**PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH**

**Teaching Plan Session Odd Semester**

**(2017-18)**

**Name of the Teacher: Anjali RohillaDepartment: Computer Science**

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| **Schedule** | | | **Subject 1(Period 1st)**  **Room No : 318** | **Subject 2(Period 2nd)**  **Room No: 102** | **Subject 3(Period 7th)**  **Room No: 111** |
| **BSc Computer Sc. 3rd (DBMS)** | **B.A. & BSc 2ndC++ (IT Elective)** | **B.A. & BSc 1stComputer Fundamental (IT Elective)** |
| **Week No** | **Date From** | **Date Up to** | **Topics to be covered** | **Topics To be covered** | **Topics to be covered** |
| 1 | July 22-24, 2017 | July 29, 2017 |  |  |  |
| 2 | July 31 2017 | Aug 5, 2017 |  |  |  |
| 3 | Aug 7, 2017 | Aug 12, 2017 | *Introduction:* Database vs File Oriented Approach, Advantages and Disadvantages of DBMS, Data models: Hierarchical,  Network and Relational models | Concepts of Object Oriented Programming: Introduction to OOP, Difference between OOP and Procedure Oriented Programming, Object, Class, Encapsulation, Abstraction, Polymorphism,Inheritance. | Introduction: characteristics of computer; History of computers; |
| 4 | Aug 14, 2017 | Aug 19, 2017 | Entity Relationship model, Client-Server Architecture, Distributed databases  **Class Test** | Structure of a C++ Program and I/O streams. Classes and Objects Class Declaration : Data Members, Member Functions, Private and Public members, Creating Objects, Accessing class data members, Accessing member functions | classification of computers  based on size, architecture and chronology; Applications of computers; |
| 5 | Aug 21, 2017 | Aug 26, 2017 | Data Independence,  Normalization (1NF, 2NF, 3NF and BCNF)  **Class Test** | Class Function Definition: Member Function definition inside the class declaration and outside the class declaration, friend function, inline function, static function.  **Class Test** | Commonly used terms–Hardware, Software, and Firmware. Types of software: System and  Application software |
| 6 | Aug 28, 2017 | Sept 2, 2017 | Storage Organization for Relations, Relational Algebra: Operations - union,  intersection, difference, Cartesian product | Scope resolution operator, Private and Public member function,  Nesting of member functions, Arrays within a class. Arrays of Objects, | Input, Process and Output, Block diagram of a computer |
| 7 | Sept 4, 2017 | Sept 9, 2017 | Projection, selection, division and relational algebra queries; Relational  Calculus: Tuple oriented and domain oriented relational calculus and its operations  **Class Test** | Objects as function arguments: Pass by value, Pass by reference,  Pointers to Objects. Constructors and Destructors: Declaration and Definition | Representation of information: BIT, BYTE, Memory, Memory size; Units of measurement  of storage |
| Week 8 | Sept 11, 2017 | Sept 16, 2017 | Database Integrity : Entity Integrity  and Referential Integrity; Security: introduction, | Types of Constructors, (Default, Parameterized, Copy Constructors). Destructors: Definition and use. Function Overloading & Operator Overloading.  **Class Test** | Primary Memory: RAM, ROM, PROM, EPROM, Cache  **Class Test** |
| Week 9 | Sept 18, 2017 | Sept 23, 2017 | Granting and revoking Privileges ; Recovery: Transaction Recovery  Techniques. (Log Based Recovery and Shadow Paging) | Inheritance - Extending Classes Concept of inheritance, Base class, Defining derived classes Visibility modes :Public, Private, Protected , | Removable and non-removable secondary memory: Tapes, Disks, CDROM, DVD, |
| Week 10 | Sept 25, 2017 | Sept 29, 2017 | Data Definition Language(DDL): Create, rename, truncate, alter and drop tables. Data manipulation  Language(DML): Insert, update and delete commands. | Polymorphism: Definition, Application and demonstration of Data Abstraction, Encapsulation and Polymorphism. Early Binding | comparison of these devices based on technology and speed Organization of data on disks: |
| Week 11 | Oct 18, 2017 | Oct 21, 2017 | Various forms of SELECT- simple, using special operators, | Single inheritance: Privately derived, Publicly derived; Making a protected member inheritable, Access Control to private and protected members by member functions of a derived class, Multilevel inheritance, Nesting of classes. | Tracks, sectors, cylinders, heads, access time, seek time and latency time. |
| Week 12 | Oct 23, 2017 | Oct 28, 2017 | aggregate functions, arithmetic functions, character functions, date functions, group by clause  **Class Test** | Polymorphism with pointers, Virtual  Functions, Late binding, pure virtual functions. File Processing : Opening and closing of file | Input/output devices |
| Week 13 | Oct 30, 2017 | Nov 4, 2017 | Nested Queries, Joins. | stream state member functions, Binary file operations, structures and file operations, classes and file operations, Random file processing  **Class Test** | Programming Languages: Generation of Languages; Translators  **Class Test** |
| Week 14 | Nov 6, 2017 | Nov 11, 2017 | Introduction to VIEWs, Manipulating the Base table(s) through VIEWs, Rules of DML Statements on Join  Views | Data Structures: Basic Concepts and notations, introduction to Complexity, Data Structure  operations,applications of Data Structure | Interpreters, Compilers,  Assemblers and their comparison |
| Week 15 | Nov 13, 2017 | Nov 18, 2017 | Dropping a VIEW, Inline Views, Materialized Views. Database Security and Privileges, GRANT Command, | Arrays: Introduction, Types of Array, Memory representation, applications and operations; Stacks: Array representation of a stack, operations- initialization, push, pop, empty, and full; applications; | ASCII and EBCDIC Codes, Binary, Octal, Decimal and Hexadecimal Number Systems, Conversion |
| Week 16 | Nov 20, 2017 | Nov 25, 2017 | REVOKE Command, Application Privileges Management, Sequences, Introduction to INDEXES  **Class Test** | Queue: introduction, memory representation, operations- add, remove, initialization; applications  **Class Test** | Conversion  **Class Test** |
| Week 17 | Nov 27, 2017 | Dec 1, 2017 | Creating simple,  Unique and composite INDEX, dropping INDEX, COMMIT and ROLLBACK, Backup and Recovery of the database. | Linked List: introduction, declaration, operations:-traversing, searching, inserting, deleting; Introduction to  Circular list. | Conversion, Integer and Floating Point Representation. |