



Maharaja Agrasen Institute of Management Studies

Affiliated to GGSIP University; NAAC A++ Accredited; Autonomous Status from UGC;
Approved by BCI and AICTE and Recognized u/s 2(f) of UGC; ISO 9001: 2015 Certified Institution
Maharaja Agrasen Chowk, Sector 22, Rohini, Delhi – 110086, INDIA www.maims.ac.in



DEPARTMENT OF COMPUTER APPLICATIONS

Program Specific Outcomes for BCA

After the Program the students will be able to:

PSO1:	Comprehensive knowledge and coherent understanding of the Computer Applications in various domains and emerging developments associated with the Computer Science and Information Technology.
PSO2:	Practical, professional and procedural knowledge required for carrying out professional or highly skilled work/tasks in the field of computer science and Information Technology, including knowledge required for undertaking self-employment initiatives and knowledge and mindset required for entrepreneurship involving enterprise creation, improved product development or a new mode of organization.
PSO 3:	Skills in areas related to specialization in the chosen disciplinary/interdisciplinary area(s) of learning including wide-ranging practical skills, involving variable routine and non-routine contexts relating to Computer Applications.
PSO 4:	Capacity to extrapolate from what has been learned, translate concepts to real-life situations and apply acquired competencies in new/unfamiliar contexts, rather than merely replicate curriculum content knowledge, to generate solutions to specific problems.



DEPARTMENT OF COMPUTER APPLICATIONS

Program Outcomes for BCA

PO1:	Disciplinary Knowledge: Apply the knowledge of computer application concepts and domain knowledge to solve the problems in IT domain/IT industry.
PO2:	Problem Analysis: Identify, formulate, review research literature and analyze complex computer application problem at their workplace and for the society.
PO 3:	Design / Development of Solutions: Design and evaluate solutions for computer applications problems, and design the processes that meet specified needs with appropriate considerations for the public health, safety, cultural, societal and environmental considerations.
PO 4:	Modern Tool Usage: Create, select, adapt and apply appropriate techniques, resources and modern computing tools to complex computer application activities, with an understanding of the limitations.
PO 5:	Professional Ethics: Understand and commit to professional ethics and cyber regulations, responsibilities and norms of professional computing practices.
PO 6:	Life-long Learning: Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.
PO 7:	Project management and finances: Demonstrate knowledge and understanding of the computing and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO 8:	Communication Efficacy with Corporate/teamwork: Communicate effectively with the computing community, and with society at large, about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions. Function effectively as an individual and as a member or a leader.
PO 9:	Societal and Environmental Concern: Understand and assess societal, environmental, health, safety, legal and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practices.
PO10:	Innovation and Entrepreneurship: Identify a timely opportunity and using innovation to pursue that opportunity to create value and wealth for the betterment of the individual and society at large.



Maharaja Agrasen Institute of Management Studies

Affiliated to GGSIP University; NAAC A++ Accredited; Autonomous Status from UGC;
Approved by BCI and AICTE and Recognized u/s 2(f) of UGC; ISO 9001: 2015 Certified Institution
Maharaja Agrasen Chowk, Sector 22, Rohini, Delhi – 110086, INDIA www.maims.ac.in



DEPARTMENT OF COMPUTER APPLICATIONS

Course Outcomes (COs) of BCA

BCA Semester -1

Couse Code	Subject	COs
BCA 101 T	Programming for Problem Solving using C	<p>CO1: Develop programming skills by learning the fundamentals of structured programming using C Language.</p> <p>CO2: Design and develop programs using arrays, storage classes, functions and to understand memory management through pointers.</p> <p>CO3: Critically analyze real world problems using structures, unions and develop applications for handling text and binary files.</p> <p>CO4: Explore the use of command line arguments, string manipulation and standard libraries.</p>
BCA 103T	Fundamental of Information Technology	<p>CO1: Describe computer with its characteristics, its usage, limitations and benefits, Computer Memories and its type, Software and its type.</p> <p>CO2: Acquire knowledge about Number Systems, various computer languages and operating system DOS.</p> <p>CO3: Attain skills in Application Software used for word processing, spreadsheet and presentation.</p> <p>CO4: Understand network fundamentals and various communication network, Advance trends in IT.</p>



