# Guru Nanak Dev Engineering College, Ludhiana

Department of Computer Applications

**Course Outcomes**

## MCA-3rd Semester

### MCA- 15301 Database Administrations

Students who complete this course would be able to perform the following tasks:

1. Critical analysis: Analyze the model requirements and constraints for the purposes of installing, configuring, and tuning a DBMS, and implementing security, back-up and recovery measures.
2. Problem solving: Design and implement plans for installing, configuring, and tuning a DBMS, and security, back-up and recovery measures, based on requirements analysis/ modeling or a requirements specification.
3. Communication: Motivate and explain complex database administration concepts, relevant alternatives and decision recommendations to IT specialists, via technical reports of professional standard.

### MCA-15302 Computer Based Optimization Techniques

Students who complete this course would be able to perform the following tasks:

1. Formulation of linear programming problems
2. Formulation of linear programming problems
3. Formulation of linear programming problems
4. Formulation of linear programming problems
5. Simple method and duality principle
6. Finding best method for solving linear programming
7. Optimization of transport problems and assignment problems
8. Applying decision making strategies
9. Understanding dynamic programming and its importance in solving business applications

### MCA-15303 Software Engineering

Students who complete this course would be able to perform the following tasks:

1. Gain Knowledge on Software Engineering Principles and software process models.
2. Identify and define Software requirement specification.
3. Acquire a detailed understanding of Data design, Architectural Design and Procedural design.
4. Define, formulate and analyze a problem
5. Describe, contrast and compare different software testing.
6. Understand how to apply Software concepts and Software quality management.

### MCA-15304 Java Programming

Students who complete this course would be able to perform the following tasks:

1. Identify syntax related concepts of various programming languages
2. Demonstrate the programming language design issues related to data types , expressions control structure parameter passing
3. Apply techniques for interpreted programming language
4. Access the design issues of object oriented language

5. Determine the usage, exposes the logic for programming languages which define the semantics
6. Constructing the core features of programming languages with principles of object oriented languages

**MCA-15307 System Programming**

Students who complete this course would be able to perform the following tasks:

1. Familiarity with basic UNIX OS concepts such as: process, program, process groups, signals, running programs, process control, address space, user and kernel modes, system calls, and context switching.
2. Master in file I/O (i.e. open, close, read, write, seek)
3. Familiarity of using sockets to implement client-server environment.
4. Familiarity using thread execution models.
5. Familiarity to handle signals and exceptions within a process and to control processes.
6. Familiarly with different approaches of concurrent programming.
7. Familiarity with different batch processing systems.
8. Familiarity with remote execution techniques.

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**Course Outcomes**

**MCA-4th Semester**

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**MCA-15401 Programming Languages**

Students who complete this course would be able to perform the following tasks:

1. Identify syntax related concepts of various programming languages
2. Demonstrate the programming language design issues related to data types , expressions control structure parameter passing
3. Apply techniques for interpreted programming language
4. Access the design issues of object oriented language
5. Determine the usage, exposes the logic for programming languages which define the semantics
6. Constructing the core features of programming languages with principles of object oriented languages

**MCA-15402 E-Commerce & Web Application Development**

Students who complete this course would be able to perform the following tasks:

1. Demonstrate an understanding of the foundations and importance of E-commerce
2. Demonstrate an understanding of retailing in E-commerce by:
    a) Analyzing branding and pricing strategies
    b) Using and determining the effectiveness of market research
    c) Assessing the effects of disintermediation.
3. Analyze the impact of E-commerce on business models and strategy
4. Describe Internet trading relationships including Business to Consumer, Business-To-Business, Intra-organizational
5. Describe the infrastructure for E-commerce
6. Describe the key features of Internet, Intranets and Extranets.
7. Discuss legal issues and privacy in E-Commerce
8. Assess electronic payment systems
9. Recognize and discuss global E-commerce issues

**DEMCA-15407**

Students who complete this course would be able to perform the following tasks:

1. Design a data mart or data warehouse for any organization
2. Develop skills to write queries using DMQL
3. Extract knowledge using data mining techniques
4. Adapt to new data mining tools
5. Explore recent trends in data mining such as web mining, spatial-temporal mining

**MCA-15 404 Advanced Operating Systems**

Students who complete this course would be able to perform the following tasks:

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### Course Outcomes

1. Gain knowledge on distributed operating system concepts that includes general architecture of distributed operating system.
2. Identify and define key terms related to Multi-processor and Distributed operating system.
3. Acquire a detailed understanding of Kernel based model and CPU scheduling.
4. Classify and analyze theory and fundamentals of Cluster and Grid Computing.
5. Describe, contrast and compare differing structures for operating Systems.
6. Understand how to apply Software concepts and design issues of operating systems.

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**Course Outcomes**

**MCA-5th /6th Semester**

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**MCA-15501 Interactive Computer Graphics**

Students who complete this course would be able to perform the following tasks:

1. Systematic understanding of embedded systems knowledge
2. Critical awareness of current problems and/or new insights in the embedded systems discipline
3. Critical appraisal of contributions of contemporaries
4. Critical evaluation of embedded systems applications

**MCA 502 Network Securities and Administration**

Students who complete this course would be able to perform the following tasks:

1. Undertake routine tasks to secure a network.
2. Understand the factors that place an internet-based information system at risk and apply this knowledge to simple case studies.
3. Evaluate procedures to secure a system against failure, theft, invasion and sabotage.
4. Understand and apply the concepts for administrating a small company's network.

**MCA 503 Web Technologies**

Students who complete this course would be able to perform the following tasks:

1. Understand, analyze and apply the role of languages like HTML, DHTML, CSS, XML, Javascript, VBScript, ASP, PHP and protocols in the workings of the web and web applications
2. Analyze a web project and identify its elements and attributes in comparison to traditional projects.
3. Understand, analyze and create web pages using HTML, DHTML and Cascading Styles sheets.
4. Understand, analyze and build dynamic web pages using JavaScript and VBScript (client side programming).
5. Understand, analyze and build interactive web applications using ASP and ASP.NET.
6. Understand, analyze and build web applications using PHP.
7. Understand, analyze and create XML documents and XML Schema.
8. Understand, analyze and build and consume web services.

**MCA 504 Object Oriented Analysis and Design using UML**

Students who complete this course would be able to perform the following tasks:

1. Master the fundamental principles of OO programming.
2. Master key principles in OO analysis, design, and development.
3. Familiarity of the application of the Unified Modeling Language (UML) towards analysis and design.
4. Master common patterns in OO design and implement them
5. Familiarity with alternative development processes
6. Familiarity with alternative development processes
7. Familiarity with group/team projects and presentations