MINUTES OF THE SECOND BOARD OF STUDIES MEETING

Faculty: Computer Science **Board: Artificial Intelligence and Machine Learning**

The Meeting of Board of Studies (BoS) was held as given below:

Name of the Body	**Board of Studies (BoS)**
Department	**Artificial Intelligence and Machine Learning**
Meeting No.	**II**
Date and Time	**05.12.2022 @ 11.00 a.m.**
Venue	**IQAC Board Room**
Members Attended	**The details are given in the ANNEXURE -I**

	AGENDA
1	Discussion on the syllabus for the fourth semester UG - 2021-22 Batch
2	Discussion on syllabi for Part III - Core Courses for second semester UG - 2022-23 Batch and onwards
3	Discussion on the syllabus for Part III- Inter Disciplinary Course (IDC) offered by other departments
4	Discussion on Part I (Tamil/Hindi/French/Malayalam) offered by the Language department for the 2022-23 Batch and onwards
5	Discussion on Part II (English) offered by the department of English for the 2022-23 Batch and onwards
6	Discussion on Part IV AECC-II Courses for 2022-23 Batch and onwards
7	Discussion on credits for Part V Extension Activity for 2022-23 Batch and onwards
8	Discussion on the syllabus IDC Course - Financial Technology for second semester B.Com – Finance 2022 -23 Batch and onwards
9	Any other matters

MINUTES OF THE FIRST BOARD OF STUDIES MEETING

Faculty: Computer Science **Board: Artificial Intelligence and Machine Learning**

The Chairman of BoS welcomed all the Panel members for the meeting. The items listed in the agenda were taken for discussion.

The following are the minutes of the meeting:

Item – 01	Discussion on syllabi for fourth semester UG – 2021- 22 Batch.
Discussion	**The courses offered in Third Semester:** **214AI1A4CA –Core: Machine Learning Techniques** **214AI1A4CB –Core: Python Programming** **214AI1A4SA –SEC: Data Mining** **214AI1A4CP–Core Practical: Artificial Intelligence and Machine Learning** **214AI1A4SP –SEC Practical: Data Mining using** **214AI1A4GA –GE: Open-Source Technology** **214AI1A4CA–Core: Machine Learning Techniques** • Dr.Adri Jovin suggested to include real-time applications of machine learning in Unit V **214AI1A4CP–Core Practical: Artificial Intelligence and Machine Learning** • Dr.Kavitha suggested to add one lab component related to knowledge base (KB) creation using Prolog **214AI1A4GA–GE: Open-Source Technology** • The Board members suggested to include real-time use cases such as Wikipedia, Github in Unit V
Resolution	After due deliberations, the board approved the syllabi.
Item - 02	Discussion on Syllabus for Part III – Core Courses for II Semester UG 2022-23 Batch and onwards
Discussion	**224CA1A2CA- Core: Data Structures** • The unified syllabus approved by Board of Studies in Computer Applications was placed for endorsement. **224CS1A2CA- Core: Object Oriented Programming with C++** • The unified syllabus approved by Board of Studies in Computer Science was placed for endorsement.

	224AI1A2CP– Core Practical: Data Structures and C++ • The board members suggested to include programs on friend functions and exception handling in C++.
Resolution	The Board approved the syllabus.
Item - 03	Discussion on the syllabus for Part III - Inter Disciplinary Course (IDC) offered by other departments.
Discussion	**213BT1A4IB – IDC: Bioinformatics and Technologies – IVth Semester** • The Syllabus approved by the Board of Studies in Biotechnology was placed for endorsement. **222MT1A2ID –IDC: Mathematics for Computing II – IInd Semester** • The Syllabus approved by the Board of Studies in Board of Studies in Mathematics was placed for endorsement.
Resolution	The Board unanimously approved the same.
Item -04	Discussion on Part I (Tamil/Hindi/French/Malayalam) offered by Language department for II Semester UG for 2022-23 Batch and onwards
Discussion	**221TL1A2TA - Tamil-II: Aarallakkiyam** • The unified syllabus approved by the Board of Studies in Languages was placed for endorsement **221TL1A2HA - Hindi-II -Modern Literature** • The unified syllabus approved by the Board of Studies in Languages was placed for endorsement **221TL1A2FA-French-II-Grammar, Translation And Civilization** • The unified syllabus approved by the Board of Studies in Languages was placed for endorsement **221TL1A2MA - Malayalam – II -Modern Literature respectively** • The unified syllabus approved by the Board of Studies in Languages was placed for endorsement
Resolution	The Board unanimously approved the syllabi.
Item -05	Discussion on Part II (English) offered by English Department for II Semester UG for 2022-23 Batch and onwards
Discussion	**221EL1A2EA : Professional English II** • The unified syllabus approved by the Board of Studies in English was placed for endorsement
Resolution	The Board approved the syllabus.
Item -06	Discussion on Part IV (AECC) Basic Tamil/Advanced Tamil/Human Rights and Women's Rights for II Semester UG for 2022-23 Batch and onwards
Discussion	**221TLIA2AA :Basic Tamil** • The unified syllabus approved by the Board of Studies in Languages was placed for endorsement