Maharaja Agrasen Institute of Management Studies

Affiliated to GGSIP University; NAAC A++ Accredited; Autonomous Status from UGC;
Approved by BCI and AICTE and Recognized u/s 2(f) of UGC; ISO 9001: 2015 Certified Institution
Maharaja Agrasen Chowk, Sector 22, Rohini, Delhi – 110086, INDIA www.maims.ac.in



<p>BCA 105T</p>	<p>Web Technologies</p>	<p>CO1: Develop static web pages through HTML, JavaScript, CSS and Bootstrap.</p> <p>CO2: Implement different constructs and programming techniques provided by JavaScript.</p> <p>CO3: Adapt HTML, JavaScript, CSS and Bootstrap syntax and semantics to build web pages.</p> <p>CO4: Develop Client-Side Scripts using JavaScript to display the contents dynamically.</p>
<p>BCA 107T</p>	<p>Mathematical Foundation for Computer Science</p>	<p>CO1: Understand the various approaches dealing the data using theory of Probability.</p> <p>CO2: Understand various numerical techniques and apply them to solve real life problems.</p> <p>CO3: Understand various techniques to solve linear simultaneous equations.</p> <p>CO4: Analyze and evaluate the accuracy of common Numerical Methods.</p>
<p>BCA 141T</p>	<p>Writing Skills</p>	<p>CO1: The student will become familiar with the basics of communication and its importance in the organizational world.</p> <p>CO2: To improve the business writing skills also will become well aware how to write effective resume to enter the global world.</p> <p>CO3: To improve the listening skills by knowing well how to negotiate and give effective presentations.</p> <p>CO4: To make use of effective business language and give a professional look to oneself.</p>



Maharaja Agrasen Institute of Management Studies

Affiliated to GGSIP University; NAAC A++ Accredited; Autonomous Status from UGC;
Approved by BCI and AICTE and Recognized u/s 2(f) of UGC; ISO 9001: 2015 Certified Institution
Maharaja Agrasen Chowk, Sector 22, Rohini, Delhi – 110086, INDIA www.maims.ac.in



<p>BCA 191T</p>	<p>Understanding India</p>	<p>CO1: Familiar with the History and culture of Ancient India.</p> <p>CO2: Understanding the ancient Indian literature.</p> <p>CO3: Having awareness of the ancient knowledge system of India</p> <p>CO4: Aware of Basic features of our constitution</p>
<p>BCA 181T</p>	<p>Bridge Course in Mathematics</p>	<p>CO1: Understand the various approaches dealing the data using theory of matrices.</p> <p>CO2: Understand and apply the concepts of determinants.</p> <p>CO3: Understand the concept of calculus such as limit, continuity and differentiability.</p> <p>CO4: Appraise and determine the correct logic and solutions for any given real world problem using application of integration & integral calculus.</p>
<p>BCA 101P</p>	<p>Programming for Problem Solving using C Lab</p>	<p>CO1: Develop programming skills by learning the fundamentals of structured programming using C Language.</p> <p>CO2: Design and develop programs using arrays, storage classes, functions and to understand memory management through pointers.</p> <p>CO3: Critically analyze real world problems using structures, unions and develop applications for handling text and binary files.</p> <p>CO4: Explore the use of command line arguments, string manipulation and standard libraries.</p>
<p>BCA 103P</p>	<p>Fundamentals of Information Technology Lab</p>	<p>CO1: Work with basic DOS Commands and Windows Explorer.</p>



