	Dr. N.G.P. ARTS AND SCIENCE COLLEGE	**BoS**
	(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)	
	Approved by Government of Tamil Nadu and Accredited by NAAC A++ Grade (3rd Cycle- 3.64 CGPA)	
	Dr. N.G.P.-Kalapatti Road, Coimbatore-641048, Tamil Nadu, India	**17th**
	Web: www.drngpasc.ac.in |Email: info@drngpasc.ac.in | Phone: +91-422-369100	

Department of Computer Applications
Board of Studies Meeting

The minutes of the 17th meeting of Board of Studies held on 02.04.2024 at 10.00 am at Seminar Hall II.

Members Present:

S.No.	Name	Category
1	Dr.R.Kousalya	Chairman
2	Dr.T.Amudha , Professor Department of Computer Applications, Bharathiar University,Coimbatore.	VC Nominee
3	Mr.Vignesh Kumar, Senior Software Engineer, Bosch Global Software Technologies,Coimbatore.	Industrial Expert
3	Dr.C.Kumuthini	Member
4	Mrs.K. Gomathy	Member
5	Mr.P.Dinesh Kumar	Member
6	Dr B.Ramya	Member
7	Mr.S.PooranaSenthilkumar	Member
8	Dr K.Kavitha	Member
9	MrV.Yuvaraj	Member
10	Dr. P.S.Vijayalakshmi	Member
11	Mrs. D.Priyadharshini	Member
12	Dr. K. Vanaja	Co-opted member
13	Mr. E.CharanKumar - III BCA	Student Representative
14	Mr. G.Adhithya Krishnan - II BCA	Student Representative

The HoD and Chairman of the Department of Computer Applications welcomed and introduced all the members and appreciated them for their continuous support and 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. Dr.B.Kalpana - Subject Expert

2. Mr.S.Eswaran - Alumni

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

Item 17.1: *To review and approve the minutes of the previous meeting held on 16-10-2023.*
The chairman of the Board presented the minutes of the previous meeting held on **16-10-2023** 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 16-10-2023.

Item 17.2: *To consider and approve the scheme ,regulation and syllabi for I semester for the students admitted during the academic year 2024-25.*

The chairman presented the detailed Scheme and Regulation for the students admitted from the academic year 2024-25 and syllabi for the I semester. 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	Change & Reason
	Nil	

New Courses Introduced: -

Course Code	Course	Change & Reason
24CAU5CB	MongoDB Programming	Mr.Vigneshkumar suggested to introduce MongoDB Programming in Semester V to enrich the knowledge of database Programming.

Courses Removed: -

Course Code	Course	Change & Reason
234CA1A5CB	C#.Net Programming	Due to lack of career opportunities and project requirements in current trends

IDC Offered :

Course Code	Course	Department
24HAP1DC	Technology in Healthcare	Hospital Administration

After discussion the following resolution was passed.

Resolution:

Resolved to approve the above modification and adopt the revised scheme and retain the existing I semester syllabus of 2023-24 batch for students admitted for the academic year 2024-25.

Item 17.3: *To consider and approve the syllabi for III semester for the students admitted during the academic year 2023-24.*

The Chairman presented the detailed syllabi for the III semester to the students admitted for the academic year 2023-2024. The members deliberated in detail and unanimously decided to adopt the existing syllabi of 2022-23 batch without any changes.

Changes Made:-

Course Code	Course	Change & Reason
	Nil	

New Courses Introduced: -

Course Code	Course	Change & Reason
	Nil	

Courses Removed: -

Course Code	Course	Change & Reason
	Nil	

IDC Offered: -

Course Code	Course	Change & Reason
	Nil	

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

Resolution:

Resolved to approve the existing syllabus of 2022-23 batch without any modification for the students admitted from the academic year 2023-24.

Item 17.4 : *To consider and approve the syllabi for V semester for the students admitted during the academic year 2022-2023.*

The Chairman presented the detailed syllabi for the V semester for the students admitted from the academic year 2022-2023. The details of changes made also presented as follows.

Changes Made:

Course Code	Course	Change & Reason
2224CA1A5CA	Core- IX: Artificial Intelligence and Expert Systems	Mr.Vignesh Kumar suggested to include Generative AI to recognize the advancement and applications of AI.
224CA1A5CC	Core-XI : Software Engineering Concepts	Dr.T.Amudha and Mr. Vignesh Kumar suggested to include Agile development based on current need of the Industry.
224CA1A5DC	DSE –1 : Internet of Things and Applications	Dr.T.Amudha suggested to add IoT Connectivity Technologies and Microcontroller to enhance knowledge on technology in IoT.
224CA1A5SP	SEC Practical – II: Web Design and Development	Mr.Vignesh Kumar suggested to include ReactJS to incorporate the latest advancements in web development.