	221TLIA2AB: Advanced Tamil • The unified syllabus approved by the Board of Studies in Languages was placed for endorsement **225CR1A2AA:Human Rights and Women's Rights** • The unified syllabus was approved by the Board of Studies in Commerce with Corporate Secretaryship was placed for endorsement
Resolution	The Board approved the syllabus.
Item-07	Discussion on credits to Part V Extension Activity for II Semester UG 2022-23 Batch and onwards
Discussion	• One credit to be awarded for participation in Extension Activity like NSS/NCC/YRC/RRC/ Yoga/Sports/Clubs
Resolution	The Board approved awarding one credit for extension activity.
Item -08	Discussion on the syllabus IDC Course for second semester B. Com – Finance 2022 -23 Batch and onwards.
Discussion	**224AI1A2IA-IDC:Financial Technology** • Mr.Ananda Kumar suggested to add case studies such as Alibaba and Alipay in Unit - V
Resolution	The Board approved the same.
Item -09	**Any other matters**
Discussion	• The board members discussed and recommended the Panel of Examiners
Resolution	The Board approved the same.

The Chairman of the Board of Studies (BoS) thanked all the members for their active participation and for providing their valuable suggestions.

Date: 05.12.2022

5/12/2022

(Dr.N.Kumaresh)
BoS Chairman / HoD
Department of Artificial Intelligence and Machine Learning
Dr. N.G.P. Arts and Science College
Coimbatore - 641 048.

Syllabus Revision – New Course

Faculty: Computer Science **Board: Artificial Intelligence and Machine Learning**

Course Code / Name: 224CA1A2CA/ Data Structures **Semester: II**

Unit	Course Content
I	**Introduction**: Basic Terminology -Classification of Data Structures -Operations on Data Structures-Abstract Data Type-Algorithms-Time and Space Complexity -Big O Notation-Omega Notation (Ω) -Theta Notation (Φ). **Arrays:** Declaration of Arrays-Accessing the elements of an array-Storing values in Arrays-Operations on Arrays. Applications of Arrays: Sparse Matrices
II	**Stacks:** Array Representation of Stacks- Operations on a Stack-Linked Representation of Stacks - Applications of Stacks: Evaluation of Arithmetic Expression –Recursion. **Queues:** Array Representation of Queues - Operations on Queues -Linked Representation of Queues - Circular Queues -Applications of Queues: JOB Scheduling
III	**Singly Linked Lists**: Inserting a node in a Linked List- Deleting a node from a Linked List. **Circular Linked Lists:** Inserting a node in a Circular Linked List - Deleting a node from a Circular Linked List. **Doubly Linked Lists:** Inserting a node in a Doubly Linked List - Deleting a node from a Doubly Linked List. Applications of Linked Lists: Polynomial Addition
IV	**Trees:** Binary Trees – Representation of Binary Trees -Creating a Binary Tree - Traversing a Binary Tree-Binary Search Tree and its Operations - Threaded Binary Trees. Applications of Tree: Expression Trees. **Graphs:** Graph Terminology - Representation of Graphs - Graph Traversal Algorithms -Applications of Graphs: Shortest Path Algorithm - Dijkstra's Algorithm -Minimum Spanning Trees - Prim's Algorithm
V	**Searching**: Linear search –Binary Search. **Sorting**: Bubble Sort - Insertion Sort - Selection Sort – Quick Sort-Merge Sort -Heap Sort. **Hashing and Collision**: Hash Tables - Hash Functions - Collision. Applications of Hashing: Keyword Table in a Compiler

PERCENTAGE OF SYLLABUS REVISED: 100 %

COURSE FOCUSES ON:

✓	Skill Development		Entrepreneurial Development
✓	Employability		Innovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/ Human Values/ Ethics

Syllabus Revision - New Course

Faculty: Computer Science **Board: Artificial Intelligence and Machine Learning**

