



# VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

[Sponsored by Lavu Educational Society]

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad.)

Kondapur (V), Ghatkesar (M), Medchal - Malkajgiri (D) - 501 301 Phone: +91 96529 10002/3



## Department of CSE (Artificial Intelligence & Machine Learning)

### II B.Tech II Semester

Subject : CS401PC Discrete Mathematics

| CO  | Course Outcome (CO) Statement                                         |
|-----|-----------------------------------------------------------------------|
| CO1 | Understand and construct precise mathematical proofs                  |
| CO2 | Apply logic and set theory to formulate precise statements            |
| CO3 | Analyze and solve counting problems on finite and discrete structures |
| CO4 | Describe and manipulate sequences                                     |
| CO5 | Apply graph theory in solving computing problems                      |

| CO      | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| CO1     | 3   | 3   | 2   | 2   |     |     |     | 2   | -   |      |      | 2    | 2    |      | 3    |
| CO2     | 3   | 3   | 3   | 2   |     |     |     | 2   | -   |      |      | 3    | 3    |      | 3    |
| CO3     | 3   | 3   | 3   | 3   |     |     |     | 2   | 3   |      |      | 2    | 3    |      | 2    |
| CO4     | 3   | 3   | 3   | 3   |     |     |     | 2   | 2   |      |      | 3    | 3    |      | 2    |
| CO5     | 3   | 3   | 3   | 3   |     |     |     | 2   | 2   |      |      | 2    | 3    |      | 2    |
| AVERAGE | 3   | 3   | 2.8 | 2.6 |     |     |     | 2   | 2.3 |      |      | 2.4  | 2.8  |      | 2.4  |

**Subject : CS402PC Automata Theory and Compiler Design**

| CO  | Course Outcome (CO) Statement                                                               |
|-----|---------------------------------------------------------------------------------------------|
| CO1 | Understand basic concepts of formal languages, grammars, and automata                       |
| CO2 | Design finite automata and regular expressions for pattern recognition                      |
| CO3 | Construct context-free grammars and pushdown automata for language processing               |
| CO4 | Analyze Turing machines and decidability issues in computation                              |
| CO5 | Apply theoretical foundations to solve problems in compiler design and software engineering |

[illegible]

**Subject : CS403PC Database Management Systems**

| CO  | Course Outcome (CO) Statement                                                    |
|-----|----------------------------------------------------------------------------------|
| CO1 | Gain knowledge of fundamentals of DBMS, database design and normal forms         |
| CO2 | Master the basics of SQL for retrieval and management of data.                   |
| CO3 | Be acquainted with the basics of transaction processing and concurrency control. |
| CO4 | Familiarity with database storage structures and access techniques               |
| CO5 | Analyze transaction management, concurrency control, and recovery techniques     |

[illegible]



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**Subject : CS404PC Introduction to Artificial Intelligence**

| CO  | Course Outcome (CO) Statement                                                                                                                                                                                                                                                     |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CO1 | Understand search strategies and intelligent agents                                                                                                                                                                                                                               |
| CO2 | Understand different adversarial search techniques                                                                                                                                                                                                                                |
| CO3 | Apply propositional logic, predicate logic for knowledge representation                                                                                                                                                                                                           |
| CO4 | Apply AI techniques to solve problems of game playing, and machine learning.                                                                                                                                                                                                      |
| CO5 | Evaluate the performance of AI systems using appropriate metrics, analyze ethical implications and societal impact of artificial intelligence, and communicate AI solutions effectively while demonstrating awareness of contemporary AI challenges and responsible AI practices. |

| CO      | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| CO1     | 2   | 3   | 2   | 2   | 2   | 2   |     |     | 2   | 2    | 3    | 2    | 3    | 2    |      |
| CO2     | 2   | 3   | 3   | 2   | 2   | 2   |     | 2   | 2   | 2    | 3    |      | 3    | 2    |      |
| CO3     | 2   | 3   | 3   | 2   | 2   | 2   |     | 3   | 3   |      | 3    | 2    | 3    | 2    | 3    |
| CO4     | 2   | 3   | 2   | 3   | 2   | 2   |     | 2   | 3   | 3    | 3    |      | 3    | 3    | 2    |
| CO5     | 2   | 3   | 3   | 2   | 3   | 2   |     | 2   | 3   | 3    | 3    | 3    | 3    | 2    | 2    |
| AVERAGE | 2   | 3   | 2.6 | 2.2 | 2.2 | 2   |     | 2.2 | 2.6 | 2.5  | 3    | 2.3  | 3    | 2.2  | 2.3  |





