Course Handout (2020-21 ODD SEMESTER)

Subject Name/Code : Computer Programming Lab(BTCS-P-ES-002) Branch/Sem/Batch :

: Bimal Kumar Meher , Sushri Samita Rout , Ajit Kumar Behera , Bhagwat Prasad Chaudhury , Nihar Ranjan Nayak , Saumyaranjan Dash , Satyananda Champati Rai , RAMAKRUSHNA SWAIN , Debasmita Pradhan , Kasturi Dhal , Pamela Chaudhury , ASIF

UDDIN KHAN, Rabindra Kumar Dalei, Mukti Routray

Scope & Objective -:

Name of Faculty

Pre-Requisite -:

#	Topic	Module	Chapter	Course Coverage	No of Classes
1	Introduction to computers and environmental set up		T01-Ch01	TRUE	1
2	Editing, compiling, executing, and debugging of simple C programs.		T01-Ch01	TRUE	1
3	Programs using operators and formatted input/output statements		T01-Ch01	TRUE	1
4	Decision making - if, if-else, else-if ladder, nested if		T01-Ch05	TRUE	1
5	Decision making using switch construct		T01-Ch05	TRUE	1
6	Loop control structure (while loop)		T02-Ch03	TRUE	1
7	Loop control structure (do-while, for) with jump statements		T02-Ch03	TRUE	1
8	Nested loops (printing various formats)		T02-Ch03	TRUE	1
9	1-D arrays including operation like searching, sorting, merging etc.		T02-Ch08	TRUE	1
10	1-D arrays including operation like searching, sorting, merging etc continued		T02-Ch08	TRUE	1
11	Handling 2-D arrays such as matrix operations		T02-Ch08	TRUE	1
12	Strings: use of various string handling functions (library functions)		T01-Ch08	TRUE	1
13	Strings: use of various string handling functions (library functions) continued		T01-Ch08	FALSE	1
14	Designing user-defined functions		T01-Ch09	TRUE	1
15	Designing user-defined functions continued		T01-Ch09	TRUE	1
16	Programs on recursion		T01-Ch09	TRUE	1
17	Programs on recursion continued		T01-Ch09	TRUE	1
18	Designing user defined functions for string manipulation		T01-Ch09	TRUE	1
19	Pointers Basics		T01-Ch11	TRUE	1
20	Operations on Pointers		T01-Ch11	TRUE	1
21	Passing arrays (both 1D and 2D) to functions		T01-Ch09	TRUE	1
22	Structure		T01-Ch10	TRUE	1
23	Array of structure, nested structure		T01-Ch10	TRUE	1
24	Dynamic memory management		T01-Ch13	TRUE	1
25	Self-referential structure (create and display operation of single linked list)		T01-Ch13	FALSE	1
26	File Handling		T01-Ch12	TRUE	1

Total no. of classes : 26

Text Book

Reference Book

Online Reference Material(s):

Course Outcome:

Program Outcomes Relevent to the Course:

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	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems			
	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.			
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.			
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.			
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.			
	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
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PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.			
	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			

Mapping of CO's to PO's: (1: Low, 2: Medium, 3: High)