditions, Deadlock Avoidance, Prevention and Recovery .			
3	21-31	Unit 3 : CPU Scheduling	CPU Scheduler, Preemptive and Non-preemptive Scheduling, Scheduling Criteria - CPU Utilization, Throughput, Turnaround Time, Waiting Time, Response Time; Scheduling Algorithms - First Come First Serve, Shortest Job First,			

To be approved from HOD concerned within seven days from beginning of semester & will be kept with the concerned teacher in his file

			Shortest Remaining Time First, Priority Scheduling, Round-Robin; Multiprocessor Scheduling			
4	32-40	Unit 4 : Memory Management	Memory Hierarchy, Address Space, Address Translation, Memory Protection, Swapping, Contiguous Memory Allocation, Fixed Partition and Variable Partition Schemes, Memory Allocation Strategies, Fragmentation, Compaction, Non- Contiguous Memory Allocation, Paging, Segmentation, Virtual Memory, Demand Paging, Thrashing, Page Replacement Policies			
5	41-48	Unit 5 : Storage Management	Storage Devices - Magnetic Tapes, Magnetic Disks, Optical Disks, Flash Storage; Sequential and Direct Access, Disk Scheduling - SCAN, CSCAN			
6	49-56	Unit 6 : Linux Operating System	Features of Linux OS, GNU Project, Linux Architecture - Kernel, System Calls Interface, System Libraries, Shell			

Approved	HOD Sign./PPL
Date: 10-8-2023	

To be approved from HOD concerned within seven days from beginning of semester & will be kept with the concerned teacher in his file

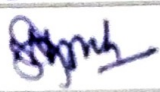


<b>GP Kangra</b>	Department: Computer Engineering Subject: Data Communication & Computer Networks	<b><u>N-2022 Scheme</u></b>
	Course: <b>Diploma</b> Duration : <b>03 Years</b>	
Syllabus Planned	Total Periods: 16 Weeks / Sem Theory :48 Lectures + 16 DCS = 64 Practical :- 01 Practical / Group	

### SYLLABUS PLANNED

S. N.	Unit	Period No.	Topic Covered	Instruction Reference	Additional Study recommended	Remarks
01	01	1-14	<b><u>Overview of Data Communication :-</u></b> Data Communication, Data Communication Characteristics - Delivery, Accuracy, Timeliness, Jitter; Components of Communication System, Data Flow - Simplex, Half-Duplex, Full-Duplex; Analog and Digital Signals, Peer-to-Peer and Client-Server Networks, Characteristics of Analog Signals - Frequency, Amplitude, Wavelength; Composite Signal, Phase, Bandwidth; Low Pass and Band Pass Channels, Baseband and Broadband Transmission, Data Rate Limit	(i) Computer Network by Andrew S. Tanenbaum, PHI (ii) Data Communications and Networking by Forouzan, Tata McGraw Hill		
02	02	15-28	<b><u>Computer Networks:-</u></b> Objectives of Computer Networks, Applications, Network Protocols, Packet Switching, Circuit Switching, Network Topologies, Types of Computer Networks - PAN, LAN, MAN, WAN, Internetworks, Internet - History, Internet Infrastructure, DNS, Internet Routing Hierarchy			
03	03	29-42	<b><u>ISO- OSI Reference Model:-</u></b> Advantages of Layered Network Architecture, ISO OSI Reference Model, Principles of OSI Reference Model, Functions of OSI Layers, Overview of Basic Protocols at Physical, Data Link, Network and Transport Layers			

S. N.	Unit	Period No.	Topic Covered	Instruction Reference	Additional Study recommended	Remarks
04	04	43-54	<b>Transmission Media and Networking Devices:-</b> Wired Media – Coaxial, UTP, STP, Optical Fibre Cables; Wireless Media – Infrared, Radio Waves, Microwaves; Terrestrial and Satellite Wireless Communication; Transmission Impairments, Networking Devices - Repeater, Hub, Bridge, Switch, Router, Gateway, Modem	(i) Computer Network by Andrew S. Tanenbaum, PHI Hill (ii) DCN by Forouzan, Tata McGraw Hill		
05	05	55-64	<b>TCP/IP Protocol Suite :-</b> Layers in TCP/IP Protocol Suite, TCP/IP Protocol Data Units, IPv4 and IPv6 addresses, IPv4 CIDR Notation, Netmasks and Subnets, IPv4 Address Classes and Reserved Ranges, TCP and UDP, Ports, Well-known Ports, Telnet, FTP, SNMP, DHCP and DNS, Overview of Routing - Flooding, Distance Vector, Link State			

Date	10-08-2023
Approved	HOD Sign 




# **PLANNED SYLLABUS COVERAGE (Theory)**

GP Kangra		Department: Computer Engineering    Subject :CSA				
		Course :    Diploma		Duration: 3 years		
SYLLABUS COVERAGE		Total Period:				

be approved from HOD concerned within seven days from beginning of semester & will be kept with the concerned teacher in his file

4.	Basic Architecture of Microprocessor 8085	Demultiplexer: 1 to 4 line.  Basic features of 8085 Microprocessor, Block Diagram of 8085 Microprocessor, Functions of various blocks, Concept of Buses, Bus Multiplexing and Demultiplexing, status Flags, Addressing Modes and Interrupts.		
5.	Central Processing Unit	Major Components of CPU, General Register Organization, Control Word, Stack Organization- Register and Memory. Reverse Polish Notation and Evaluation of Arithmetic Expressions, Instruction formats – Three Address Instructions, Two Address Instructions, One Address Instructions, Zero Address Instructions. Brief Introduction to RISC and CISC Processors, Concept of Parallel Processing and Pipelining.		
6.	Memory Organization	Components of memory hierarchy: Main memory, auxiliary memory and cache memory, Introduction to Associative Memory, Cache Memory- Locality of Reference, Hit ratio, Writing into Cache – Write Through, Write Back, Input-Output Interface – Purpose, I/O Versus Memory Bus, Isolated versus Memory-Mapped I/O.		

