

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

(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.drngpasc.ac.in](http://www.drngpasc.ac.in) | Email: [info@drngpasc.ac.in](mailto:info@drngpasc.ac.in) | Phone: +91-422-2369100

BoS

16<sup>th</sup>

## Board of Studies Meeting

### Department of Computer Applications

The minutes of the 16<sup>th</sup> meeting of Board of Studies held on 16.10.2023 at 10.00 am at  
C1 – Block 413

#### Members Present:

| S.No. | Name                     | Category                       |
|-------|--------------------------|--------------------------------|
| 1     | Dr.R.Kousalya            | Chairman                       |
| 2     | Dr.T.Amudha              | VC Nominee                     |
| 3     | Dr.B.Kalpana             | Subject Expert                 |
| 3     | Mr.Vignesh Kumar         | Industrial Expert              |
| 4     | Dr.C.Kumuthini           | Member                         |
| 5     | Dr D.DeviAruna           | Member                         |
| 6     | Mrs.K. Gomathy           | Member                         |
| 7     | Mr P.Dinesh Kumar        | Member                         |
| 8     | Dr B.Ramya               | Member                         |
| 9     | Mr.S.PooranaSenthilkumar | Member                         |
| 10    | Dr K.Kavitha             | Member                         |
| 11    | Mr V.Yuvaraj             | Member                         |
| 12    | Dr.R. Sowrirajan         | Co-opted Member                |
| 13    | S.Mathumitha             | Student Representative- III UG |
| 14    | S. Vijayeshwaran         | Student Representative- II UG  |

The HoD and Chairman of the department of Computer Applications 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.Eswaran - Alumni Expert
2. Dr K.Kavitha - Member

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

**Item 16.1**

To review and approve the minutes of the previous meeting held on **09.06.2023**.

The chairman of the Board presented the minutes of the previous meeting held on **09.06.2023** 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 09.06.2023.**

**Item 16.1(a):** To consider and approve the syllabi for II semester for the students admitted during the academic year 2023-24.

The chairman presented the detailed scheme and syllabus for the II semester for the students admitted from the academic year 2023-24 onwards. The details of changes made also presented as follows.

**Changes Made: -**

| Course | Code | Reason |
|--------|------|--------|
| -      | -    | -      |

**New Courses Introduced: -**

| Course | Code | Reason |
|--------|------|--------|
| -      | -    | -      |

**Courses Removed: -**

| Course | Code | Reason |
|--------|------|--------|
| -      | -    | -      |

**IDC Offered :**

| Course                       | Code       | Department                        |
|------------------------------|------------|-----------------------------------|
| Enterprise Resource Planning | 234CA1A2IA | Commerce- Accounting and Taxation |

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

**Resolution:**

**Resolved to approve the syllabus for the II semester for the students admitted from the academic year 2023-24 onwards.**

**Item 16.1(b) :** To consider and approve the changes, if any, in the syllabi for IV semester for the students admitted during the academic year 2022-23.

The Chairman presented the detailed syllabus for the IV semester for the students admitted from the academic year 2022-23 onwards. The details of changes made also presented as follows:

**Changes Made:**

| Course                        | Code       | Reason  |
|-------------------------------|------------|---|
| SEC-II: Big Data Technologies | 224CA1A4SP | Include Hadoop, PIG, Hive, HBase additional tools |

**New Courses Introduced:**

| Course                                 | Code       | Reason   |
|--|------------|--|
| Core: Cyber Security                   | 224CA1A4CB | To impart deep knowledge on security aspects   |
| Embedded Practical: Python Programming | 224CA1A4CP | To enhance the level of programming knowledge. |

**Courses Removed: -**

| Course | Code | Reason |
|--------|------|--------|
| -      | -    | -      |

**IDC Offered : -**

| Course | Code | Department |
|--------|------|------------|
| -      | -    | -          |

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

**Resolution:**

**Resolved to approve the syllabus for the IV semester for the students admitted from the academic year 2022-23 onwards.**

**Item 16.2:** To approve the panel of examiners for question paper setting and evaluation of answer scripts for the even semester of the academic year 2023-24.

The Chairman presented the panel of examiners for question paper setting and evaluation of answer scripts for the even semester of the academic year 2023-24.