New Courses Introduced:

Course Code	Course	Change & Reason
	Nil	

Courses Removed: -

Course Code	Course	Change & Reason
	Nil	

IDC Offered: -

Course Code	Course	Change & Reason
	Nil	

GE Offered: -

Course Code	Course	Change & Reason
224CA1A5GA	Spreadsheet Applications	To provide knowledge about advanced excel 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 for the academic year 2022-2023.

Item 17.5: *To approve the panel of examiners for question paper setting and evaluation of answer scripts for the odd semester during the academic year 2024-2025.*

The Chairman presented the panel of examiners for question paper setting, question paper scrutiny and conduct of practical and theory of examination are submitted to CoE for exam related work.

Resolution:

Resolved to approve the panel of examiners for question paper setting and evaluation of answer scripts for the odd semester of the academic year 2024-2025

Item 17.6: *To consider and approve any other item brought forward by the Chairman and the members of the board.*

The board discussed the value added certificate course and suggested "Web Technologies" course for the students admitted from the academic year 2023-24.

Resolution:

Resolved to approve the value added certificate course

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.

Date: 02.04.2024

Chairman

RV, 2/4/24

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: 224CA1A5CA / Artificial Intelligence and Expert Systems

Semester: V

S.No.	Existing	Changes
1	AI Problems – AI techniques – The level of the model - Criteria for success. Problems, Problem Spaces and Search: Problem as a State Space Search – Production Systems – Problem Characteristics – Issues in design of Search programs.	Added Additional Problems
2	Generate and Test – Hill Climbing – Best-First, Problem Reduction, Constraint Satisfaction, Means-end analysis	**Combined Unit-2 and Unit-3** Generate and Test – Hill Climbing – Best-First, Problem Reduction, Constraint Satisfaction, Means-end analysis Representations and mappings – Approaches to Knowledge representations – Issues in Knowledge representations – Frame Problem
3	Representations and mappings – Approaches to Knowledge representations – Issues in Knowledge representations – Frame Problem	**Moved Unit-4 to Unit-3** Representing simple facts in logic – Representing Instance and Isa relationships – Computable functions and predicates – Resolution – Natural deduction.
4	Representing simple facts in logic – Representing Instance and Isa relationships – Computable functions and predicates – Resolution – Natural deduction.	**Introduced Generative AI** Introduction to generative AI: Definition – Using Generative AI -The ChatGPT Effect–Dangers of Hype. Data: The fuel of Generative AI - Generative AI for Data Wrangling - Generative AI for Data Preparation

		AI Fundamentals: Understanding the Core Foundations of Generative AI - Understanding the concept of AI- AI Tools - The Brain and AI- AI Systems for Beginners. Core Generative AI Technology: Generative vs. Discriminative Models - Probability Theory -Types of Generative AI Models- DALL-E 2.
5	Procedural Vs Declarative knowledge – Logic programming – Forward Vs Backward reasoning – Matching – Control knowledge Brief explanation of Expert Systems- Definition- Characteristics-architecture- Knowledge Engineering- Expert System Life Cycle - Knowledge Acquisition Strategies- Expert System Tools.	

PERCENTAGE OF SYLLABUS REVISED: 25 %

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 Applications

Course Code / Name:224CA1A5DC – Internet of Things and Applications   **Semester: V**

S.No.	Existing	Changes
1	Introduction of Internet of Things (IoT): Introduction, Physical Design of IoT, Logical Design of IoT, IoT Enabling Technologies, IoT Levels & Deployment Templates.	
	IoT Applications for Home, Industry, Agriculture, Health & Lifestyle.	Moved to Unit-5
2	M2M, Differences and similarities between M2M and IoT, ~~SDN and NFV for IoT. IoT System Management with NETCONF-YANG: NETCONF, YANG, IoT Systems Management with NETCONF-YANG~~	**Introduced IoT Connectivity Technologies:** IEEE 802.15.4, Zigbee, RFID, LoRa, Wi-Fi, Bluetooth, IoT Data Protocols: MQTT, CoAP, AMQP, REST, SOAP, Associated IoT Technology: Sensor Cloud - Sensors-as-a-Service.
3	IoT Design Methodology—~~IoT Physical Devices & Endpoints: Basic building blocks of an IoT device, Rapsberry Pi, Rapsberry Pi interfaces, Other IoT devices.~~	IoT Specification - purpose and specification - process specification - Domain model specification- Information model specification- Service specification- IoT level specification-functional view specification- operational view specification- Device and component Integrators -Application Development.
4	~~Cloud Storage Models & Communication APIs, Web Application Messaging Protocol (WAMP), Xively cloud for IoT, Amazon Web Services for IoT. Studies Illustrating Smart Lighting, Smart~~	**Added Microcontrollers:** Introduction to Arduino Boards: Arduino vs. Raspberry Pi - Choosing a board - Arduino installation and setup - Setting up Arduino IDE for Node MCU - Writing an Arduino Sketch -