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## Subject : CS406PC Database Management Systems Lab

| CO  | Course Outcome (CO) Statement                                                  |
|-----|--------------------------------------------------------------------------------|
| CO1 | Design and implement relational databases using SQL                            |
| CO2 | Apply normalization techniques to optimize database design                     |
| CO3 | Develop queries using relational algebra and SQL for data retrieval            |
| CO4 | Implement transaction management and concurrency control mechanisms            |
| CO5 | Demonstrate teamwork, documentation, and debugging skills in database projects |

| CO      | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| CO1     | 2   | 2   | 2   |     | 1   |     |     |     | 3   |      |      |      | 2    | 2    | 2    |
| CO2     | 3   | 3   | 3   |     | 2   |     |     |     | 3   |      |      |      | 2    | 2    | 2    |
| CO3     | 3   | 3   | 3   |     | 2   |     |     |     | 2   |      |      |      | 3    | 3    | 2    |
| CO4     | 3   | 3   | 3   |     | 3   |     |     |     | 3   |      |      |      | 3    | 3    | 2    |
| CO5     | 2   | 3   | 3   |     | 3   |     |     |     | 3   |      |      |      | 3    | 3    | 2    |
| AVERAGE | 2.6 | 2.8 | 2.8 |     | 2.2 |     |     |     | 2.8 |      |      |      | 2.6  | 2.6  | 2    |



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**Subject : CS407PC Java Programming Lab**

| CO  | Course Outcome (CO) Statement                                              |
|-----|----------------------------------------------------------------------------|
| CO1 | Apply object-oriented programming concepts using Java                      |
| CO2 | Implement inheritance, polymorphism, and exception handling                |
| CO3 | Develop GUI applications using AWT and Swing                               |
| CO4 | Use multithreading and file I/O for concurrent and persistent applications |
| CO5 | Demonstrate teamwork, debugging, and documentation skills in Java projects |

| CO      | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| CO1     | 3   | 2   | 2   | 1   | 3   |     |     |     | 2   |      |      |      |      |      |      |
| CO2     | 3   | 3   | 3   | 2   | 2   |     |     |     | 2   |      |      |      | 3    |      |      |
| CO3     | 3   | 3   | 3   | 3   | 2   |     |     |     | 2   |      |      |      | 3    | 3    |      |
| CO4     | 3   | 3   | 3   | 3   | 3   |     |     |     | 3   |      |      |      | 3    | 3    |      |
| CO5     | 3   | 3   | 3   | 3   | 3   |     |     |     | 3   |      |      |      | 3    | 3    |      |
| AVERAGE | 3   | 2.8 | 2.8 | 2.4 | 2.6 |     |     |     | 2.4 |      |      |      | 3    | 3    |      |



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**Subject : CS408PC Real-time Research Project/Field-Based Research Project**

| CO  | Course Outcome (CO) Statement                                                                                                                                                                                 |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CO1 | Analyze real-world problems and societal challenges to identify appropriate computing solutions through systematic research and requirement analysis aligned with software development life cycle principles. |
| CO2 | Design and develop innovative software systems or research solutions that address contemporary societal issues by applying appropriate algorithms, technologies, and methodologies.                           |
| CO3 | Implement and validate real-time project solutions using current software development tools, platforms, and industry-standard practices while ensuring system functionality and reliability.                  |
| CO4 | Evaluate the social, ethical, environmental, and economic impact of proposed computing solutions on society and demonstrate professional responsibility in project execution.                                 |
| CO5 | Document, present, and defend project outcomes through comprehensive technical reports, presentations, and demonstrations while exhibiting effective communication and teamwork skills.                       |