**Resolution:**

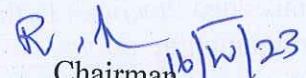
**Resolved to approve the panel of examiners for question paper setting and evaluation of answer scripts for the even semester of the academic year 2023-2024.**

**Item 16.3:** To consider and approve any other item brought forward by the Chairman and the members of the board.

No other item was brought forward.

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 formal vote of thanks proposed by Dr. R. Kousalya Head and Chairman- Department of Computer Applications BoS.

Date:16.10.2023

  
Chairman 16/10/23

BoS Chairman/HoD  
Department of Computer Applications  
Dr. N. G. P. Arts and Science College  
Coimbatore – 641 048

## Syllabus Revision

**Faculty: Computer Science**

**Board: Computer Applications**

**Course Code / Name: 224CA1A4SP / Big Data Technologies Semester: IV**

| S.No. | Existing  | Changes  |
|-------|---|--|
| 1     | <ol style="list-style-type: none"> <li>1. Data models in Cassandra</li> <li>2. <del>File system for performing data analytics using Cassandra</del></li> <li>3. Table operations in Cassandra</li> <li>4. Cassandra Query Language</li> </ol> | <p>Cassandra:</p> <ol style="list-style-type: none"> <li>1. Perform Time to Live (TtL) in Cassandra</li> <li>2. Implement Import and Export to. Csv in Cassandra</li> <li>3. Create Counter in Cassandra</li> </ol>  |
| 2     |   | <p>Hadoop:</p> <ol style="list-style-type: none"> <li>1. Start the Hadoop.</li> <li>2. Check whether all the Hadoop daemons are running.</li> <li>3. Check the number of files in the root directory.</li> <li>4. Check the size of space in the root directory.</li> <li>5. Create a new named directory</li> <li>6. Create a new text file in the directory.</li> <li>7. Move the text file from HDFS to local file system.</li> <li>8. Remove the directory in HDFS.</li> </ol> |
| 3     |   | <p>PIG:</p> <ol style="list-style-type: none"> <li>1. Pig program to perform Word Count Operation.</li> <li>2. Pig Script to Load Data.</li> </ol>   |
| 4     |   | <p>Hive:</p> <ol style="list-style-type: none"> <li>1. Creating tables in Hive (Internal &amp; External Tables).</li> <li>2. Data lake preparation activity in hive.</li> <li>3. Hive commands to create an internal table.</li> </ol>   |

|   |  |  |
|---|--|--|
| 5 |  | <b>HBASE:</b><br>1. Implement Data model of HBase.<br>2. Perform basic CRUD operations in HBase.<br>3. Perform Bulk Loading data into HBase. |
| 6 | 1. Data types in R<br>2. Built-in Functions in R<br>3. Manipulation of vector in R<br>4. Operations on data frame in R<br>5. Visualize data using plotting technique | <b>R Programming:</b><br>1. Matrix Using R Script  |
| 7 | <del>Database and operations in MongoDB</del>  |  |
| 8 | <del>Basic Commands in MongoDB</del>   |  |
| 9 | <del>Decision tree classification techniques</del>   |  |

**PERCENTAGE OF SYLLABUS REVISED: 83 %**

**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**

**Board: Computer Applications**

**Course Code / Name: : 224CA1A4EP – Python Programming Semester: IV**

| Unit | Course Content  |
|------|---|
| I    | <p>Features of Python-Literal Constants-variables and Identifiers-Data Types-Input Operation-Comments-Indentation-Operators and Expressions-Other Data types – Type Conversion.</p> <p>Decision Control Statements: Selection/Conditional Branching Statements-Basic Loop Structures/Iterative Statements-Nested Loops-The Break Statement-The Continue Statement-The pass Statement -The else statement used with Loops.</p> <p>Practical</p> <ol style="list-style-type: none"> <li>1. Python Program to demonstrate Operators</li> <li>2. Python program to Evaluate Expression</li> <li>3. Python Program to illustrate decision statements</li> <li>4. Python Program using Repetitive Statements</li> </ol> |
| II   | <p>Function Definition- Function Call-Variable Scope and life Time-Return Statements- More on Defining Functions-Lambda Functions-Recursive Functions-Modules-Packages in Python</p> <p>Practical</p> <ol style="list-style-type: none"> <li>5. Python Program to Illustrate User defined functions</li> <li>6. Python program to Demonstrate Lambda function</li> <li>7. Python Program to demonstrate Recursive</li> </ol>  |
| III  | <p>Concatenating, Appending and Multiplying Strings-Formatting Operators- Built-in- string Methods and Functions – Slice Operation- in and not-in Operators- comparing String-Iterating String - Data Structures: Sequence- Lists- Functional Programming-Tuple-Sets-Dictionaries.</p> <p>Practical</p> <ol style="list-style-type: none"> <li>8. Python program to demonstrate String operations</li> <li>9. Python Program to implement Lists</li> <li>10. Python program to implement Tuples</li> <li>11. Python Program to implement Sets</li> <li>12. Python Program to implement Dictionaries</li> </ol>  |
| IV   | <p>The NumPy Library: NumPy : A Little History - The NumPy Installation - Narray: The Heart of the Library - Basic Operations - Indexing, Slicing and Iterating - Conditions and Boolean Arrays - Shape Manipulation - Array Manipulation - Structured Arrays - Reading and Writing Array Data on Files.</p>  |

