**Post Graduate Govt. College for Girls, Sector-42, Chandigarh**

**Teaching Plan (Even Semester) Session (2019-2020)**

**Class:** BA/BSc IT 2nd sem  **Name of the Teacher: Sonika**

**Subject:** Computer Programming using C **Period:**

**Paper: Room No:**

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| **S. No** | | **Dates** | **Topics to be Covered** |
| Week 1 | | 09-01-2020 to 11-01-2020 | Introduction to computer based problem solving:requirements of problem solving by the computer, Problem identification, Problem definition, Examples for problem solving, Problem solving strategies: Program Design and implementation issues: Programs and Algorithms, Top-down design and stepwise refinement |
| Week 2 | | 13-01-2020 to 18-01-2020 | Implementation (use of procedures for Modular design, choice of variable names, documentation of programs, program testing); Programming Environment, Programming Language classification. |
| Week 3 | | 20-01-2020 to 25-01-2020 | History, Structure of a C program: Data types (int,float,char,double,void),Datastructures;OperatorsandExpressionsArithmetic operators, Relational Operators, logical operators, Control constructs: |
| Week 4 | | 27-01-2020 to 01-02-2020 | Array declaration, one and two dimensional arrays; Functions Fundamentals: General form, function arguments, Return Value , Basic I/O:Formatted input/ Output, Unformatted Input/Output; Program Design examples; Advanced features: Type modifiers and storage class specifiers for data types, Bit Operators, ? Operator,& operator, \*operator, Type casting. Type conversion |
| Week 5 | | 03-02-2020 to 08-02-2020 | Control constructs: do-while, switch statements, break and continue, exit() function, goto and label; Scope Rules: Local and Global variables. |
| Week 6 | | 10-02-2020 to 15-02-2020 | Functions: Parameter passing –call by value and call by reference, calling functions with Arrays, argc and argv; Recursion: Basic concepts |
| Week 7 | | 17-02-2020 to 22-02-2020 | Dynamic Data structures in C: Pointers, the & and \*operators, Pointer expression, Pointer assignments |
| Week 8 | | 24-02-2020 to 29-02-2020 | Pointer arithmetic, Pointer comparison. The dynamic allocation functions – malloc and calloc. |
| Week 9 | | 02-03-2020 to 05-03-2020 | Pointer Vs Arrays, Arrays of pointers, Pointers to Pointers, Initializing Pointers. |
| **Mid Semester Exams (06-03-2020 to 13-03-2020)** | | | |
| Week 11 | 14-03-2020, 16-03-2020 to 21-03-2020 | | Pointers to functions, function returning Pointer, Functions with variable number |
| Week12 | 24-03-2020 to28-03-2020 | | Declaring a structure, Referencing structure elements, Array of structures, Passing structures to functions |
| Week 13 | 30-03-2020 to 04-04-2020 | | Structure Pointers, Declaring a structure pointer, Arrays and Structures within Structures |
| Week 14 | 07-04-2020 to 11-04-2020 | | Unions: Declaration, Uses,Enumerated data types, typedef, |
| Week 15 | 15-04-2020 to 18-04-2020 | | File Handling: The file Pointers, file accessing functions  (fopen, fclose,putc, getc, fprint); |
| Week 16 | 20-04-2020 to 24-04-2020 | | C preprocessor: # define, # include, #undef, #conditional  Compilation directives (#if, #else, #elif, #endif, #def and #fndef); |
| Week 17 | 27-04-2020 to 02-05-2020 | | C Standard Library and Header files, Header files (stdlib.h), ctype.h, string.h, math.h, stlib.h, time.h)etc., Standard library functions, |
| Week 18 | 04-05-2020 | | Mathematical functions, Date and time functions, Variable argument list functions, Utility functions, Character class test functions. |