	<p style="text-align: center;"><b>Dr. N.G.P. ARTS AND SCIENCE COLLEGE</b>          (An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)          Approved by Government of Tamil Nadu and Accredited by NAAC A++ Grade (3<sup>rd</sup> Cycle- 3.64 CGPA)          Dr. N.G.P.-Kalapatti Road, Coimbatore-641048, Tamil Nadu, India          Web: www.drnpgasc.ac.in   Email: info@drnpgasc.ac.in   Phone: +91-422-2369100</p>	<p style="text-align: center;"><b>BoS</b></p> <hr/> <p style="text-align: center;"><b>13<sup>th</sup></b></p>
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### Department of Computer Science with Data Analytics

### Board of Studies Meeting

The minutes of the 13<sup>th</sup> meeting of the Board of Studies held on 11.11.2025 at 10.00 am.

#### Members Present:

S.No.	Name	Category
1.	Dr. V. Pream Sudha Professor and HoD i/c Department of CS with Data Analytics Dr. N.G.P. Arts and Science College Coimbatore	Chairman
2.	Dr. K. Manikandan Associate Professor & HoD Dept of Computer Science PSG College of Arts and Science Coimbatore Email : prof.k.manikandan@gmail.com Mobile No : 9443179433	University Nominee
3.	Dr. J.Chandra Professor Dept of Computer Science Christ University Bengaluru Email : chandra.j@christuniversity.in Mobile No : 9886306307	Subject Expert
4.	Dr. V.Kumutha Professor Dept of Computer Science Avinashilingam University, Coimbatore Email : kumutha_cs@avinuty.ac.in Mobile No :9843289697	Subject Expert
5.	Mr.Nallaperumal Thanthondri Director-Product Customization Cantier Systems, Coimbatore Email : nalla@cantier.com Mobile No: 9894241104	Industry Expert
6.	Mr. Santhosh Kumar Associate Data Engineer Cloud Destinations Coimbatore Email : santhosh.sadaiyappan@gmail.com Mobile No:6383172044	Alumni
7.	Dr. N. Kuppuchamy D. Associate Professor and Head	Co-opted Member

	Department of Tamil	
8.	Dr.A.HazelVerbina Professor and HoD (i/c) Department of English	Co-opted Member
9.	Dr. R. Sowrirajan Assistant Professor and Head Department of Mathematics	Co-opted Member
10.	Dr.D.Parasakthi Professor and Head Department of Commerce	Member
11.	Dr. A C Sountharraj	Member
12.	Dr.R. Suganthi	Member
13.	Dr.V.Sangeetha	Member
14.	Ms. C. Karpagam	Member
15.	Dr.V.Santhana Lakshmi	Member
16.	Mrs. S. Shenbaha	Member
17.	Mrs.R.Ranjani	Member
18.	Ms.S.Govardhini	Member
19.	Mr.C.Anbarasan	Member
20.	Ms. A. Roselin	Member
21.	Ms.M.Anitha	Member
22.	Ms.S.Shri Tharani	Member
23.	Ms.M.Preethi	Member
24.	Ms.Nidhisha Mol E	Student Representative

The HoD and Chairman of the Department of Computer Science with Data Analytics welcomed and introduced all the members and requested for their continuous support, contribution for the development of academic standard and enrichment of the syllabus.

The items of the agenda were taken one by one for discussion and the following resolutions were passed.

**Item 13.1:** *To review and approve the minutes of the previous meeting held on 28.06.2025.*

The chairman of the Board presented the minutes of the previous meeting held on 28.06.2025 and requested the members to approve.

After brief discussion the following resolution was passed.

**Resolution:**

Resolved to approve the minutes of the previous meeting held on 28 06 2025

**Item 13.2:** *To consider and approve the scheme, regulation and syllabi for II semester for the students admitted during the academic year 2025-26.*

The chairman presented the detailed scheme, regulation and syllabus for the II semester for the students admitted during the academic year 2025-26. The members deliberated in detail and unanimously decided to adopt the syllabi with the following changes.

