**Post Graduate Government College for Girls, Sector-42, Chandigarh**

**Teaching Plan for Bachelors (Third and Fifth Semester) and Post Graduate (Third Semester)**

**Session (2020-2021)**

**Class: CS 3rd Sem**  **Name of the Teacher: Sonika**

**Subject: Computer Sc.(E) Paper: Object Oriented Programming using C++ and Computer Organization**

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| **S. No** | **Dates** | **Topics to be Covered** |
| Week 1 | 03/08/2020 – 08/08/2020 | Number system: Binary, Decimal, Hexadecimal, Octal;  Conversions; integer and floating point representation, character codes (ASCII, EBCDIC), error detection and correction codes: Parity bit method, Hamming code; Boolean algebra. |
| Week 2 | 10/08/2020 – 14/08/2020 | Combinatorial logic design : Gates, Half Adder, Full Adder, Encoder, Decoder, Multiplexer |
| Week 3 | 17/08/2020 – 22/08/2020 | Object, Class, Encapsulation, Data Hiding, Inheritance, Polymorphism. Analysis and design of system using Object Oriented Approach, Benefit of OOPs. Structure of a C++ Program : Include files, Declaration of class, Main function, I/O streams. Classes : Class Declaration : Data Members, Member Functions, Private and Public members,  .Functions in C++ : Member function definition inside the class declaration and outside the class declaration |
| Week 4 | 24/08/2020 – 29/08/2020 | Data hiding and encapsulation, arrays within a class.  Objects :Creating Objects, Accessing class data members, Accessing member functions |
| Week 5 | 31/08/2020- 05/09/2020 | Methods of passing arguments to functions. |
| Week 6 | 07/09/2020- 12/09/2020 | Arrays of Objects, Objects as function arguments: Pass by value, Pass by Reference |
| Week 7 | 14/09/2020- 19/09/2020 | Constructors: Declaration and Definition, Default Constructors, Parameterized Constructors, Copy Constructors. Destructors: Definition and use. |
| Week 8 | 21/09/2020- 26/09/2020 | Sequential Building Block : Flip-Flops, Registers, Counters |
| Week 9 | 28/09/2020- 03/10/2020 | Synchronous and Asynchronous Counters, Bus. |
| Week 10 | 05/10/2020- 10/10/2020 | Register Transfer, Arithmetic, Logical and Shift Operations; Instruction :Instruction Format, Instruction cycle |
| Week 11 | 12/10/2020- 16/10/2020 | Pointers to Objects, Nesting of member functions, Static and  Friend functions. |
| Week 12 | 19/10/2020- 24/10/2020 | Concept of inheritance, base class, derived class,  defining derived classes, visibility modes, private, public. |
| Week 13 | 27/10/2020- 30/10/2020 | single inheritance : privately derived, publicly derived  making a protected member inheritable |
| Week 14 | 03/11/2020- 07/11/2020 | Architecture of 8086/8088 Processor Model; Instruction Set; Addressing Modes: Registers used in Microprocessor. |
| Week 15 | 09/11/2020- 12/11/2020 | Features of Assembly Language, Machine Language vs  Assembly Language, Pseudo Instruction; use of Assembly |
| Week 16 | 16/11/2020- 21/11/2020 | Multilevel inheritance, nesting of classes. |
| Week 17 | 23/11/2020- 28/11/2020 | Definition, types, Function overloading, Operator Overloading, Virtual functions and pure virtual functions. |
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