Department of Computer Science with Cyber Security

Board of Studies Meeting

The 6th board of studies meeting was held on 27.10.2026 at 10.30 a.m.

Members Present:

S.No.	Name	Category
1.	Dr. V. Shobana	Chairman
2.	Dr. P. B. Pankajavalli Assistant Professor, Department of Computer Science, Bharathiar University, Coimbatore.	University Nominee
3.	Dr. K. Amshakala Associate professor Department of CSE, Coimbatore Institute of Technology, Coimbatore – 641014.	Subject Expert
4.	Dr. N. Krishnaveni Assistant Professor, Department of Information Technology, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore-641043.	Subject Expert
5.	Mr. R. Babu SAP Lead Consultant, Bosch Global Software Technologies Private Limited, Coimbatore.	Industry Expert
6.	Mr. S. Prasanth Full Stack Developer, Avasoft, Chennai	Alumni
7.	Dr. N. Kuppuchamy	Co-opted Member
8.	Dr. A. Hazel Verbina	Co-opted Member
9.	Dr. S. Gokilamani	Co-opted Member
10.	Mr. C. Sasthikumar	Member
11.	Ms. M. Nagarani	Member
12.	Ms. J. Jelina	Member
13.	Ms. L. Mahalakshmi	Member

The HoD and Chairman of the Department of Computer Science with Cyber Security welcomed and introduced all the members and appreciated them for their continuous support, contribution for the development of academic standard and enrichment of the syllabus.

Further, Chairman informed the inability of the following members to attend the meeting and requested to grant leave of absence.

1. Mr. S. Prasanth - Alumni

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

Item 6.1: *To review and approve the minutes of the previous meeting held on 06.04.2026.*

The chairman of the Board presented the minutes of the previous meeting held on 06.04.2026 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 06.04.2026.

Item 6.2 *To approve syllabus for the II Semester for the students admitted in UG from academic year 2026-27 onwards.*

The chairman presented the detailed scheme and syllabus for the II semester for the students admitted during the academic year 2026-27. The members deliberated in detail about the modification required. After discussion it is unanimously decided to adopt the following changes.

Changes Made:

Course Code	Course Name	Changes & Reason
26CYU2CP	Python Programming	Dr. P. B. Pankajavalli recommended incorporating secure password hashing and verification into the Python practical programme list.

After discussion the following resolution was passed with the above changes and modifications.

Resolution:

Resolved to approve the above modifications and adopt the revised syllabus for the students admitted during the academic year 2026-27.

Item 6.3: *To review and approve the syllabus for the IV Semester for the students admitted during the academic year 2025-26.*

The Chairman presented the detailed syllabus for the IV semester for the students admitted during the academic year 2025-26.

Changes Made:

Course Code	Course Name	Changes & Reason
25CYU4CM	Database Design Concepts	Dr. K. Amshakala recommended strengthening Unit V with SQL injection prevention techniques to develop secure database-driven applications

After discussion the following resolution was passed with the above changes and modifications.

Resolution:

Resolved to approve the above modifications and adopt the revised syllabus for the students admitted during the academic year 2025-26.

Item 6.4: *To review and approve the syllabus for the VI Semester for students admitted during the academic year 2024-25.*

The Chairman presented the detailed syllabus for the V semester for the students admitted during the academic year 2024-25.

Changes Made:

Course Code	Course Name	Changes & Reason
24CYU6DE	Internet of Things	Dr. K. Amshakala recommended to introduce microcontrollers along with sensor interfacing in Unit IV.

After discussion the following resolution was passed with the above changes and modifications.

Resolution:

Resolved to approve the above modifications and adopt the revised syllabus for the students admitted during the academic year 2024-25.

Item 6.5: *To review and approve the Student Skill Development Courses (SSDC) / NPTEL courses that are equivalent to course curriculum / Domain-Specific Skill Courses*

The board discussed and approved the following Student Skill Development Course

Swayam/ NPTEL

1. Cyber Security and Privacy
2. Joy of Computing using Python
3. Cloud Computing
4. Ethical Hacking
5. Software Engineering
6. Cyber Security
7. C and CPP
8. Linux
9. Python 3.4.3

Resolution

Resolved to approve the above Student Skill Development Courses.

Item 6.6: *To approve the panel of examiners for question paper setting and evaluation of answer scripts for the even semester of the academic year 2026-27.*

The Chairman presented the panel of examiners for question paper setting, question paper scrutiny, conduct of practical and theory examination and evaluation, the same shall be submitted to CoE for the even semester of the academic year 2026-27.

Resolution:

Resolved to approve the panel of examiners for Question paper setting, Question paper Scrutiny and conduct of practical and theory examinations and evaluation for the even semester of the academic year 2026-2027.

Item 6.7: *To consider and approve any other item brought forward by the Chairman and the members of the board.*

The board discussed and approved the courses offered by NPTEL that are equivalent to the courses offered in the curriculum in the V and VI semesters.