**M.Sc. Computer Science with Data Analytics**

Course Code	Course	Change & Reason
25DAP2CA	Artificial Intelligence	Dr. J. Chandra suggested to include Generative Adversarial Networks in Unit V to enhance understanding of Computer Vision and creative text generation techniques.
25DAP2CB	Data Mining	Dr. Nallaperumal suggested to include content based and collaborative filtering methods in Unit V for building intelligent recommendation systems.

**IDC offered:**

Course Code	Course	Department
24DAP2EA	Business Analytics	Commerce , Commerce IB, Commerce CA, Commerce CS

After discussion the following resolution was passed.

**Resolution:**

**Resolved to approve the syllabus of the II semester for the students admitted during the academic year 2025-2026.**

**Item 13.3:** *To consider and approve the syllabi for IV semester for the students admitted during the academic year 2024-25.*

The Chairman presented the detailed syllabus for the IV semester for the students admitted during the academic year 2024-25. The members deliberated in detail and unanimously decided to adopt the syllabi with the following changes.

After discussion the following resolution was passed.

## **B.Sc. Computer Science with Data Analytics**

<b>Course Code</b>	<b>Course</b>	<b>Change &amp; Reason</b>
24DAU4SP	SEC Practical: Data Mining	Dr. J. Chandra suggested to implement key data mining concepts using Python programming for a deeper understanding of algorithms and their implementation.

### **Resolution:**

**Resolved to approve the syllabus of the IV semester for the students admitted during the academic year 2024-2025.**

**Item 13.4:** *To consider and approve the syllabi for VI semester for the students admitted during the academic year 2023-24.*

The Chairman presented the detailed syllabus for the VI semester for the students admitted during the academic year 2023-24. The members deliberated in detail and unanimously decided to adopt the syllabi with the following changes

After discussion the following resolution was passed.

<b>Course Code</b>	<b>Course</b>	<b>Change &amp; Reason</b>
234DA1A6DE	Data Privacy and Security	Dr. V. Kumutha suggested to include Indian knowledge system concepts in Unit IV to enrich the students with knowledge on traditional encryption methods.

### **Resolution:**

**Resolved to approve the syllabus for the VI semester for the students admitted during the academic year 2023-24.**

**Item 13.5:** *To consider and approve the self study courses for the students admitted during the academic year 2025-26.*

Course Code	Course
25DAUSSA	Software Testing
25DAUSSB	Decision Support Systems
25DAPSSA	Business Analytics
25DAPSSB	Professional Ethics

**Resolution:**

**Resolved to approve the self-study courses for the students admitted during the academic year 2025-26.**

**Item 13.6:** *To approve the panel of examiners for question paper setting and evaluation of answer scripts for the even semester of the academic year 2025-26.*

The Chairman presented the panel of examiners for Question paper setting, Question paper Scrutiny, conduct and evaluation of practical and theory examinations and the same shall be submitted to CoE for the even semester of the academic year 2025-26.

**Resolution:**


**Resolved to approve the panel of examiners for Question paper setting, Question paper Scrutiny and conduct of practical and theory examinations for the even semester of the academic year 2025-2026.**

**Item 13.7:** *To consider and approve any other item brought forward by the Chairman and the members of the board.*

The board reviewed the components for extra credit and distribution of learning levels in question paper setting.

Finally, the Chairman thanked all the members for their cooperation and contribution in enriching the syllabus with active participation in the meeting and sought the same spirit in the future also. The meeting was closed with a formal vote of thanks proposed by Dr. V. Pream Sudha, Head and Chairman- Computer Science with Data Analytics BoS.

**Date:11.11.2025**

  
**(Dr. V.Pream Sudha)**  
 BoS Chairman/HoD  
 Department of Computer Science with Data Analytics  
 Dr. N. G. P. Arts and Science College  
 Coimbatore – 641 048

