

HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN
FIRST YEAR B.C.A.

BCA-101 : Logic Development using Programming language – 'C'

Teaching Scheme (per week)	
Th. (hours)	Pr. (hours)
3	--

Examination Scheme					
INT		EXT		TOTAL	
Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
30	--	70	--	100	--

UNIT I

(17 Marks)

Overview of C:

Algorithms, Flow- chart , Importance of C, translator, sample C programs, basic structure of C programs, executing C program.

Constants, Variables and Data Types:

Character set, C tokens, keywords and identifiers, constants, variables, data types, declaration of variables, assigning value to variable, defining symbolic constants.

Operators and Expression:

Operators - arithmetic, relational, logical, assignment, increment-decrement, conditional, bit-wise and special.

Arithmetic expressions, evaluation of expressions, type conversions in expressions, operator precedence and associativity, mathematical functions.

Managing Input and Output Operators:

Reading and writing a character, formatted input-output.

UNIT II

(17 Marks)

Decision Making and branching:

Decision making with IF statement, simple IF statement, the IF-ELSE statement, nesting of IF ... ELSE statements, the ELSE IF ladder, the switch statement.

Decision Making and Looping:

Looping statements - WHILE, DO and FOR.

Nesting and Jumps in loops.

Arrays:

One-dimensional, two-dimensional.

Handling of Character Strings:

Declaring and initializing string variables, reading string from terminal, writing string to screen, putting string together, comparison of two strings, string handling functions, table of strings.

UNIT III

(18 Marks)

User-Defined Functions:

Need for user-defined functions, the form of c function, return values and their types, calling a function, category of functions, handling of non-integer functions, nesting of functions, recursion, functions with arrays, storage class.

Structures and Unions:

Structure definition, giving values to members, structure initialization, comparison of structures, arrays of structures, arrays within structures, structures within structures, structures and functions, unions, size of structures.

UNIT IV

(18 Marks)

Pointers:

Definition, accessing the address of variable, declaring and initializing pointers, accessing a variable through its pointer, pointer expressions, pointer increments and scale factor, pointers and arrays, pointers and character strings, pointers and functions, pointers and structures.

File Management in C:

File concept, various operations on files – Defining, opening,, closing and input/ output, random access files, command line arguments.
Preprocessor.

BOOKS :

ANSI C

Mastering Turbo C

E. Balaguruswami - TMH Publications

Stan Kelly-Bootle - BPB Publications

Question Paper Scheme:

University Examination Duration : 3 Hours.

Q.1 - Unit-I (12 Marks)

A. Objective/ Short Questions.

B. Descriptive/ Long questions.

Q.2 - Unit-II (12 Marks)

A. Objective/ Short Questions.

B. Descriptive/ Long questions.

Q.3 - Unit-III (12 Marks)

A. Objective/ Short Questions.

B. Descriptive/ Long questions.

Q.4 - Unit-IV . (12 Marks)

A. Objective/ Short Questions.

B. Descriptive/ Long questions.

Q.5 - Programs

A. Unit I & II (10 Marks)

B. Unit III & IV (12 Marks)