Approved	HOD Sign
Date: 07/08/22	

To be approved from HOD concerned within seven days from beginning of semester & will be kept with the concerned teacher in his file



# PLANNED SYLLABUS COVERAGE (Theory)


GP Kangra		Department: Computer Engineering Subject : <i>WT (Web Technologies)</i>				
		Course : Diploma			Duration: <i>3 Years</i>	
SYLLABUS COVERAGE		Total Period: 42			Theory : 42 ( <i>3/week</i> )	
Sr No	Period Nos	Topic	Details	Instruction Reference	Additional Study Recommended	Remark
1	1-7	Unit 1 : Internet and World Wide Web	Brief History of the Internet, Structure of the Internet, Internet Services and Applications, Different Ways to Connect to the Internet, Common Internet Connection Issues and their Solutions, World Wide Web, HTTP, Familiarization with the Key Terms - Network Protocol, Web Server, Web Browser, Website, Web Application, Hypertext, Hyperlink, Search Engine, Proxy Server, URL, DNS		HTML & CSS: Design and Build Websites, John Duckett, Wiley Publishing	
2	8-14	Unit 2 : HTML 5	HTML, HTML Coding Conventions, HTML Tag, Structure of HTML Element, Global Attributes - id, class, style, title, tabindex; Structure of a Web Page - <html>, <head>, <body>, <!DOCTYPE>, <title> and <meta> Elements; HTML Comments, Document Object Model (DOM)			
3	15-23	Unit 3 : HTML Basic Elements	Headings - <h1> ... <h6>; Paragraphs - <p>, Special Text Elements - <pre>, <code>, <q>, <var>;			

To be approved from HOD concerned within seven days from beginning of semester & will be kept with the concerned teacher in his file

			<p>Lists : Ordered Lists (&lt;ol&gt;), Unordered Lists (&lt;ul&gt;); Attributes of List Elements: type, start; Nested Lists, Line Break (&lt;br&gt;) and Horizontal Rule (&lt;hr&gt;); Text Formatting Elements - &lt;b&gt;, &lt;strong&gt;, &lt;em&gt;, &lt;i&gt;, &lt;mark&gt;, &lt;u&gt;, &lt;sub&gt;, &lt;sup&gt;; Tables - &lt;table&gt;, &lt;thead&gt;, &lt;tbody&gt;, &lt;tfoot&gt;, &lt;tr&gt;, &lt;th&gt;, &lt;td&gt;, &lt;colgroup&gt;, &lt;col&gt;; Table Attributes - cellpadding, cellspacing, border, rowspan, colspan; Images - &lt;img&gt;; Image Attributes - src, alt; Hyperlink - &lt;a&gt;; Hyperlink Attributes - href, target;</p>			
4	24-28	Unit 4 : HTML Layout Elements	<p>Block and Inline Elements, Creating Sections - &lt;div&gt;, &lt;span&gt;; Identifying Elements - id, class and name attributes; Frames - &lt;iframe&gt;; HTML5 Semantic Elements - &lt;main&gt;, &lt;header&gt;, &lt;footer&gt;, &lt;article&gt;, &lt;section&gt;, &lt;nav&gt;, &lt;aside&gt;, &lt;details&gt;, &lt;summary&gt;, &lt;time&gt;, &lt;figure&gt;</p>			
5	29--35	Unit 5 : Cascading Style Sheets	<p>CSS Types - Inline, Internal, External; &lt;style&gt; and &lt;link&gt; elements; CSS Rule, Selector and Declaration; CSS Length Units; CSS Box Model; Setting Margins, Borders and Padding of Elements; CSS Colors - Color Names, RGB and HEX Formats; Setting Colors of Text, Background and Border; Styling Text - font-family, font-size, font-style, font-weight, font-transform, fontdecoration,</p>			

To be approved from HOD concerned within seven days from beginning of semester & will be kept with the concerned teacher in his file



			text-align; CSS Layout - position and float; Flexbox and Grid layouts; Styling Tables and Lists; Basic Animation using CSS, CSS Pseudo Elements and Pseudo Classes			
6	36-42	Unit 6 : Javascript	Role of Javascript in a Web Page, Embedding Javascript Code in Web Page, Javascript Variables - Naming, Scope and Lifetime, Hoisting; Javascript Operators, Control Statements; Javascript Arrays; Linking External Javascript File; Accessing and Manipulating HTML DOM Elements with Javascript, JavaScript, Builtin Javascript Functions, User-defined Functions			
Approved			HOD Sign.			
Date: 10-08-2023						

To be approved from HOD concerned within seven days from beginning of semester & will be kept with the concerned teacher in his file