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

**Teaching Plan for Bachelors (First Semester)**

**Session (2020-2021)**

**Class: BCA 1 sem**   **Name of the Teacher: Jasdeep Kaur**

**Subject: Problem Solving Through C Paper: BCA-16-104**

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| **S. No** | **Dates** | **Topics to be Covered** |
| Week 1 | 01/09/2020-05/09/2020 | Programming Process: Steps in developing of a program, Data Flow Diagram. |
| Week 2 | 07/09/2020-12/09/2020 | Decision Table, Algorithm development, Flowchart. |
| Week 3 | 14/09/2020-19/09/2020 | Pseudo Code, Testing and Debugging. |
| Week 4 | 21/09/2020-26/09/2020 | Fundamentals of C Languages: History of C, Character Set, Identifiers and Keywords, Constants. |
| Week 5 | 28/09/2020-03/10/2020 | Types of C Constants, Rules for Constructing Integer, Real and character Constants, Variables, Data Types, rules for constructing variables. |
| Week 6 | 05/10/2020-10/10/2020 | Operators and Expressions: C Instructions, Arithmetic operators, Relational operators, Logical operators, Assignment Operators. |
| Week 7 | 12/10/2020-16/10/2020 | Type Conversion in Assignments, Hierarchy of Operations, Standard and Formatted Statements, Structure of a C program , Compilation and Execution. |
| Week 8 | 19/10/2020-24/10/2020 | Decision Control Structure: Decision making with IF-statement, IF-Else and Nested IFElse, The else if Clause. |
| Week 9 | 27/10/2020-30/10/2020 | Loop Control Structure: While and do-while, for loop and Nested for loop, Case Control Structure: Decision using switch , Thegoto statement. |
| Week 10 | 03/11/2020 – 07/11/2020 | Functions: Library functions and user defined functions, Global and Local variables, Function Declaration, Calling and definition of function, Methods of parameter passing to functions, recursion, Storage Classes in C. |
| Week 11 | 09/11/2020 – 12/11/2020 | Arrays: Introduction, Array declaration, Accessing values in an array, Initializing values in an array, Single and Two Dimensional Arrays, Initializing a 2-Dimensional Array, Memory Map of a 2-Dimensional Array. |
| Week 12 | 16/11/2020 – 21/11/2020 | Passing array elements to a function: Call by value and call by reference, Arrays of characters, Insertion and deletion operations, Searching the elements in an array, Using matrices in arrays, Passing an Entire Array to a Function. |
| Week 13 | 23/11/2020 – 28/11/2020 | String Manipulation in C: Declaring and Initializing string variables, Reading and writing strings, String Handling functions(strlen(), strcpy(), strcmp(), strcat()). |
| Week 14 | 01/12/2020 – 05/12/2020 | Structures and Unions: Declaration of structures, Structure Initialization, Accessing structure members, Arrays of structure, Nested structures, Structure with pointers, Union. |
| Week 15 | 07/12/2020 – 12/12/2020 | Pointers: Pointer declaration, Address operator “&”, Indirection operator “\*”, Pointer and arrays. |
| Week 16 | 14/12/2020 – 18/12/2020 | , Pointers and 2-Dimensional Arrays, Pointer to an Array, Passing 2-D array to a Function, Array of Pointers. |
| Week 17 | 21/12/2020 – 26/12/2020 | Dynamic Memory Allocation: malloc(), calloc(), realloc(), free() functions. Files in C: Introduction, Opening and Closing files, Basic I/O operation on files. |