		Parking, Weather Reporting Bot, Forest Fire Detection, IoT Printer.	Hands-on Experiments with Arduino: Printing on the serial console. Introduction to Raspberry Pi Boards: Installation - Remotely accessing the Raspberry Pi - Introduction to Python basics - Accessing GPIO pins - Configuring WiFi on Raspberry Pi - Hands-on Experiments with Raspberry Pi: LED interface. Sensors: Sensor Characteristics - Sensing Types: Scalar sensing, Multimedia sensing, Hybrid sensing - Sensing Considerations. Actuators: Actuator Types: Hydraulic actuators, Pneumatic actuators, Electric actuators, Thermal/magnetic actuators, Mechanical actuators- Actuator Characteristics.
5		Introduction, chef, chef case studies, puppet puppet case study Multi-tier Deployment, NETCONF-YANG Case Studies. IoT Code Generator.	Added IoT Applications for Home Automation: Smart Lighting - Cities: Smart parking, Environment: Weather Monitoring - Industry: Indoor Air Quality monitoring, Agriculture: Smart Irrigation - Health & Lifestyle: Wearable Electronics.

PERCENTAGE OF SYLLABUS REVISED: 80 %

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 Applications**

Course Code / Name:224CA1A5CC – Software Engineering Concepts   Semester: V

S.No.	Existing	Changes
1	Introduction –Evolution – types of software development projects – Changes in Software Development Practices – Computer Systems Engineering. Software Life Cycle Models: Classical Waterfall Model – Iterative Waterfall Model – Prototyping Model – Evolutionary Model – Agile Development Models- Spiral Model.	
2	~~Software Project Management: Responsibilities of a Software Project Manager Project Planning Metrics for Project Size Estimation Project Estimation Techniques COCOMO A Heuristic Estimation Technique Staff Level Estimation Scheduling Organization and Team Structures Staffing Risk Management Software Configuration Management~~	**Added :**Agility - Agility and Cost of Change - Agile Process - Extreme Programming - Agile Process Models.
	Requirements Analysis and Specification: Requirements Gathering and Analysis – Software Requirements Specification(SRS) – Formal System Specification	Moved to Unit-3
3	~~Software Design: overview of the Design process Characteristics of a Software~~	Requirements Analysis and Specification: Requirements Gathering and Analysis –

	Arrangement of modules — Software Design Approaches. Function-Oriented Software Design: Overview of SA/SD Methodology – Structured Analysis – Data Flow Diagram (DFDs) – Structured Design - Detailed Design – Design Review. Object Modeling Using UML: Basic Concepts advantages and Disadvantages of OOD – UML Diagrams – Use Case Model – Class Diagrams – Interaction Diagrams.	
4	Coding and Testing: Coding – Code Review – Software Documentation - Testing – UNIT Testing – Black-Box Testing – White-Box Testing – Debugging – Program Analysis Tools – Integration Testing – System Testing.	
5	Software Reliability and Quality Management: Software Reliability – Statistical Testing – Software Quality – Software Quality Management System – ISO 9000. Computer Aided Software Engineering: CASE Environment – CASE support in Software Life Cycle – Characteristics of CASE Tools – Second Generation CASE Tool – Architecture of a CASE Environment. Software Maintenance: Characteristics of Software Maintenance – Software Reverse Engineering – Software Maintenance Process Models – Estimation of	

	Maintenance Cost. Software Reuse: Introduction – Issues in any Reuse Program – Reuse Approach – Reuse at Organization Level.	

PERCENTAGE OF SYLLABUS REVISED: 52 %

COURSE FOCUSES ON:

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

Faculty: Computer Science   **Board: Computer Applications**

Course Code / Name:224CA1A5SP - Web Design and Development   **Semester: V**

P. No	Lists of Experiments
1	Write a HTML program to demonstrate Table
2	Write a HTML program to illustrate Frame
3	Create a registration form with necessary validating fields
4	Create a HTML document to demonstrate Style Sheet
5	Write an XML program to display the Book Information
6	Write a JavaScript to generate the pay slip
7	Create a form that captures user input and displays it in real-time as the user types using Java Script
8	Construct a Program to display a list of items using ReactJS
9	Build a counter application with buttons to increment and decrement the count using ReactJS
10	Create an application to change the background color when clicked the component using ReactJS
11	Develop a to-do list application with features to add and remove tasks using ReactJS
12	Build a simple calculator application with basic arithmetic operations using ReactJS
13	Implement a basic authentication with login and registration for bank account holders using ReactJS
14	Create an application for the student management system and implement routing to navigate through the pages using ReactJS

PERCENTAGE OF SYLLABUS REVISED: 100%

COURSE FOCUS 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

Course Code / Name:224CA1A5CP - Software Testing

Board: Computer Applications

Semester: V

P. No	Lists of Experiments
1	Creating your First Selenium IDE script.
2	Using Locators in Selenium IDE.
3	Enhance a script using Selenium IDE
4	Storing Variables, Echo, Alert, PopUp handling in Selenium IDE.
5	Accessing Forms in Webdriver.
6	Select Option from DropDown using Selenium Webdriver.
7	Accessing Links & Tables using Selenium Webdriver.
8	Keyboard & Mouse Event using Action Class in Selenium Webdriver.
9	Upload & Download a File using Selenium Webdriver
10	Handling Date Time Picker using Selenium.