|   |  |
|---|--|
|   | Practical<br>13. Python Program for Basic Operations in ND array<br>14. Python Program to implement Structured Array   |
| V | Pandas: The Python Data Analysis Library: Pandas Data Structures - Other Functionalities on Indexes - Operations between Data Structures - Function Application and Mapping - Sorting and Ranking - "Not a Number" Data. Pandas: Reading and Writing Data: CSV and Textual Files - Reading Data in CSV or Text Files - Reading and Writing HTML Files.<br>Practical<br>15. Python Program for Sorting and Ranking<br>16. Python Program to read CSV files<br>17. Python program to read and write HTML Files |

**PERCENTAGE OF SYLLABUS REVISED: 100%**

**COURSE FOCUSES ON:**

|                                     |                               |                                     |   |
|-------------------------------------|-------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Skill Development             | <input checked="" type="checkbox"/> | Entrepreneurial Development                 |
| <input checked="" type="checkbox"/> | Employability                 | <input checked="" 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**

**Board: Computer Applications**

**Course Code / Name: : 224CA1A4CB – CYBER SECURITY Semester: IV**

| Unit | Course Content   |
|------|--|
| I    | Cybercrime and Information Security – Who are Cybercriminals – Classification of Cybercrimes :E-Mail Spoofing , Spamming, Cyberdefamation, Internet Time Theft, Salami Attack, Data Diddling, Forgery, Web Jacking, Newsgroup Spam, Industrial Spying, Hacking, Online Frauds, Pornographic Offenses, Soft Piracy, Computer Sabotage, E-Mail Bombing, Computer Network Intrusions, Password Sniffing, Credit Card Frauds, Identity Thefts. |
| II   | Categories of Cybercrime – How Criminals Plan the Attack?: Reconnaissance, Passive Attacks, Active Attacks, Scanning and Scrutinizing Gathered Information, Attack( Gaining and Maintaining the System Access) – Social Engineering: Classification of Social Engineering – Cyberstalking: Types of Stalkers, How Stalking works? - Cybercafe and Cybercrime.  |
| III  | Proliferation of Mobile and Wireless Devices – Credit card Frauds in Mobile and Wireless Computing Era- Security Challenges Posed by Mobile Devices - Registry Settings for Mobile Devices – Authentication Service Security – Attacks on Mobile Phones –Laptops: Physical Security Counter Measures.  |
| IV   | Proxy Servers and Anonymizers – Phishing – Password Cracking – Keyloggers and Spywares – Virus and Worms – Trojan Horses and Backdoors – Steganography – DoS and DDoS Attacks – SQL Injection – Buffer Overflow – Attacks on Wireless Networks.  |
| V    | The Indian IT Act – Challenges to Indian Law and Cybercrime Scenario in India – Digital Signatures and the Indian IT Act – Amendments to the Indian IT Act – Cybercrime and Punishment. Case studies: E-mail spoofing Instances, Indian case of Online Gambling.   |

**PERCENTAGE OF SYLLABUS REVISED: 100%**

**COURSE FOCUSES ON:**

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

## ATTENDANCE OF THE SIXTEETH BOARD OF STUDIES MEETING

Faculty: Computer Science

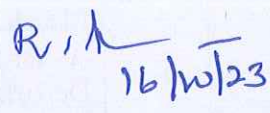

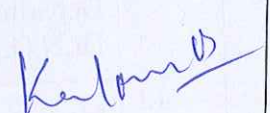
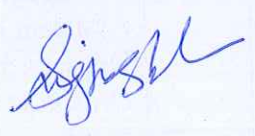
Board : Computer Applications

Date : 16.10.2023



Time: 10.00 a.m.