NPTEL Courses	Equivalent Courses	Semester
Software Engineering	Secure Software Engineering	V
Cryptography and Network Security	Network Security and Cryptography	V
Ethical Hacking	Ethical hacking and System Defense	VI
Blockchain and its Applications	Block Chain Technology	VI

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.

Date:27.10.2026

(Dr. V. Shobana)

27/10/26.

BoS Chairman / HoD
Dept. of Computer Science with Cyber Security
N.G.P. Arts and Science College
Coimbatore - 641 048.

Syllabus (Revision)

Faculty: Computer Science **Board: Computer Science with Cyber Security**

Programme: B.Sc. Computer Science with Cyber Security **Semester: IV**

Course Code/ Name: 25CYU4CM / DATABASE DESIGN CONCEPTS

Unit	Existing	Changes
I	**Database Concepts** Database Concepts: A Relational approach: Database – Relationships – DBMS – Relational Data Model– Integrity Rules – Theoretical Relational Languages. Database Design: Data Modeling and Normalization: Data Modeling – Dependency – Database Design – Normal forms – Dependency Diagrams – De -normalization. **Practical** Develop a design for a database. Creation of entity relationships diagram. Apply normalization.	**Database Concepts** Database Concepts: A Relational approach: Database – Relationships – DBMS – Relational Data Model– Integrity Rules – Theoretical Relational Languages. Database Design: Data Modeling and Normalization: Data Modeling – Dependency – Database Design – Normal forms – Dependency Diagrams – De -normalization. **Practical** Develop a design for a database. Creation of entity relationships diagram. Apply normalization.
II	**Structured Query Language** Introduction to SQL – SQL Data Definition and Data types – Constraints in SQL – Basic Retrieval Queries – INSERT, DELETE and Update Statements in SQL – Data Manipulation Language (DML) – Adding a new Row/Record – Updating and Deleting Existing Rows/Records – Retrieving Data from a Table – Arithmetic Operations – Restricting Data with WHERE clause – Sorting – Revisiting Substitution Variables – DEFINE command – CASE structure. **Practical** 1. Creation of Tables 2. Modification of Tables 3. Implement constraints on tables	**Structured Query Language** Introduction to SQL – SQL Data Definition and Data types – Constraints in SQL – Basic Retrieval Queries – INSERT, DELETE and Update Statements in SQL – Data Manipulation Language (DML) – Adding a new Row/Record – Updating and Deleting Existing Rows/Records – Retrieving Data from a Table – Arithmetic Operations – Restricting Data with WHERE clause – Sorting – Revisiting Substitution Variables – DEFINE command – CASE structure. **Practical** 1. Creation of Tables 2. Modification of Tables 3. Implement constraints on tables
III	**Advanced SQL** Functions and Grouping: Built-in functions – Grouping Data. Multiple Tables: Joins and Set operators: Join – Set operators – Nested Queries and Subqueries. **Practical** 1. Demonstrate various grouping functions 2. Perform join operations. 3. Creation of subqueries and nested queries	**Advanced SQL** Functions and Grouping: Built-in functions – Grouping Data. Multiple Tables: Joins and Set operators: Join – Set operators – Nested Queries and Subqueries. **Practical** 1. Demonstrate various grouping functions 2. Perform join operations. 3. Creation of subqueries and nested queries
IV	**PL/SQL** PL/SQL: A Programming Language: History – Fundamentals – Block Structure – Comments – Data Types – Declaration – Assignment operation – Bind variables – Substitution Variables – Printing – Arithmetic Operators. Control Structures and Embedded SQL: Control Structures – Nested Blocks – Transaction Control statements. PL/SQL Cursors and Exceptions: Cursors – Procedures – Functions – Packages and Triggers. **Practical** 1. Working with PL/SQL basic commands. 2. Implement procedures and functions. 3. Working with packages and triggers	**PL/SQL** PL/SQL: A Programming Language: History – Fundamentals – Block Structure – Comments – Data Types – Declaration – Assignment operation – Bind variables – Substitution Variables – Printing – Arithmetic Operators. Control Structures and Embedded SQL: Control Structures – Nested Blocks – Transaction Control statements. PL/SQL Cursors and Exceptions: Cursors – Procedures – Functions – Packages and Triggers. **Practical** 1. Working with PL/SQL basic commands. 2. Implement procedures and functions. 3. Working with packages and triggers
V	~~**Transaction Management**~~ Transactions: Transaction Concept - A Simple Transaction Model - Storage Structure -Transaction Atomicity and Durability - Transaction Isolation – Serializability - ~~Transaction Isolation and Atomicity~~ – Transaction Isolation Levels – ~~Implementation~~ -Transactions as SQL Statements. Concurrency Control: Lock-Based Protocols - Deadlock Handling - Timestamp-Based Protocols - ~~Validation-Based Protocols.~~ **Practical** 1. Apply TCL commands in SQL. 2. Implement a stored procedure in SQL that performs multiple database operations within a single transaction 3. Demonstrate how SQL injections occur in a Database and apply bind variables to prevent them.	**Transaction Management and Database Security** Transactions: Transaction Concept – A Simple Transaction Model – Storage Structure – Transaction Atomicity and Durability – Transaction Isolation – Serializability – Transaction Isolation Levels – Transactions as SQL Statements. Concurrency Control: Lock-Based Protocols – Deadlock Handling – Timestamp-Based Protocols. Database Security: SQL Injection – SQL Injection Methods – Risks Associated with SQL Injection – Protection Techniques **Practical** 1. Apply TCL commands in SQL. 2. Implement a stored procedure in SQL that performs multiple database operations within a single transaction 3. Demonstrate how SQL injections occur in a Database and apply bind variables to prevent them.

