

The Maharaja Sayajirao University of Baroda Polytechnic Diploma in Electronics & Communication Engg. (HPP)			ACADEMIC YEAR 2022-23		
Year	II	PROGRAMMING WITH C (ELE3334)	Lecture /Lab Hrs per week	4/2	
Semester	I		Max marks	100	
Pre-Requisite: Basic Mathematics, Basic Electronics					
CO1	Explain C fundamentals including data types, operators, control statements, and loops.				
CO2	Apply arrays, strings, pointers, and functions to build modular programs.				
CO3	Implement structures, unions, enumerations, and file operations in C.				
CO4	Describe floating-point arithmetic, error sources, and computational limitations.				
CO5	Solve nonlinear equations using standard numerical methods.				
BT	1. Remember 2. Understand 3. Application 4. Analysis 5. Evaluation 6. Creation				
COURSE CONTENT/SYLLABUS					
Unit	Unit Name		Hrs	Weightage	CO
1	OVERVIEW OF ‘C’, CONTROL STATEMENTS & LOOPS Structure of C program, keywords, identifiers, constants, variables, data types, type conversion, Types of operators and expressions, Input and output functions in C. Decision Statement – IF-ELSE statement, break, continue, go to, switch() case and nested IF statement, Loop Control Statements – For loop, While loop , Do-while loop and nested loops.		12	20	CO1
2	FUNCTIONS, POINTER & ARRAY IN C Arrays – Definition, Initialization, characteristics, One, Two, Three and Multidimensional Arrays, scanf and printf functions, Working with Strings & Standard Functions. Pointers – Introduction, features, Declaration, Arithmetic operations, pointers and Arrays, Array of pointers, pointers to pointers, pointers and strings, Void pointers. Functions – Declaration, Prototype, Types of functions, call by value and reference, Function with operators, function with decision statements, function with Loop statements, Function with Arrays and Pointers, Types of Storage Classes.		16	28	CO2
3	STRUCTURE UNION AND FILE HANDLING IN C Structure and Union – Declaration, Initialization, structure within structure, Array of structure, Enumerated data types, Union of structure, Files – Streams and file types, file operations, File I/O, Read, Write and Other file function.		14	26	CO3
4	NUMERICAL COMPUTATION Computer Arithmetic: floating point number operations, normalization and their consequences, Floating point representation of Numbers, Sources of Errors ,Non-Associativity of Arithmetic , Propagated Errors , Pitfalls in Computation. Bisection, False position, Newton Raphson, Secant method, Graffes root squaring method, Convergence of solution.		14	26	CO4 CO5
			56	100	
REFERENCE BOOKS:					
1.	Let us C by Y.C. Kanetkar				
2.	Programming with C by Balaguruswami				