### Syllabus Revision

**Faculty: Computer Science with Data Analytics Board: CSDA**

**Programme: PG**

**Semester: II**

**Course Code/ Name: 25DAP2CA - CORE : ARTIFICIAL INTELLIGENCE**

Unit	Existing	Changes
1	<b>Intelligent Agents and Search Strategies</b> Foundations of Artificial Intelligence - Intelligent Agents: Agents and Environments- Structure of Agents – Problem Solving: Problem Solving Agents- Problem Formulation - Uninformed Search Strategies: Breadth-First Search – Depth-First Search – Depth-Limited Search – Iterative Deepening Depth-First Search – Bidirectional Search - Comparing Uninformed Search Strategies-Case Study on Intelligent Agents	
2	<b>Heuristic and Classical Search</b> Greedy Best-First Search – A * Search – Memory- Bounded Heuristic Search – Heuristic Functions – Local Search Algorithms – Hill Climbing Search – Simulated Annealing – Genetic Algorithms – Online Search Agents and Unknown Environments: Online Search Problems - Online Search Agents - Online Local Search –Learning in Online Search- Case Study on Online Search Agents	
3	<b>Constraint Satisfaction Problems</b> Introduction: Constraint Satisfaction Problems (CSP): Backtracking search for CSP-Local Search for CSP - Structure of Problems - Adversarial Search: Introduction – Games – Optimal Decision in Games – The Min Max Algorithm – Alpha-Beta Pruning – Games that Include an Element of Chance: Card Games- Case Study on Optimal Decision in Games	
4	<b>Knowledge Representation and Reasoning</b> Knowledge Based Agents – Logic – Propositional Logic: Syntax – Semantics – A simple knowledge base – Inference – Equivalence, Validity and Satisfiability – Reasoning Patterns in Propositional Logic: Resolution – Forward and Backward Chaining - First Order Logic: Syntax and Semantics of First Order Logic – Using First Order Logic - Case Study on Knowledge Based Agents	

5	<b>Reinforcement Learning, Generative AI</b> Reinforcement Learning: Introduction, Passive Reinforcement Learning, Active Reinforcement Learning, Applications -Generative AI: Key Generative AI Models, Use Cases – Prompt Engineering: Need, Types, Applications-Addressing AI Ethics and Bias, Challenges	<b>Reinforcement Learning, Generative AI</b> GAN Architecture - AI Image Generation: CLIP - GAN for Text Generation
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**PERCENTAGE OF SYLLABUS REVISED: 30%**  
**COURSE FOCUSES ON:**

<input checked="" type="checkbox"/>	Skill Development	<input type="checkbox"/>	Entrepreneurial Development
<input checked="" type="checkbox"/>	Employability	<input type="checkbox"/>	Innovations
<input type="checkbox"/>	Intellectual Property Rights	<input type="checkbox"/>	Gender Sensitization
<input type="checkbox"/>	Social Awareness/ Environment	<input type="checkbox"/>	Constitutional Rights/ Human Values/ Ethics

### Syllabus Revision

**Faculty: Computer Science with Data Analytics Board: CSDA**

**Programme: PG**

**Semester: II**

**Course Code/ Name: 25DAP2CB - CORE : DATA MINING**

Unit	Existing	Changes
1	<b>Introduction</b> Data Mining -Database Data - Data Mining Technologies - Data Objects and Attribute types - Measuring Data Similarity and Dissimilarity: Proximity Measures for Nominal Attributes - Proximity Measures for Binary Attributes - Minkowski Distance - Data Preprocessing: Data Cleaning - Data Transformation by Normalization -Discretization: Binning - Histogram	
2	<b>Classification</b> Introduction - Decision Tree Induction: Tree Pruning - Bayes Classification Methods: Naïve Bayesian Classification - Model Evaluation and Selection: Metrics for Evaluating Classifier performance - Techniques to improve Classification accuracy: Ensemble Methods - Bagging - Boosting - Random Forests	
3	<b>Cluster Analysis</b> Introduction - Partitioning Methods - Hierarchical Methods: Agglomerative - Hierarchical - Distance measures in Algorithmic methods -BIRCH - Density Based Methods: DBSCAN -Evaluation of Clustering: Determining the Number of Clusters - Measuring Clustering Quality- Clustering high dimensional data: Problems - Challenges - Methodologies - Clustering graph and network data - Applications and Challenges	
4	<b>Mining Patterns, Associations</b> Outlier and Outlier analysis - statistical approaches - proximity based approaches- Mining Frequent Patterns, Associations and Correlations: Market Basket Analysis - Apriori Algorithm - Association Rules from frequent itemsets Advanced Pattern Mining: Pattern Mining in Multilevel, Multidimensional Space	
5	<b>Data Mining Trends and Research</b> Mining Complex data types - Other methodologies of data mining - Data Mining Applications - Financial Data Analysis - Retail and Telecommunication Industries - Science and Engineering - Intrusion Detection and Prevention - Data Mining and Recommender Systems - Data Mining and Society.	<b>Data Mining Trends and Research</b> Recommendation Systems: A Model for Recommendation Systems - Content-Based Recommendations – Collaborative Filtering