Course Code / Name: 224CS1A2CA / Object Oriented Programming with C++ Semester: II

Unit	Course Content
I	Introduction - Programming Paradigms - Key concepts of Object-Oriented Programming – Applications of Object-Oriented Programming - Variable, Value and Constant - Components of a C++ Program - Data Types - Expressions - Type Conversion - Order of Evaluation - Formatting Data: Manipulators in Input/Output- Branching and Looping
II	User-Defined Types: Classes-Class Definition-Member function- Access Modifiers- Inline function-Constructors and Destructors- Instance Members: Instance Data Members-Instance Member Functions - Static Members - Arrays: One-Dimensional Arrays - Multidimensional Arrays. Case Study: Wave Array
III	References - Pointers - Pointer Types and Pointer variables - Constant Modifiers – Pointer to Pointer-Arrays and Pointers - Strings: C ++ String Class -C++ String Library – Inheritance: Private, Public and Protected Inheritance - Association - Dependency
IV	Polymorphism- Binding- Abstract Class : Pure Virtual Functions - Multiple Inheritance - Overloading Principles - Overloading as Member- Nonmember: Friend function-Exception Handling : Approach-Exceptions in Classes - Standard Exception Classes – Templates: Function Template - Class Template
V	Input and Output stream – Stream Classes - Console Streams - Console Objects - Stream State - File Streams - File I/O - Opening Modes - Sequential Vs Random Access - String Streams - Formatting Data: Direct use of Flags, Fields and Variables - Predefined Manipulators-Standard Template Library: Iterators, Sequence Containers, Container Adapters.

PERCENTAGE OF SYLLABUS REVISED: 100 %

COURSE FOCUSES ON:

✓	Skill Development		Entrepreneurial Development
✓	Employability		Innovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/ Human Values/ Ethics

Syllabus Revision - New Course

Faculty: Computer Science **Board: Artificial Intelligence and Machine Learning**

Course Code / Name: 224AI1A2CP/ Data Structures and C++ **Semester: II**

Prg. No	List of Programs
1	Programs using Classes and Objects.
2	Programs using Constructors and Destructors.
3	Illustrate how the following forms of inheritance are supported a) Single inheritance b) Multiple inheritance c) Multi level inheritance d) Hierarchical inheritance
4	Demonstrate Friend Functions and Exception handling.
5	Demonstrate the Operator Overloading and Function Overloading.
6	Implement the Linear and Binary Search Algorithm.
7	Implement the Stack Operations using arrays.
8	Demonstrate the Queue operations using arrays.
9	Create Linked list and perform insertion and deletion operations.
10	Programs using Internal Sorting.
11	Programs using External Sorting.
12	Implementation of Graph traversal - BFS and DFS.

PERCENTAGE OF SYLLABUS REVISED: 100 %

COURSE FOCUSES ON:

✓	Skill Development		Entrepreneurial Development
✓	Employability		Innovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/ Human Values/ Ethics

Syllabus Revision - New Course

Faculty: Basic and Applied Science **Board: Artificial Intelligence and Machine Learning**

Course Code / Name: 222MT1A2ID-Mathematics for Computing – II (IDC) **Semester: II**

Unit	Course Content
I	Random experiment - De-morgan's laws - conditional probability - generalization of multiplicative law - Bayes' probabilities - Random variable - discrete and Continuous random variable - Distribution function - discrete probability distribution and function - Mathematical expectation - moments - moment generating function - characteristic function - Cumulants.
II	Binomial distribution - Bernoulli's theorem - Poisson distribution and Poisson variate X - Relationship between the probabilities , P(X=x) and P(X=x+1) - Hypergeometric distribution - Normal and Lognormal distribution - Beta, Gamma and Exponential distribution - Weibull distribution
III	Characteristics of a good measure of central tendency - Mean - Arithmetic Mean - pooled mean - Geometric Mean - Harmonic Mean -Median - Mode. Measures of Dispersion - purposes - properties -Range - Inter quartile range –Mean deviation - Variance - Standard Deviation - coefficient of variation
IV	Scatter diagram - Least square method - properties - regression line of X on Y- regression coefficient of coded data - Correlation methods - graphical method -Correlation Coefficient - Correlation in grouped bivariate data - relationship between correlation coefficients and regression coefficient - Rank correlation
V	Test of hypothesis for population variance -two types of error - level of significance - critical region - one and two tailed test - size and power of a test -randomized test -non randomized test - degrees of freedom - student's t- test - test of equality of two population means - paired t- test - interval estimation - large sample tests - tests of hypothesis of proportions

