RGPV (DIPLOMA WING) BHOPAL	OBE CURRICULUM FOR THE COURSE	FORMAT-3	Sheet No. 1/5

Branch	OPTOELECTONICS	Semester	III
Course Code		Course Name	Programming in C

Course Outcome 1	**Develop simple programs using library functions viz. printf, scanf, getch etc.**	Teach Hrs	Marks
Learning Outcome 1	**Identify a real life problem and convert it into a programming problem using flow-charts, algorithms, pseudo-codes etc.**	6	5
Contents	Program concept, Assembler, Compiler & Interpreter, Algorithms, Flowcharts		
Method of Assessment	Assignment, Quiz, Project		
Learning Outcome 2	**Write, compile, edit, execute and debug simple C programs on any Integrated Development Environment (IDE).**	6	5
Contents	C program structure, pre-processor directives, C tokens, character set, keywords, identifiers, constants, variables, data types, data types conversion, Expressions, Statements, Use of header files		
Method of Assessment	Assignment, Quiz, Project		
Learning Outcome 3	**Write simple input output programs using library functions printf, scanf, getch etc.**	6	5
Contents	Input/output functions- printf(), scanf(), getchar(), putchar(), gets(), puts() etc. Formatted I/O using control string.		
Method of Assessment	Assignment, Quiz, Project		

RGPV (DIPLOMA WING) BHOPAL	OBE CURRICULUM FOR THE COURSE	FORMAT-3	Sheet No. 2/5

Branch	OPTOELECTONICS	Semester	III
Course Code		Course Name	Programming in C

Course Outcome 2	**Solve simple logical problems using different operators in programs.**	Teach Hrs	Marks
Learning Outcome 1	**Identify different operators available in C program.**	6	5
Contents	Arithmetic Operators, Logical Operators, assignment operator, Relational Operators, Bitwise Operators, Special Operators: exit(), sizeof(), increment and decrement (post and pre) operators, precedence & associativity, Type casting.		
Method of Assessment	Assignment, Quiz, Project		
Learning Outcome 2	**Select and utilize the right operator amongst all the operators in a particular problem scenario.**	6	5
Contents	Example practice problems using different types of operators.		
Method of Assessment	Assignment, Quiz, Project		
Learning Outcome 3	**Write and execute simple math/logic based programs using different operators.**	6	5
Contents	Program implementation of example practice problems using different types of operators.		
Method of Assessment	Assignment, Quiz, Project		

RGPV (DIPLOMA WING) BHOPAL	OBE CURRICULUM FOR THE COURSE	FORMAT-3	Sheet No. 3/5

Branch	OPTOELECTONICS	Semester	III
Course Code		Course Name	Programming in C

Course Outcome 3	**Utilize if-else, switch-case, goto, while, do-while, for loops to control the flow of program.**	Teach Hrs	Marks
Learning Outcome 1	**Identify different control statements (as mentioned in CO) available in C program.**	6	5
Contents	**Branching statements**: *if* statement, *if- else*, nested *if*, *goto* statement, *switch-case* statement. **Loop statements**: *for* statement, *while* statement, *Do-while* statement, *break* and *continue* statement, nested loop and infinite loop.		
Method of Assessment	Assignment, Quiz, Project		
Learning Outcome 2	**Select and utilize the right control statement amongst all the options in a particular problem scenario.**	6	5
Contents	Example practice problems using different types of control statements.		
Method of Assessment	Assignment, Quiz, Project		
Learning Outcome 3	**Write and execute simple math/logic/display based programs using different flow control statements.**	6	5
Contents	Program implementation of example practice problems using different types of control statements.		
Method of Assessment	Assignment, Quiz, Project		

RGPV (DIPLOMA WING) BHOPAL	OBE CURRICULUM FOR THE COURSE	FORMAT-3	Sheet No. 4/5

Branch	OPTOELECTONICS	Semester	III
Course Code		Course Name	Programming in C

Course Outcome 4	**Develop simple programs using arrays, strings, structures and enums.**	Teach Hrs	Marks
Learning Outcome 1	**Identify different derived data types (as mentioned in CO) available in C program.**	6	5
Contents	**Arrays**: Concept of one dimensional and Multi-dimensional array, array declaration, Array initialization, operations on one and two-dimensional arrays. **Strings**: String Manipulations, gets(), puts(), string operations, string functions (concatenation, comparison, length of a string etc.) **Structures:** Definition, Declaration, initializing structure, membership operator, accessing structure elements, concept of enum.		
Method of Assessment	Assignment, Quiz, Project		
Learning Outcome 2	**Select and utilize the right derived data type amongst all the options in a particular problem scenario.**	6	5
Contents	Example practice problems using different types of derived data.		
Method of Assessment	Assignment, Quiz, Project		
Learning Outcome 3	**Write and execute simple mathematics/logic/display based programs using different derived data types.**	6	5
Contents	Program implementation of example practice problems using different types of derived data.		
Method of Assessment	Assignment, Quiz, Project		

RGPV (DIPLOMA WING) BHOPAL	OBE CURRICULUM FOR THE COURSE	FORMAT-3	Sheet No. 5/5

Branch	OPTOELECTONICS	Semester	III

Course Code		Course Name	Programming in C

Course Outcome 5	Develop simple programs using pointers and functions.	Teach Hrs	Marks
Learning Outcome 1	**Identify the need for functions and pointers in C programming.**	6	5
Contents	**Basics of function:** Built in and user defined functions. Function declaration, Function prototype, Local and global variables, scope and life of variable, call by value, call by reference. Arguments and Parameter passing mechanisms, recursion, command line argument. **Storage classes:** static auto, extern, and register. **Pointers:** Definition, Types, Declaration, & and * operator, pointer expression, pointer arithmetic, pointer to pointer, array of pointer, pointer to function.		
Method of Assessment	Assignment, Quiz, Project		
Learning Outcome 2	**Write and execute programs using pointers and functions.**	6	5
Contents	Program implementation of example practice problems of pointers and functions.		
Method of Assessment	Assignment, Quiz, Project		
Learning Outcome 3	**Understand and utilize the concept of call-by-value, call-by-reference, recursion, storage classes and dynamic memory allocation in C .**	6	5
Contents	Program implementation of example practice problems of above (LO3).		
Method of Assessment	Assignment, Quiz, Project		