**PERCENTAGE OF SYLLABUS REVISED: 30%**

**COURSE FOCUSES ON:**

<input checked="" type="checkbox"/>	Skill Development	<input type="checkbox"/>	Entrepreneurial Development
<input checked="" type="checkbox"/>	Employability	<input type="checkbox"/>	Innovations
<input type="checkbox"/>	Intellectual Property Rights	<input type="checkbox"/>	Gender Sensitization
<input type="checkbox"/>	Social Awareness/ Environment	<input type="checkbox"/>	Constitutional Rights/ Human Values/ Ethics

### Syllabus Revision

**Faculty: Computer Science with Data Analytics Board: CSDA**

**Programme: UG**

**Semester: VI**

**Course Code/ Name: 234DA1A6DE DSE : DATA PRIVACY AND SECURITY**

Unit	Existing	Changes
1	Unit I Information Security Introduction - History of Information Security– Security - Components of an Information System - Balancing Information Security and Access- The Systems Development Life Cycle - The Security Systems Development Life Cycle – Security Professionals and Organization-Communities of Interest	
2	Unit II Risk Management Introduction - Risk Identification: Planning and Organizing the Process – Assets Identifying and Inventorying - Classifying and Prioritizing Information Assets - Identifying and Prioritizing Threats - Vulnerability Identification - Risk Assessment- Risk Control: Strategies - Selecting Risk Control Strategies - Quantitative versus -Qualitative Risk Control Strategies-Risk Management	
3	Unit III Security Technology: Access Controls, Firewalls and VPNs Introduction-Access Control : Identification-Authentication-Authorization-Accountability–Firewalls: Firewall processing modes-firewalls categorized by Generation and Structure-Firewall Architecture-Managing and Controlling Firewalls-- Application Layer Proxy Firewalls- Media Access Control Firewalls - Hybrid firewalls Architecture - Selecting the Right Firewall -Protecting Remote Connections: Virtual Private Networks	
4	Unit IV Cryptography Techniques and Indian Knowledge System  Introduction: Plain Text and Cipher Text - Substitution Techniques - Transposition Techniques - Encryption and Decryption - Symmetric and Asymmetric Key Cryptography - Steganography, Possible Types of Attacks	Unit IV Cryptography Techniques and Indian Knowledge System  Indian Knowledge System: Introduction, Vedic Corpus, Indian Scheme of Knowledge, Knowledge: Triangle, Framework, Deductive and inductive logic framework
5	Unit V Public Key Infrastructure 10 h Digital Certificates: Introduction - The Concept of Digital Certificates - Certification Authority (CA), Technical details of digital Certificate - Digital Certificate Creation - Trust Digital Certificates - Certificate Hierarchies and Self - Signed Digital Certificates - Certificate Types Private Key Management- The PRIX Model - Public Key Cryptography Standards (PKCS)	

**PERCENTAGE OF SYLLABUS REVISED: 40%**

**COURSE FOCUSES ON:**

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Skill Development

☐

Entrepreneurial Development

☒

Employability

☐

Innovations

☐

Intellectual Property Rights

☐

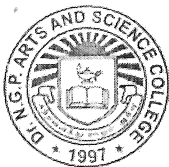
Gender Sensitization

☐

Social Awareness/ Environment

☐

Constitutional Rights/ Human  
Values/ Ethics



# Dr. N.G.P. ARTS AND SCIENCE COLLEGE

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Web: www.drngpasc.ac.in | Email: info@drngpasc.ac.in | Phone: +91-422-2369100

## Faculty of Computer Science Department of Computer Science with Data Analytics 13<sup>th</sup> Board of Studies Meeting