| CO      | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| CO1     | 3   | 3   | 2   | 3   | 2   |     |     | 2   |     | 2    | 2    | 3    | 3    | 2    |      |
| CO2     | 3   | 3   | 3   | 3   | 2   |     |     | 2   |     | 2    | 3    | 2    | 3    | 3    |      |
| CO3     | 3   | 3   | 3   | 2   | 3   |     |     | 2   |     | 2    | 3    | 2    |      | 3    |      |
| CO4     | 3   | 3   | 3   | 2   | 3   |     |     | 2   |     |      | 3    | 2    | 3    |      |      |
| CO5     | 2   | 2   | 2   | 2   | 2   |     |     | 2   | 3   | 3    | 3    | 2    | 3    | 2    |      |
| AVERAGE | 2.8 | 2.8 | 2.6 | 2.4 | 2.4 |     |     | 2   | 3   | 2.2  | 2.8  | 2.2  | 3    | 2.5  |      |



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**Subject : \*MC310 Constitution of India**

| CO  | Course Outcome (CO) Statement                                                                                                                                                                                                                      |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CO1 | Understand the historical background and philosophy of the Indian Constitution                                                                                                                                                                     |
| CO2 | Discuss the growth of the demand for civil rights in India for the bulk of Indians before the arrival of Gandhi in Indian politics.                                                                                                                |
| CO3 | Discuss the intellectual origins of the framework of argument that informed the conceptualization of social reforms leading to revolution in India.                                                                                                |
| CO4 | Discuss the circumstances surrounding the foundation of the Congress Socialist Party [CSP] under the leadership of Jawaharlal Nehru and the eventual failure of the proposal of direct elections through adult suffrage in the Indian Constitution |
| CO5 | Discuss the passage of the Hindu Code Bill of 1956.                                                                                                                                                                                                |

| CO      | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| CO1     |     |     |     |     |     | 1   |     | 3   | 1   | 2    |      | 2    |      |      | 3    |
| CO2     |     |     |     |     |     | 2   |     | 3   | 2   | 3    |      | 3    |      |      | 3    |
| CO3     |     |     |     |     |     | 2   |     | 3   | 2   | 2    |      | 3    |      |      | 3    |
| CO4     |     |     |     |     |     | 2   |     | 3   | 3   | 3    |      | 3    |      |      | 3    |
| CO5     |     |     |     |     |     | 3   |     | 3   | 3   | 3    |      | 3    |      |      | 3    |
| AVERAGE |     |     |     |     |     | 2   |     | 3   | 2.2 | 2.6  |      | 2.8  |      |      | 3    |



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**Subject : \*MC410 Gender Sensitization Lab**

| CO  | Course Outcome (CO) Statement                                                                                                                                                                                                                       |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CO1 | Students will have developed a better understanding of important issues related to gender in contemporary India.                                                                                                                                    |
| CO2 | Students will be sensitized to basic dimensions of the biological, sociological, psychological and legal aspects of gender. This will be achieved through discussion of materials derived from research, facts, everyday life, literature and film. |
| CO3 | Students will attain a finer grasp of how gender discrimination works in our society and how to counter it.                                                                                                                                         |
| CO4 | Men and women students and professionals will be better equipped to work and live together as equals.                                                                                                                                               |
| CO5 | Through providing accounts of studies and movements as well as the new laws that provide protection and relief to women, the textbook will empower students to understand and respond to gender violence.                                           |

| CO      | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| CO1     |     |     |     |     |     | 2   | 2   | 3   |     | 2    |      | 3    |      |      | 2    |
| CO2     |     |     |     |     |     | 2   | 3   | 3   |     | 2    |      | 3    |      |      | 2    |
| CO3     |     |     |     |     |     | 3   | 2   | 3   |     | 2    |      | 3    |      |      | 3    |
| CO4     |     |     |     |     |     | 3   | 2   | 3   |     | 3    |      | 3    |      |      | 2    |
| CO5     |     |     |     |     |     | 3   | 2   | 3   |     | 3    |      | 3    |      |      | 3    |
| AVERAGE |     |     |     |     |     | 2.6 | 2.2 | 3   |     | 2.4  |      | 3    |      |      | 2.4  |