PERCENTAGE OF SYLLABUS REVISED: 20%

COURSE FOCUSES ON:

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

Syllabus (Revision)

Faculty: Computer Science **Board: Computer Science with Cyber Security**

Programme: B.Sc. Computer Science with Cyber Security **Semester: VI**

Course Code/ Name: 24CYU6DE / INTERNET OF THINGS

Unit	Existing	Changes
I	**Introduction** Internet of Things (IoT) an Overview: IoT Definition- IoT Conceptual Framework-IoT Architectural View-Technology behind IoT- Sources of IoT- Machine to Machine (M2M) Communication- Examples of IoT	**Introduction** Internet of Things (IoT) an Overview: IoT Definition- IoT Conceptual Framework-IoT Architectural View-Technology behind IoT- Sources of IoT- Machine to Machine (M2M) Communication- Examples of IoT
II	**Design Principles of IoT** IoT /M2M, Layers and Designs Standardisation-Communication Technologies: Wireless Communication Technology-Wired Communication Technology- Web Communication and Message Communication protocols for connected devices.	**Design Principles of IoT** IoT /M2M, Layers and Designs Standardisation-Communication Technologies: Wireless Communication Technology-Wired Communication Technology- Web Communication and Message Communication protocols for connected devices.
III	**Data Acquisition and Storage** Data Acquiring and Storage-Organising the Data-Transactions, Business Processes, Integration and Enterprise Systems-Analytics- Knowledge Acquiring, Managing and Storing Processes.	**Data Acquisition and Storage** Data Acquiring and Storage-Organising the Data-Transactions, Business Processes, Integration and Enterprise Systems-Analytics- Knowledge Acquiring, Managing and Storing Processes.
IV	~~**Sensors and Actuators**~~ Introduction- Sensor Technology: Sensing the Real World-Examples of Sensors-~~Participatory Sensing,~~ Industrial IoT and Automotive IoT: Automotive IoT-Actuator-Sensor Data Communication Protocols.	**Sensors, Microcontrollers and Actuators** Introduction- Sensor Technology: Sensing the Real World-Examples of Sensors-Microcontrollers: Raspberry Pi and Interfacing Sensors and Actuators, Industrial IoT and Automotive IoT: Automotive IoT-Actuator-Sensor Data Communication Protocols.
V	**IoT Privacy, Security and Vulnerabilities** Vulnerabilities, Security Requirements and Threat Analysis- Use Cases and Misuse Cases-IoT Security Tomography and Layered Attacker Model-Identity Management and Establishment, Access Control and Secure Message Communication-Security Models, Profiles and Protocols for IoT.	**IoT Privacy, Security and Vulnerabilities** Vulnerabilities, Security Requirements and Threat Analysis- Use Cases and Misuse Cases-IoT Security Tomography and Layered Attacker Model-Identity Management and Establishment, Access Control and Secure Message Communication-Security Models, Profiles and Protocols for IoT.

PERCENTAGE OF SYLLABUS REVISED: 20%

COURSE FOCUSES ON:

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

Department of Computer Science with Cyber Security

Board of Studies Meeting

The Attendance of 6th board of studies meeting was held on 27.10.2026 at 10.30 a.m.

S.No.	Name	Category	Attendance Status
1.	Dr. V. Shobana	Chairman	Present
2.	Dr. P. B. Pankajavalli Assistant Professor, Department of Computer Science, Bharathiar University, Coimbatore.	University Nominee	Present
3.	Dr. K. Amshakala Associate professor, Department of CSE, Coimbatore Institute of Technology, Coimbatore	Subject Expert	Present
4.	Dr. N. Krishnaveni Assistant Professor, Department of Information Technology, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore	Subject Expert	Present
5.	Mr. R. Babu SAP Lead Consultant, Bosch Global Software Technologies Private Limited, Coimbatore.	Industry Expert	Present
6.	Dr. N. Kuppuchamy	Co-opted Member	Present
7.	Dr. A. Hazel Verbina	Co-opted Member	Present
8.	Dr. S. Gokilamani	Co-opted Member	Present
9.	Mr. C. Sasthikumar	Member	Present
10.	Ms. M. Nagarani	Member	Present
11.	Ms. J. Jelina	Member	Present
12.	Ms. L. Mahalakshmi	Member	Present

Date: 27.10.2026

(Dr. V. Shobana)
BoS Chairman / HoD
Dept. of Computer Science with Cyber Security
Dr. N.G.P. Arts and Science College
Coimbatore - 641 048.