

GANPAT UNIVERSITY									
FACULTY OF ENGINEERING AND TECHNOLOGY (DIPLOMA PROGRAMMES)									
Programme		Diploma Engineering			Branch/Spec.		Computer Engineering / Information Technology		
Semester		II			Version		1.0.0.0		
Effective from Academic Year				2018-19		Effective for the batch Admitted in			June 2018
Subject code		1ES204		Subject Name		Computer Programming -2			
Teaching scheme					Examination scheme (Marks)				
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3	0	2	0	5	Theory	40	60	100
Hours	3	0	4	0	7	Practical	60	40	100
Pre-requisites:									
Basic Knowledge of C Programming									
Learning Outcome:									
<ul style="list-style-type: none"> Extend the programming capability to make some complex program using some advanced topics in C language like array, functions, pointers, structure and Union and File Operations. 									
Theory syllabus									
Unit	Content								Hrs
1	Multi-Dimensional Arrays and String Two Dimensional Arrays, Initialization, Matrix Addition, Matrix Multiplication, String, Multidimensional arrays								8
2	Functions Introduction, Definition of Functions, Built in and user defined function, String Handling Functions, Math Functions, Use Defined Function Declaration, Categories of Functions, Nesting of Functions, Actual Parameter and Formal Parameter, Call by value and call by Reference, Recursion								12
3	Pointers Introduction to Pointers, Accessing Address of the variables, Declaring the Pointer Variables, Initialization of Pointer Variables, Pointer and Arrays, pointer to pointer, void pointers								8
4	Structure and Union Introduction to Structure, Declaration and Initializations of Structure, Access Structure variables, Arrays of the Structure, Array in Structure, Introduction to Union, Difference between Structure and Union								9
5	File and Command line argument File Operations: open, read, close, File mode: text, binary, File Functions: fprintf(), fscanf(), getc(), putc(), fgetc(), fputc(), fseek(), feof(), Command Line argument								5
6	Dynamic Memory Allocation Introduction, malloc(), calloc()								3
Practical content									
Students need to write algorithm and flowcharts for each problem.									
<ol style="list-style-type: none"> Write a minimum 4 program for two dimensional array. Write a program to perform matrix addition. Write a program to preform matrix multiplication. 									

4. Write at least 2 program for multi-dimensional array.
5. Write a program to store and retrieve string in array.
6. Write a programs to perform for built in string functions.
7. Write a programs to perform for built in math functions.
8. Write a programs to perform different function related program.
9. Write a programs to perform nesting of functions.
10. Write a programs for recursion.
11. Write a programs to perform call by value and call by reference.
12. Write a programs for pointer. (at least 8)
13. Write a programs to display address of variable. (at least 5)
14. Write a programs for array of pointer.
15. Write a programs for void pointer.
16. Write a programs for structure. (at least 3)
17. Write a programs for array of structure.
18. Write a programs for Union.
19. Write a programs for file operations.
20. Write a programs for command line arguments.
21. Write a programs for malloc() and calloc().

Text Books

1	Programming in ANSI C by Balagurusami (Tata McGraw Hills)
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Reference Books

1	Let Us C by YashavantKanetkar (BPB Publications)
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