Date: 11.11.2025


Time: 10.00A.M

S.No.	Name and Designation of the Member	Position	Attendance Status
1.	Dr. V. Pream Sudha HoD I/C Department of CS with Data Analytics Dr. N.G.P. Arts and Science College Coimbatore	Chairman	Present
2.	Dr. K. Manikandan Associate Professor Dept of Computer Science PSG College of Arts and Science Coimbatore Email : prof.k.manikandan@gmail.com Mobile No : 9443179433	Member (Subject Expert) Nominated by Vice Chancellor	Present
3.	Dr. J.Chandra Professor Department of Computer Science Christ University, Bengaluru Email : chandra.j@christuiversity.in Mobile No :9886306307	Member (Subject Expert) Nominated by Academic Council	Present
4.	Dr.Kumutha.V Assistant Professor, Department of Computer Science Avinashilingam University Email : kumutha_cs@avinuty.ac.in Mobile No: 9843289697	Member (Subject Expert) Nominated by Academic Council	Present
5.	Mr.NallaperumalThanthondri Director-Product Customization Cantier Systems Coimbatore Email : nalla@cantier.com Mobile No: 9894241104	Member (Industrial Expert)	Present
6.	Mr.SantoshKumar.S Associate Data Engineer Cloud Destination Coimbatore Email : santhosh.sadaiyappan@gmail.com Mobile No : 9751718120	Alumni	Present
7.	Dr. N. Kuppuchamy D. HoD Department of Tamil Dr. N.G.P. Arts and Science College, Coimbatore	Co-opted Member (Tamil)	Present

8.	Dr.A.HazelVerbina HoD Department of English Dr. N.G.P. Arts and Science College, Coimbatore	Co-opted Member (English)	Present
9.	Dr. R. Sowrirajan HoD Department of Mathematics Dr. N.G.P. Arts and Science College, Coimbatore	Co-opted Member (Mathematics)	Present
10.	Dr.D.Parasakthi HoD Department of Commerce Dr. N.G.P. Arts and Science College, Coimbatore	Co-opted Member (Commerce)	Present
11.	E Nidhisha Mol (231DA026) III B.Sc. CSDA A	Student Representative	Present
12.	Dr. A C Sountharraj Department of CS with Data Analytics Dr. N.G.P. Arts and Science College, Coimbatore	Member	Present
13.	Dr.R. Suganthi Department of CS with Data Analytics Dr. N.G.P. Arts and Science College, Coimbatore	Member	Present
14.	Dr.V.Sangeetha Department of CS with Data Analytics Dr. N.G.P. Arts and Science College Coimbatore	Member	Present
15.	Ms. C. Karpagam Department of CS with Data Analytics Dr. N.G.P. Arts and Science College, Coimbatore	Member	Present
16.	Dr.V.Santhana Lakshmi Department of CS with Data Analytics Dr. N.G.P. Arts and Science College Coimbatore	Member	Present
17.	Mrs. S. Shenbaha Department of CS with Data Analytics Dr. N.G.P. Arts and Science College Coimbatore	Member	Present
18.	Mrs.R.Ranjani Department of CS with Data Analytics Dr. N.G.P. Arts and Science College, Coimbatore	Member	Present
19.	Ms.S.Govardhini Department of CS with Data Analytics	Member	Present

	Dr. N.G.P. Arts and Science College, Coimbatore		
20.	Mr.C.Anbarasan Department of CS with Data Analytics Dr. N.G.P. Arts and Science College, Coimbatore	Member	Present
21.	Ms. A. Roselin Department of CS with Data Analytics Dr. N.G.P. Arts and Science College Coimbatore	Member	Present
22.	Ms.M.Anitha Department of CS with Data Analytics Dr. N.G.P. Arts and Science College Coimbatore	Member	Present
23.	Ms.S.Shri Tharani Department of CS with Data Analytics Dr. N.G.P. Arts and Science College Coimbatore	Member	Present
24.	Ms.M.Preethi Department of CS with Data Analytics Dr. N.G.P. Arts and Science College Coimbatore	Member	Present

Date :11.11.25

  
 (Dr.V.Pream Sudha)  
 Department of CS with Data Analytics  
 Dr. N. G. P Arts and Science College  
 Coimbatore – 641 048