Maharaja Agrasen Institute of Management Studies

Affiliated to GGSIP University; NAAC A++ Accredited; Autonomous Status from UGC;
Approved by BCI and AICTE and Recognized u/s 2(f) of UGC; ISO 9001: 2015 Certified Institution
Maharaja Agrasen Chowk, Sector 22, Rohini, Delhi – 110086, INDIA www.maims.ac.in



		<p>CO2: Create Word Documents using advanced features of MS Word.</p> <p>CO3: Create Worksheet using advanced features of MS Excel.</p> <p>CO4: Create interactive Presentation using advanced features of MS Power-point.</p>
BCA 105P	Web Technologies Lab	<p>CO1: Develop static web pages through HTML, CSS, JavaScript, bootstrap and XML.</p> <p>CO2: Implement different constructs and programming techniques provided by JavaScript.</p> <p>CO3: Adapt HTML, CSS, JavaScript, bootstrap and XML syntax and semantics to build web pages.</p> <p>CO4: Develop Client-Side Scripts using JavaScript to display the contents dynamically.</p>



Maharaja Agrasen Institute of Management Studies

Affiliated to GGSIP University; NAAC A++ Accredited; Autonomous Status from UGC;
Approved by BCI and AICTE and Recognized u/s 2(f) of UGC; ISO 9001: 2015 Certified Institution
Maharaja Agrasen Chowk, Sector 22, Rohini, Delhi – 110086, INDIA www.maims.ac.in



BCA Semester -2

Couse Code	Subject	COs
BCA 102 T	Database Management System (DBMS)	<p>CO1: Understand the DBMS concepts with detailed architecture, characteristics. Describe different database languages and environment and learn various data models, along with the related terminologies</p> <p>CO2: Explore Structure Query Language, a brief on NOSQL, Query by Example. Also understand the overview of SQL, and try to implement DDL, DML and DCL along with operators, use of joins, nested query, use of views and Indexes. Discuss Integrity Constraints</p> <p>CO3: Describe Relational Data Model, explain Codd's Rules, Relational Algebra, Set theory operations and the concept of functional dependencies and normalization</p> <p>CO4: Acquire Knowledge about Transaction Processing, concurrency problems, and its controlling techniques, Database backup and recovery and security.</p>
BCA 104T	Object Oriented Programming using Java	<p>CO1: Illustrate the Object-Oriented paradigm and Java language constructs</p> <p>CO2: To inculcate concepts of inheritance to create new classes from existing ones and design the Classes needed given a problem specification. To familiarize the concepts of packages and interfaces.</p> <p>CO3: To manage input output using console and files.</p> <p>CO4: To facilitate students in</p>



Maharaja Agrasen Institute of Management Studies

Affiliated to GGSIP University; NAAC A++ Accredited; Autonomous Status from UGC;
Approved by BCI and AICTE and Recognized u/s 2(f) of UGC; ISO 9001: 2015 Certified Institution
Maharaja Agrasen Chowk, Sector 22, Rohini, Delhi – 110086, INDIA www.maims.ac.in



		handling exceptions and defining their own exceptions. To apply the Java Thread model to develop multithreading applications.
BCA 106T	Data Structures and Algorithms	<p>CO1: Familiarize the basics of data structures and algorithms.</p> <p>CO2: Understand and apply linear and nonlinear data structures and their operations.</p> <p>CO3: Compare and implement searching, sorting and hashing techniques.</p> <p>CO4: Appraise and determine the correct data structure for any given real-world problem.</p>
BCA 108T	Software Engineering	<p>CO1: Instantiating into the process of designing, coding and testing a software module. Implementing Software Development Life Cycle (SDLC) to develop a software module</p> <p>CO2: Organizing a software product along with its complete documentation.</p> <p>CO3: To analyze the use of techniques, skills and modern engineering tools necessary for software development.</p> <p>CO4: Organizing a complete software module according to SDLC</p>
BCA 142T	Soft Skills	<p>CO1: The student will become familiar with the basics of soft Skills and its importance in their career and life</p> <p>CO2: To improve the business communication skills.</p> <p>CO3: To improve the listening skills by knowing well how to negotiate and give effective presentations.</p>



