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***SKIPS University – School of Computer Science***

***Master of Science – Information Technology***

***Semester-I; Batch 2024- 26***

***Building Blocks of Programming- Project Work***

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| **Course and Faculty Details:** | |
| **Semester** | I |
| **Course Code** | **SOCS010101** |
| **Course Name** | Building Blocks of Programming |
| **Faculty Name** | Mr. Sourabh Dattalkar |
| **Faculty Email Id** | [**sourabh@skipsuniversity.edu.in**](mailto:sourabh@skipsuniversity.edu.in) |
| **General Guidelines:** | |
| **Project** | Group Project |
| **Project Submission** | Soft Copy |
| **Total Marks** | 20 |
| **Subject Title of Email** | BBP Project\_\_\_\_\_Roll No.\_\_Group\_\_\_\_ |
| **Length of the Project** | Approximately 20 pages |
| **Printing** | Soft Copy |
| **Font type** | Times New Roman |
| **Start Date** | 20-11-2024 |
| **End Date** | 26-12-2024 |
| **Project Guidelines:** | |
| **Project Activity Outcomes**  **(At the end of project work, a student would be able to)** |  **CO2:** **Illustrate** the significance of C programming constructs and make use of them in the program. (PO – 1,3,4,5,6,10,11)   **CO3:** **Examine** real-life problems and apply modular programming skills to solve them. (PO – 1,3,6,7,8,12)   **CO4:** **Apply** a resource-efficient program by distinguishing the functioning of various data structures and choosing the appropriate ones. (PO -1,2,3,4,11,12) |
| **Guidelines for Project Activity** | **Project Execution:**   * The project will be executed in groups, with a minimum of 3 and a maximum of 5 members per group. * Each group must select one Topic from provided list. |
| **Prepare a report in the below mentioned format** |  **Title Page**   * Title of the Project: * Name of the Student * Roll Number * Name of the Institution * Date of Submission    **Table of Contents**   * List all sections and subsections with corresponding page numbers.    **Introduction**   * Brief overview of C Programming. * Importance and objectives of your topic    **Data Description(if any used)**   * Source of the data * Description of features * Data types and initial observations    **System Design and Requirements Gathering**   * Identify the core components of the project * Define the data structures (if required) * Understand the functional requirements of the system.    **Implementation of Core Functionalities:**   * Implement basic CRUD (if required) * Use appropriate data structures (arrays, linked lists, etc.) * Develop interactive menus using C that allow users to perform different actions in the system.    **File Handling**   * Implement file management functions to save and retrieve data. * Ensure the system can load data from files at the start and save data on exit.    **Error Handling**   * Handle user input errors, such as invalid data entry, file errors (if file not found), and other edge cases. * Add appropriate messages for incorrect actions.    **Conclusion**   * Final thoughts on the project. * Recommendations for further implementation. |
| **Marking Scheme** | |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Sr.**  **No.** | **Components** | **COs** | **Level** | **Weightage** | | 1 |  **Illustrate** how operators can be used within conditional statements to **calculate** and control program flow based on different conditions.   **Demonstrate** the use of loops to repeatedly **apply** operations, optimizing tasks such as traversing arrays or performing cumulative calculations.   **Examine** how combining operators, conditional statements, and loops can **show** efficient solutions to complex programming problems. | CO2 | L3 | 6 marks  (2+2+2) | | 2 |  **Demonstrate** the use of functions to break down complex tasks into smaller, reusable components for efficient code execution.   **Illustrate** how functions can be used to **calculate** and return values, promoting modularity in programs.   **Apply** functions to **examine** and manage different operations (e.g., passing arrays, structures) in C programs for better code organization. | CO3 | L3 | 6 marks  (2+2+2) | | 3 |  **Apply** file handling techniques to store and manage structured data using arrays and structures.   **Demonstrate** structures to organize data for file-based operations, ensuring efficient storage and retrieval.   **Use** error-handling mech-anisms during file operations to ensure the integrity of array and structure data. | CO4 | L3 | 8 Marks  (3+3+2) | |
| **CO wise Evaluation** | |  |  |  | | --- | --- | --- | | **S. No.** | **Components** | **Weightage** | | 1 | CO2 | 6 | | 2 | CO3 | 6 | | 3 | CO4 | 8 | |

**Signature of Course Faculty: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature of Director: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Institute Stamp: \_\_\_\_\_\_\_\_**