PERCENTAGE OF SYLLABUS REVISED: 100 %

COURSE FOCUSES ON:

✓	Skill Development		Entrepreneurial Development
✓	Employability		Innovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/ Human Values/ Ethics

Syllabus Revision - New Course

IDC – B.Com-Finance

Faculty: Computer Science **Board: Artificial Intelligence and Machine Learning**

Course Code / Name: 224AI1A2IA: Financial Technology (IDC) **Semester: II**

Unit	Course Content
I	Overview of FinTech - The Economics of Financial Inclusion - Unbundling the Bank with FinTech - Use of FinTech -New Business Models and Principles - Types of FinTech- FinTech beyond Payments - New FinTech Banking Services - FinTech and Digital Finance – Decentralization.
II	Evolution of Digital Currency - eCash and Other Pioneer Cryptocurrencies – Bitcoin - Benefits and Risks - Impact of the Digital Currency Revolution - Conditions for Future Success–Cryptocurrency and Crypto tokens.
III	Introduction to Initial Crypto-Token Offering (ICO) - History of ICOs – Working of ICOs - Characteristics of ICOs - Classification of ICOs–Uses of ICOs - Risks Associated with ICOs - State of ICO Regulation.
IV	Introduction to Blockchain – Characteristics – Workflow -Token-based Blockchain Systems – Token-less Blockchain Systems –Cryptography -Applications - Enterprise Perspective of Blockchain- Developments in Blockchain - Shortcomings of Blockchain.
V	Introduction - The LASIC Principles - Internet Finance in China – Alibaba – Alipay - Internet and mobile finance - P2P lending – Case studies: Paytm – Razorpay – PaisaBazaar – Opportunities and Challenges in FinTech.

PERCENTAGE OF SYLLABUS REVISED: 100 %

COURSE FOCUSES ON:

✓	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 (An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore) Approved by Government of Tamil Nadu Accredited by NAAC with 'A++' Grade (3rd Cycle – 3.64 CGPA) Dr. N.G.P.-Kalapatti Road, Coimbatore-641 048, Tamil Nadu, India. Website: www.drngpasc.ac.in | Email: info@drngpasc.ac.in. | Phone: +91-422-2369100	**BoS** **2nd**

ATTENDANCE OF THE SECOND BOARD OF STUDIES MEETING

Faculty: Computer Science **Board: Artificial Intelligence and Machine Learning**

Venue: IQAC Board Room

Date:05.12.2022 **Time : 11.00 a.m**

The following members were present for the board of studies meeting

S. NO.	NAME	DESIGNATION	SIGNATURE
1	Dr.N.Kumaresh Associate Professor and Head Department of Artificial Intelligence and Machine Learning Dr. N.G.P. ASC	Chairman	5/12/22
2	Dr.M.Punithavalli Professor Department of Computer Applications Bharathiar University Coimbatore	VC nominee	- ABSENT -
3	Dr.C.Kavitha Associate Professor Department of Computer Science and Engineering PSG College of Technology Coimbatore	Subject Expert	C. Kavitha 05/12/22
4	Dr.J.J.Adri Jovin Associate Professor Department of Information Technology Sri Ramakrishna Institute of Technology Coimbatore	Subject Expert	5/12/22
5	Mr.K.Anandakumar IOT Specialist Robert Bosch and Business Solutions Coimbatore	Industrial Expert	
6	Dr.N.Kuppuchamy HoD - Department of Tamil Dr. N.G.P. ASC	Co-opted Member	5/12/22
7	Dr.Vidhyaprabha, R HoD - Department of English Dr. N.G.P. ASC	Co-opted Member	R.V-e-P 5/12/22
8	Dr.P.Chidambara Rajan HoD - Department of Biotechnology Dr. N.G.P. ASC	Co-opted Member	5/12/22

9	Dr.R.Sowrirajan HoD - Department of Mathematics Dr.N.G.P ASC	Co-opted Member	
10	Dr.N.Sathya Associate Professor Department of Artificial Intelligence and Machine Learning, Dr. N.G.P. ASC	Member	5/12/22

Date :05/12/2022

Academic Council
Dr.V. Rajendran
CHAIRMAN
Dr. N.G.P. Arts and Science College

5/12/22

(Dr.N.Kumaresh)

BoS Chairman / HoD
Department of Artificial Intelligence and Machine Learning
Dr. N.G.P. Arts and Science College
Coimbatore - 641 048.