Maharaja Agrasen Institute of Management Studies

Affiliated to GGSIP University; NAAC A++ Accredited; Autonomous Status from UGC;
Approved by BCI and AICTE and Recognized u/s 2(f) of UGC; ISO 9001: 2015 Certified Institution
Maharaja Agrasen Chowk, Sector 22, Rohini, Delhi – 110086, INDIA www.maims.ac.in



		CO4: To make use of effective business language and give a professional look to oneself.
BCA 192T	Environment Studies	<p>CO1: Gain in-depth knowledge on natural processes and resources that sustain life and govern economy.</p> <p>CO2: Understand the consequences of human actions on the web of life, global economy, and quality of human life.</p> <p>CO3: Develop critical thinking for shaping strategies (scientific, social, economic, administrative, and legal) for environmental protection, conservation of biodiversity, environmental equity, and sustainable development.</p> <p>CO4: Acquire values and attitudes towards understanding complex environmental economic-social challenges, and active participation in solving current environmental problems and preventing the future ones.</p>
BCA 102P	DBMS Lab	<p>CO1: Understand the structure and design of relational databases.</p> <p>CO2: Write DDL statements in SQL to create, Modify and remove database objects</p> <p>CO3: Use constraints for the database</p> <p>CO4: Write DML statements in SQL to insert, Modify and remove data from database</p> <p>CO5: Write SQL statements to retrieve data based on the conditions provided by the user</p> <p>CO6: Use index and Views in database</p>



Maharaja Agrasen Institute of Management Studies

Affiliated to GGSIP University; NAAC A++ Accredited; Autonomous Status from UGC;
Approved by BCI and AICTE and Recognized u/s 2(f) of UGC; ISO 9001: 2015 Certified Institution
Maharaja Agrasen Chowk, Sector 22, Rohini, Delhi – 110086, INDIA www.maims.ac.in



		<p>CO7: Use structured query language (SQL) to an intermediate/advanced level</p>
BCA 104P	Object Oriented Programming Using Java Lab	<p>CO1: Illustrate the Object-Oriented paradigm and Java language constructs</p> <p>CO2: To inculcate concepts of inheritance to create new classes from existing ones and design the classes needed given a problem specification.</p> <p>CO3: To apply various functions of String class</p> <p>CO4: To facilitate students in handling exceptions and defining their own exceptions.</p> <p>CO5: To manage input output using console and files</p> <p>CO6: To apply the Java Thread model to develop multithreading applications.</p> <p>CO7: To understand and apply the concepts of GUI programming using swings.</p>
BCA 106P	Data Structures and Algorithms Lab	<p>CO1: Implement basic operations on static linear data structures.</p> <p>CO2: Implement various operations on dynamic linear data structures.</p> <p>CO3: Implement basic operations on non-linear data structures</p> <p>CO4: Implement searching techniques on linear and non-linear data structures.</p> <p>CO5: Implement sorting techniques on one dimensional array.</p>
BCA 108P	Software Engineering Lab	<p>CO1: To apply the software</p>



Maharaja Agrasen Institute of Management Studies

Affiliated to GGSIP University; NAAC A++ Accredited; Autonomous Status from UGC;
Approved by BCI and AICTE and Recognized u/s 2(f) of UGC; ISO 9001: 2015 Certified Institution
Maharaja Agrasen Chowk, Sector 22, Rohini, Delhi – 110086, INDIA www.maims.ac.in



		<p>engineering lifecycle by demonstrating competence in communication, planning, analysis, design, construction, and deployment</p> <p>CO2: Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for the software lifecycle</p> <p>CO3: Analysing and developing a software product along with its complete documentation.</p> <p>CO4: Work as an individual and as part of a multidisciplinary team to develop and deliver quality software in one or more significant application domains.</p> <p>CO5: Demonstrate an ability to use the techniques and tools necessary for engineering practice.</p>
--	--	--