Venue : C1 - 413

The following members were present for the meeting

| S.No | Name   | Designation     | Signature   |
|------|--|-----------------|---|
| 1.   | <b>Dr.R.Kousalya</b><br>Head/ Professor<br>Department of Computer Applications<br>Dr.N.G.P Arts and Science College<br>Coimbatore - 48.  | Chairman        | <br>16/10/23 |
| 2.   | <b>Dr.T.Amudha</b><br>Professor<br>Department of Computer Applications<br>Bharathiar University<br>Coimbatore-641046.  | VC Nominee      |             |
| 3.   | <b>Dr.B.Kalpana,</b><br>Professor, Department of Computer<br>Science<br>School of Physical Sciences and<br>Computational Sciences<br>Avinashilingam Institute for Home<br>Science and Higher Education for<br>Women<br>Coimbatore- 641043. | Subject Expert  |            |
| 4.   | <b>Mr.Vignesh Kumar</b><br>Senior Software Engineer<br>Bosch Global Software Technologies<br>Coimbatore.   | Industry Expert |            |
| 5.   | <b>Mr.S.Eswaran</b><br>Implementation Consultant in Aosta<br>Control-m Scheduler and Administration<br>Coimbatore.   | Alumni Expert   | ABSENT  |

|     |   |                 |  |
|-----|---|-----------------|--|
| 6.  | <b>Dr.R. Sowrirajan</b><br>Head and Assistant Professor<br>Department of Mathematics<br>Dr.N.G.P. Arts and science college          | Co-opted member | <i>A</i> / 16/10/23                        |
| 7.  | <b>Dr.C.Kumuthini</b><br>Professor<br>Department of Computer Applications<br>Dr.N.G.P. Arts and Science College                     | Internal Member | <i>C. Kumuthini</i>                        |
| 8.  | <b>Dr D.DeviAruna</b><br>Associate Professor<br>Department of Computer Applications<br>Dr.N.G.P. Arts and Science College           | Internal Member | <i>D. Deva</i>                             |
| 9.  | <b>Mrs.K. Gomathy</b><br>Assistant Professor (SG)<br>Department of Computer Applications<br>Dr.N.G.P. Arts and Science College      | Internal Member | <i>K. Gomathy</i><br>16/10/23              |
| 10. | <b>Mr P.Dinesh Kumar</b><br>Assistant Professor (SG)<br>Department of Computer Applications<br>Dr.N.G.P. Arts and Science College   | Internal Member | <i>P. Dinesh Kumar</i><br>16/10/23         |
| 11. | <b>Dr B.Ramya</b><br>Assistant Professor<br>Department of Computer Applications<br>Dr.N.G.P. Arts and Science College               | Internal Member | <i>B. Ramya</i><br>16/10/23                |
| 12. | <b>Mr.S.PooranaSenthilkumar</b><br>Assistant Professor<br>Department of Computer Applications<br>Dr.N.G.P. Arts and Science College | Internal Member | <i>S. Poorana Senthilkumar</i><br>16/10/23 |
| 13. | <b>Dr K.Kavitha</b><br>Assistant Professor<br>Department of Computer Applications<br>Dr.N.G.P. Arts and Science College             | Internal Member | ABSENT                                     |
| 14. | <b>Mr V.Yuvaraj</b><br>Assistant Professor<br>Department of Computer Applications<br>Dr.N.G.P. Arts and Science College             | Internal Member | <i>V. Yuvaraj</i><br>16/10/23              |

|     |  |                        |   |
|-----|--|------------------------|---|
| 15. | <b>S.Mathumitha</b><br>III BCA<br>Department of Computer Applications<br>Dr.N.G.P. Arts and Science College    | Student Representative |  |
| 16. | <b>S. Vijayeshwaran</b><br>II BCA<br>Department of Computer Applications<br>Dr.N.G.P. Arts and Science College | Student Representative |  |

*Rick 16/11/23*

BoS Chairman/HoD  
Department of Computer Applications  
Dr. N. G. P. Arts and Science College  
Coimbatore – 641 048



