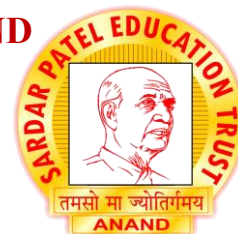




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Revised Syllabus as per NEP 2020 with effect from the Academic Year 2026-2027

Bachelor of Computer Applications (BCA)
Semester – II

Course Code	US1MABCA12	Title of the Course	Practical Based on Problem Solving Through C
Total Credits	04	Hours per Week	04 Hours / Week

Course Learning Outcomes (CLOs)

CLO 1	Solve problems using algorithms and flowcharts.
CLO 2	Develop simple programs using the C Programming language.
CLO 3	Debug and correct errors (syntax and logic) in programs.
CLO 4	Arrays & Strings problems involving sorting, searching, and string manipulation.

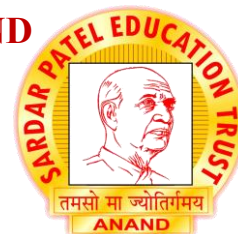
Course Content

Unit No.	Description	Weightage (%)
1.	Concept of Algorithm, Flowchart and Languages • Concept of an algorithm and a flowchart, need and definition • Symbols used to draw a flowchart • Typical examples of flowcharts and algorithms • Generations of computer languages • High-level and low-level languages • Translators • Introduction to editors and details about one of the editors	25%
2.	Basics of Programming • History and importance of C • Basic structure of a C Program • Variables and Constants • Data types in C	25%



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	• User defined type declaration-typedef • Operators and Expressions • Formatted I/O statements - Assignment statements	
3.	Decision Making, Loops and Arrays • Decision making and branching Statements • Decision making and looping statements • Arrays	25%
4.	Strings and Library Functions • Introduction • Declaring and initializing strings • Operations on Characters • String handling functions • Common standard library functions	25%

Teaching – Learning Methodology

The course would be taught / learnt through ICT (e.g. Power Point Presentation, Audio-Visual Presentation), Quizzes, Case Study and Browsing E- Resources & Practical Learning.

Examination Evaluation Pattern

Sr. No.	Particulars	Weightage (%)
01	Continuous and Comprehensive Evaluation (CCE) (Formative Assessment)	50%
02	Semester End Evaluation (SEE) (Summative Assessment)	50%
	TOTAL	100%

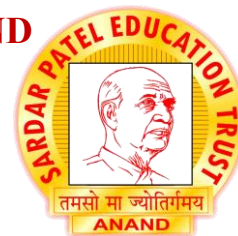
Specifications for CCE and SEE

Sr. No.	Details of the Evaluation Pattern	Marks
01	Continuous and Comprehensive Evaluation (CCE) (Formative Assessment)	50
	Practical Hands-on Evaluation	
02	Semester End Evaluation (SEE) (Summative Assessment)	50
	Practical Examination (02 Hours)	
	TOTAL(For 04 Credit Courses)	100 Marks



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Rubrics – Based Assessment for Mid-Semester Examination (50 Marks)		
Any Two Unit or 50% of The Syllabus - 15 Marks Each Question with 5 Marks Journal		
Excellent	40 – 50 Marks	Accurate, error-free, logically presented, timely submission
Good	30 – 40 Marks	Minor errors and good conceptual clarity
Average	20 – 30 Marks	Basic understanding or partially correct
Basic	10 – 20 Marks	Limited clarity, noticeable mistakes, incomplete content
Poor	01 – 10 Marks	Inadequate conceptual clarity, incorrect content
Below Poor	Zero Marks / NA	Content is irrelevant / Not Attempted / Not Submitted
Note: • Written Examination questions will be based on various levels of Revised Bloom's Taxonomy.		

Rubrics – Based Evaluation Pattern for End-Semester Examination (50 Marks)		
All Units of The Syllabus - 15 Marks Each Question with 5 Marks Journal		
Excellent	40 – 50 Marks	Accurate, error-free, logically presented, timely submission
Good	30 – 40 Marks	Minor errors and good conceptual clarity
Average	20 – 30 Marks	Basic understanding or partially correct
Basic	10 – 20 Marks	Limited clarity, noticeable mistakes, incomplete content
Poor	01 – 10 Marks	Inadequate conceptual clarity, incorrect content
Below Poor	Zero Marks / NA	Content is irrelevant / Not Attempted / Not Submitted
Note: • Written Examination questions will be based on various levels of Revised Bloom's Taxonomy.		

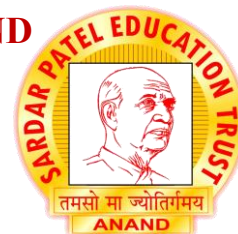
PLO – CLO Mapping								
Practical Based on Problem Solving Through C								
	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8
CLO 1	3	3	2	1	0	0	0	1
CLO 2	3	3	2	1	0	0	0	1
CLO 3	3	3	3	2	1	0	0	1
CLO 4	3	3	3	3	2	2	0	2
Note: • High: 03; Moderate: 02; Low: 01; No Mapping: 00								



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Suggested References and E-Resources for Further Reading

- E. Balagurusami: Programming in ANSIC. , Eighth Edition, Tata McGraw Hill Publication,2019.
- Kernighan B.RitchieD. : The C Programming Language, Prentice Hall,1988.
- Cooper H. & Mullish H: The Spirit of C, Jaico Publication House, NewDelhi,1988.
- <https://www.geeksforgeeks.org/fundamentals-of-algorithms/>
- <https://www.w3schools.com/c/>
- <https://www.programiz.com/c-programming>
- <https://www.cplusplus.com/reference/cstring/>
