



MAHARISHI VIDYA MANDIR PUBLIC SCHOOL



SITAPUR ROAD LUCKNOW

Class – XI

Subject – COMPUTER SCIENCE

(Session: 2018-2019)

Sr. No.	Month	Topic/Content
1	APRIL -18	Computer Systems and Organisation <ul style="list-style-type: none">• Basic computer organization• Types of software:• Language of Bits• Boolean logic• Concept of cloud computers, cloud storage (public/private), and brief introduction to parallel computing.
2	MAY-19	Computer Systems and Organisation CONT... <ul style="list-style-type: none">• Information representation• Strings• Execution of a program• Interpreters (process one line at a time), difference between a compiler and an interpreter• Running a program: Notion of an operating system, how an operating system runs a program, idea of loading, operating system as a resource manager.
3	JULY-18	Data Management <ul style="list-style-type: none">• Relational databases: idea of a database and the need for it, relations, keys, primary key, foreign key; use SQL commands to create a table, keys, foreign keys; insert/delete an entry, delete a table.
Periodic Test - I		
4	AUG-18	DATABASES AND SQL Database Concepts: Relational data model: Concept of domain, tuple, relation, key, primary key, alternate key, candidate key; Relational algebra: Selection, Projection, Union and Cartesian product; Structured Query Language: General Concepts: Advantages of using SQL, Data Definition Language and Data Manipulation Language; Data types: NUMBER, CHARACTER, DATE; SQL commands:



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		<p>CREATE TABLE, DROP TABLE, ALTER TABLE, UPDATE...SET..., INSERT, DELETE;</p> <p>SELECT, DISTINCT, FROM, WHERE, IN, BETWEEN, GROUP BY, HAVING, ORDER BY;</p> <p>SQL functions: SUM, AVG, COUNT, MAX and MIN;</p> <p>Note: Implementation of the above mentioned commands could be done on any SQL supported software.</p> <p>COMMUNICATION AND NETWORK CONCEPTS</p> <p>Evolution of Networking: ARPANET, Internet, Interspace;</p> <p>Data Communication terminologies</p> <p>Network devices</p> <p>Different Topologies</p> <p>WebPages</p> <p>PRACTICAL: PROJECT FILE CREATION WITH SQL COMMANDS</p>
5	SEP-18	Half Yearly Revision
6	OCT-18	<p>Data File Handling:</p> <p>Need for a data file, Types of data files – Text file and Binary file;</p> <p>Basic file operations on text file: Creating/Writing text into file, Reading and Manipulation of text from an already existing text File (accessing sequentially);</p> <p>Binary File: Creation of file, Writing data into file, Searching for required data from file, Appending data to a file, Insertion of data in sorted file, Deletion of data from file, Modification of data in a file;</p> <p>Implementation of above mentioned data file handling in C++; Header file: fstream.h; ifstream, ofstream, fstream classes; Opening a text file in in, out, and app modes;</p> <p>Using cascading operators for writing text to the file and reading text from the file;</p> <p>open(), get(), put(), getline() and close() functions; Detecting end-of-file (with or without using eof() function); Opening a binary file using in, out, and app modes;</p> <p>open(), read(), write() and close() functions; Detecting end-of-file (with or without using eof() function); tellg(), tellp(), seekg(), seekp() functions</p>
PRACTICAL: PROJECT FILE CREATION		



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7	NOV-18	<p>Pointers: Declaration and Initialization of Pointers; Dynamic memory allocation/deallocation operators: new, delete; Pointers and Arrays: Array of Pointers</p> <p>DATA STRUCTURES: Stack (Array and Linked implementation of Stack): Operations on Stack (PUSH and POP) and its Implementation in C++, Converting expressions from INFIX to POSTFIX notation and evaluation of Postfix expression; Queue: (Circular Array and Linked Implementation): Operations on Queue (Insert and Delete) and its Implementation in C++.</p>
8	DEC-JAN 19	<p>BOOLEAN ALGEBRA: Evolution of Boolean algebra, Binary-valued Quantities, Boolean Variable, Boolean Constant and Boolean Operators: AND, OR, NOT; Truth Tables; Closure Property, Commutative Law, Associative Law, Identity law, Inverse law, Principle of Duality, Idempotent Law, Distributive Law, Absorption Law, Involution law, DeMorgan's Law and their applications; Obtaining Sum of Product (SOP) and Product of Sum (POS) form from the Truth Table, Reducing Boolean Expression (SOP and POS) to its minimal form, Use of Karnaugh Map for minimisation of Boolean expressions (up to 4 variables); Basic Logic Gates (NOT, AND, OR, NAND, NOR) and their use in circuits. REVISION FOR BOARD EXAMINATION AND DOUBT CLEARANCE SESSIONS</p>