PERCENTAGE OF SYLLABUS REVISED: 100%
COURSE FOCUS ON:

- [x] Skill Development
- [x] Employability
- [ ] Intellectual Property Rights
- [ ] Social Awareness/ Environment
- [ ] Entrepreneurial Development
- [ ] Innovations
- [ ] Gender Sensitization
- [ ] Constitutional Rights/ Human Values/ Ethics

ATTENDANCE OF THE SEVENTEENTH BOARD OF STUDIES MEETING

Faculty: Computer Science

Board: Computer Applications

Date :02.04.2024
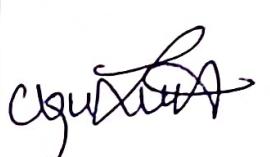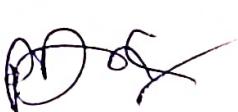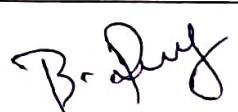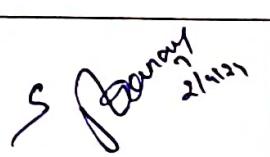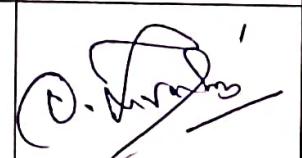
Time: 10.00 a.m.

Venue: Seminar Hall II

The following members were present for the meeting

S.No	Name	Designation	Signature
1.	**Dr.R.Kousalya** Professor & Head Department of Computer Applications Dr.N.G.P Arts and ScienceCollege Coimbatore - 48.	Chairman	R.M 2/9/24
2.	**Dr.T.Amudha** Professor Department of Computer Applications Bharathiar University Coimbatore-641046.	VC Nominee	
3.	**Dr.B.Kalpana,** Professor,Department of Computer Science School of Physical Sciences and Computational Sciences Avinashilingam Institute for Home Science and Higher Education for Women Coimbatore- 641043.	Subject Expert	ABSENT
4.	**Mr.Vignesh Kumar** Senior Software Engineer Bosch Global Software Technologies Coimbatore.	Industry Expert	
5.	**Mr.S.Eswaran** Implementation Consultant in Aosta Control-m Scheduler and Administration Coimbatore.	Alumni Expert	ABSENT

6.	**Dr. K. Vanaja** Professor & Head Department of Commerce (PA) Dr.N.G.P. Arts and Science College	Co-opted member	
7.	**Dr.C.Kumuthini** Professor Department of Computer Applications Dr.N.G.P. Arts and Science College	Internal Member	
8.	**Mrs.K. Gomathy** Assistant Professor(SG) Department of Computer Applications Dr.N.G.P. Arts and Science College	Internal Member	
9.	**Mr P.Dinesh Kumar** Assistant Professor(SG) Department of Computer Applications Dr.N.G.P. Arts and Science College	Internal Member	
10.	**Dr. B.Ramya** Assistant Professor Department of Computer Applications Dr.N.G.P. Arts and Science College	Internal Member	
11.	**Dr. S.PooranaSenthilkumar** Assistant Professor Department of Computer Applications Dr.N.G.P. Arts and Science College	Internal Member	
12.	**Dr. K.Kavitha** Assistant Professor Department of Computer Applications Dr.N.G.P. Arts and ScienceCollege	Internal Member	
13.	**Mr. V.Yuvaraj** Assistant Professor Department of Computer Applications Dr.N.G.P. Arts and ScienceCollege	Internal Member	
14.	**Dr. P.S.Vijayalakshmi** Assistant Professor Department of Computer Applications Dr.N.G.P. Arts and Science College	Internal Member	

15.	**Mrs. D.Priyadharshini** Assistant Professor Department of Computer Applications Dr.N.G.P. Arts and Science College	Internal Member	
16.	**Mr. E.CharanKumar** III BCA Department of Computer Applications Dr.N.G.P. Arts and Science College	Student Representative	
17.	**Mr. G.Adhithya Krishnan** II BCA Department of Computer Applications Dr.N.G.P. Arts and Science College	Student Representative	

Date : 02·04·2024

BoS Chairman/HoD
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