**Yadavindra Department of Engineering,
Punjabi University Guru Kashi Campus,
Damdama Sahib (Talwandi Sabo)**

**Master of Computer Applications
M.C.A. (Bridge Course)**

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| **Program Name:** Master of Computer Applications | **Program Code**:MBCM1PUP |
| On completion of MCA(Bridge Course) , the graduates will be able to:* Apply the knowledge of mathematics and computing fundamentals to various real life applications for any given requirement
* Design and develop applications to analyze and solve all computer science related problems
* Design applications for any desired needs with appropriate considerations for any specific need on societal and environmental aspects
* Solve and work with a professional context pertaining to ethics, social, cultural and cyber regulations
* Involve in perennial learning for a continued career development and progress as a computer professional
* Communicate effectively and present technical information in oral and written reports
* Utilize the computing knowledge efficiently in projects with concern for societal, environmental, and cultural aspects
* Create and design innovative methodologies to solve complex problems for the betterment of the society.
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| **Program Name:** Master of Computer Applications | **Program Code**:MBCM1PUP |
| **Course Name:** Fundamentals of Computer Science | **Course Code**: MBCM1101T |
| **Course Outcomes:**Making the students understand and learn the basics of computer how to operate it, to make familiar with the parts and function of computer, its types , how to use computer in our day to day life, its characteristics, its usage, Limitations and benefits etc. After completing the subject, student should be able to:* + Understand the meaning and basic components of a computer system,
	+ Define and distinguish Hardware and Software components of computer system,
	+ Explain the functions of a computer,
	+ Identify and discuss the functional units of a computer system,
	+ Identify the various input and output units and explain their purposes
	+ Understand the concept and need of primary and secondary memory,
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| **Program Name:** Master of Computer Applications | **Program Code**:MBCM1PUP |
| **Course Name:** Problem Solving and Program Design using C | **Course Code**: MBCM1102T |
| **Course Outcomes:**The course is designed to provide complete knowledge of C language. Students will be able to develop logics which will help them to create programs, applications in C. Also by learning the basic programming constructs they can easily switch over to any other language in future. At the end of the course student will be able to:* + Design analgorithmic solution for a given problem
	+ Write a maintainable C program for a given algorithm.
	+ Trace the given C program manually.
	+ Write C program for simple applications of real life using structures and files.
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| **Program Name:** Master of Computer Applications | **Program Code**:MBCM1PUP |
| **Course Name:** Discrete Mathematical Structures | **Course Code**:MBCM1201T |
| **Course Outcomes:**This course introduces the applications of discrete mathematics in the field of computer science. It covers sets, logic, proving techniques, combinatorics, functions, relations, graph theory and algebraic structures. These basic concepts of sets, logic functions and graph theory are applied to Boolean Algebra and logic networks, while the advanced concepts of functions and algebraic structures are applied to finite state machines and coding theory. Students completing this course will be able* To express a logic sentence in terms of predicates, quantifiers, and logical connectives.
* To apply the rules of inference and methods of proof including direct and in direct proof forms, proof by contradiction, and mathematical induction.
* To use tree and graph algorithms to solve problems
* To evaluate Boolean functions and simplify expressions using the properties of Boolean algebra.
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| **Program Name:** Master of Computer Applications | **Program Code**:MBCM1PUP |
| **Course Name:** Software Engineering | **Course Code**: MBCM1202T |
| **Course Outcomes:**In this course, students will gain a broad understanding of the discipline of software engineering and its application to the development of and management of software systems. After completing this course, students will have * knowledge of basic SW engineering methods and practices, and their appropriate application;
* A general understanding of software process models such as the waterfall and evolutionary models.
* An understanding of the role of project management including planning, scheduling, risk management, etc.
* An understanding of software requirements and the SRS document.
* An understanding of implementation issues such as modularity and coding standards.
* An understanding of approaches to verification and validation including static analysis, and reviews.
* An understanding of software testing approaches such as unit testing and integration testing.
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