

<b>Date</b>
Week2 25-JUL- 2016 TO 30-JUL-2016
Week 3 1-Aug-2016 to 6-Aug-2016
Week 4 8-Aug-2016 TO 13-Aug-2016
Week5 15-Aug-2016 TO 20-Aug-2016
Week 6 22-Aug-2016 to 27-Aug-2016
Week 7 29-Aug-2016 to 3-Sep-2016
Week 8 5-Sep-2016 to 10-Sep-2016

Week 9  
12-Sep-2016 to 17-Sep-2016

Week 10  
19-Sep-2016 to 24-Sep-2016

Week 11  
26-Sep-2016 to 1-Oct-2016

Week 12  
3-Oct-2016 to 8-Oct-2016

Week 13  
17-Oct-2016 to 22-Oct-2016

Week 14  
24-Oct-2016 to 29-Oct-2016

Week 15  
31-Oct-2016 to 5-Nov-2016

Week 16  
7-Nov-2016 to 12-Nov-2016

<b>Topics</b>
History of C and C++ Overview of Procedural Programming and Object-Oriented Programming
Using main() function Compiling and Executing Simple Programs in C++.
Declaring, Defining and Initializing Variables, Scope of Variables, Using Named Constants, Keywords Data Types, Casting of Data Types Operators (Arithmetic, Logical and Bitwise)
Using Comments in programs, Character I/O (getc, getchar, putc, putchar etc) Formatted and Console I/O (printf(), scanf(), cin, cout), Using Basic Header Files (stdio.h, iostream.h, conio.h etc).
Simple Expressions in C++ (including Unary Operator Expressions, Binary Operator Expressions) Understanding Operators Precedence in Expressions Conditional Statements (if construct, switch-case construct)
Understanding syntax and utility of Iterative Statements (while, do-while, and for loops), Use of break and continue in Loops, Using Nested Statements (Conditional as well as Iterative)
Utility of functions, Call by Value, Call by Reference, Functions returning value, Void functions, Inline Functions, Return data type of functions, Functions parameters, Differentiating between Declaration and Definition of Functions, Command Line Arguments/Parameters in Functions, Functions with variable number of Arguments.
Creating and Using One Dimensional Arrays ( Declaring and Defining an Array, Initializing an Array, Accessing individual elements in an Array, Manipulating array elements using loops) Use Various types of arrays (integer, float and character arrays / Strings)
Two dimensional Arrays (Declaring, Defining and Initializing Two Dimensional Array, Working with Rows and Columns) Introduction to Multi-dimensional arrays

Understanding utility of structures and unions, Declaring, initializing and using simple structures and unions  
Manipulating individual members of structures and unions, Array of Structures, Individual data members as structures, Passing and returning structures from functions,  
Structure with union as members, Union with structures as members.

Opening and closing a file (use of fstream header file, ifstream, ofstream and fstream classes)  
Reading and writing Text Files, Using put(), get(), read() and write() functions  
Random access in files

Understanding the Preprocessor Directives (#include, #define, #error, #if, #else, #elif, #endif, #ifdef, #ifndef and #undef), Macros

Principles of Object-Oriented Programming, Defining & Using Classes, Class Constructors,  
Constructor Overloading

Function overloading in classes, Class Variables & Functions,  
Objects as parameters, Specifying the Protected and Private Access, Copy Constructors,

Overview of Template classes and their use

Introduction to Inheritance

Introduction to Polymorphism

<b>Date</b>	<b>Comments</b>
July	
August	

September	
October	
November	

**Test1**  
**Unit 1 and 3**

<b>Date</b>
Week1 21-Jul-2016
Week2 25-JUL- 2016 TO 30-JUL-2016
Week 3 1-Aug-2016 to 6-Aug-2016
Week 4 8-Aug-2016 TO 13-Aug-2016
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Week 11 26-Sep-2016 to 1-Oct-2016
Week 12 3-Oct-2016 to 8-Oct-2016
Week 13 17-Oct-2016 to 22-Oct-2016
Week 14 24-Oct-2016 to 29-Oct-2016



Week 15  
31-Oct-2016 to 5-Nov-2016

Week 16  
7-Nov-2016 to 12-Nov-2016

<b>Topics</b>	<b>Date</b>
Unit1: Introduction to data communication and Network	July
Unit 1: LAN, WAN, MAN, Bluetooth, WLAN, Internet, Protocols and standards.	
Unit 4: Network devices-repeaters, hubs, switches and bridges Unit 1: ISO-OSI Reference Model layers and functions,	August
Unit1 1 :TCP/IP Reference Model layers and functions. Comparison of OSI and TCP/IP reference model.	
Unit 3: Definition of packets and frames, transmission errors, Framing Techniques	
Unit 3: Error Detection and Correction	
Unit 3 :Flow control Technniques (For Noisy and Noiseless Channels)	
Unit 3:TCP/IP, Address resolution techniques and protocols, IP datagrams	
Unit 3: Routing table entries (Routing Algorithms)	
Unit 3: Services of TCP, End to end service and datagram, Packet loss and retransmission.	September
Unit 3: IPv4 and IPv6	
Unit 4: Random access CSMA/CD, CSMA/CA, Controlled access	
Unit 4 :Channelization	October
Unit 4: Network protocols HTTP, FTP, DNS	
Unit 4: Twisted pair Ethernet, 10 Base-T, 100 Base-T Ethernet	
Unit 2 :Unshielded twisted pair(UTP), Coaxial cable, Shielded Twisted pair(STP), Optical fibre,Wireless Data Transmission :Radio and Satellite links	

Presentation on General Networking Topics such as Wired LANs Wireless LANs, Virtual LANs	November
Doubts + Test	

Comments
2
15.1 Forouzan
3.1 Tanenbaum
3.2 Tanenbaum
Chapter 11 Forouzan 11.4, 11.5
Chapter 21 Forouzan 21.1, 21.2
chapter 5 Tanenbaum
Chapter 23 Forouzan 23.1, 23.2, 23.3,23.4
19.1 19.2 Forouzan
ch-12 Forouzan
ch-12 Forouzan
ch 25,26,27 Forouzan
Chapter 7 Forouzan
Chapter 7 Forouzan

**Assignment 1:  
Study the Network  
Model used in  
SGTB Khalsa  
College.  
Identify various  
networking  
devices used  
along with its  
location**

**Test1  
Unit 1 and 3**

