KUMARAGURU
college of technology
character is life

PROTOS

DEPARTMENT OF COMPUTER APPLICATIONS

ACADEMIC YEAR (2023 – 24)

Contents

FACULTY ZONE

Dr. V. Vijilesh
Associate Professor & HoD

Specialization
Data Mining & Web Mining

Email id
vijilesh@kct.ac.in

Dr. V. Geetha
Professor

Specialization
Data Mining & Knowledge Management

Email id
geetha.v.mca@kct.ac.in

Dr. M. Manikantan
Associate Professor

Specialization
Data Mining & Database Technologies.

Email id
manikantan.m.mca@kct.ac.in

Dr. S. Hameed Ibrahim
Assistant Professor III

Specialization
Software Engineering and Database Technologies

Email id
hameedibrahim.s.mca@kct.ac.in

Dr. P. Parameswari
Assistant Professor III

Specialization
Data Science

Email id
parameswari.p.mca@kct.ac.in

Dr. C. Rajan Krupa
Assistant Professor III

Specialization
Cloud Application

Email id
rajankrupa.c.mca@kct.ac.in

Dr. R. K. Kavitha
Assistant Professor III

Specialization
Software Engineering, Educational Data Mining

Email id
kavitha.rk.mca@kct.ac.in

Dr. N. Jayakanthan
Assistant Professor III

Specialization
Data Structures and Analysis of Algorithms

Email id
jayakanthan.n.mca@kct.ac.in

Ms. V. Jalaja Jayalakshmi
Assistant Professor II

Specialization
Data Mining

Email id
jalajajayalakshmi.v.mca@kct.ac.in

Ms. M. C. S. Geetha
Assistant Professor I

Specialization
Data Mining

Email id
geethaumcamca@kcl.ac.in

Vision of the Department

- To be a leader in computing education and research, equipping students with the skills to thrive in the technology field and contribute to the growth of society and the economy.

Mission of the Department

- Deliver high-quality education and practical skills in computing and technology, preparing students to meet industry demands and excel in their careers.
- Encourage innovation, critical thinking, and research in computing, enabling students to solve real-world problems and contribute to technological advancements.
- Nurture socially responsible and ethical professionals who can lead with integrity and contribute to the sustainable development of society and the economy.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs):

PEOs for MCA programme are designed based on the department mission.
• To prepare students to transact in the field of computer applications by providing technical foundations in the field of computer applications.
• To prepare students to intellect in computing skills and innovation of software products to meet the industry needs.
• To provide exposure to cutting edge technologies and training to work on multidisciplinary. projects in a team.
• To prepare students to life-long learning through professional activities; adapt themselves with ease to new technologies, while exhibiting ethical and professional standards.

PROGRAM OUTCOMES (PO's):

On successful completion of the program, the graduates will be able to:

- **PO1: Computational Knowledge** – Apply knowledge of computing fundamentals, specialization, mathematics, and domain knowledge for abstraction and conceptualization of computing models from defined problems and requirements.

- **PO2: Problem Analysis** – Identify, formulate, research literature, and analyze complex computing problems, reaching substantiated conclusions using principles of mathematics, computing sciences, and relevant domain disciplines.

- **PO3: Design and Development of Solutions** – Design and evaluate solutions for complex computing problems, including systems, components, or processes that meet specified needs, with due consideration for public health, safety, cultural, societal, and environmental factors.

- **PO4: Conduct Investigations of Complex Problems** – Use research-based

knowledge and methods including experiment design, data analysis, interpretation, and synthesis to provide valid conclusions.

- **PO5: Modern Tool Usage** – Create, select, adapt, and apply appropriate techniques, resources, and modern computing tools for complex computing activities, with an understanding of their limitations.

- **PO6: Professional Ethics** – Understand and commit to professional ethics, cyber regulations, responsibilities, and norms of computing practice.

- **PO7: Life-long Learning** – Recognize the need for and engage in independent, continuous learning for professional growth and adaptability to emerging technologies.

- **PO8: Project Management and Finance** – Apply computing and management principles to manage projects effectively as an individual, team member, or leader in multidisciplinary environments.

- **PO9: Communication Efficacy** – Communicate effectively with the computing community and society by preparing reports, design documentation, delivering presentations, and following clear instructions.

- **PO10: Societal and Environmental Concern** – Understand and assess societal, environmental, health, safety, legal, and cultural issues in local and global contexts, and apply them responsibly in professional computing practices.

- **PO11: Individual and Team Work** – Function effectively as an individual, and as a member or leader in diverse and multidisciplinary teams.

- **PO12: Innovation and Entrepreneurship** – Identify opportunities and

pursue innovation to create value and wealth for the betterment of individuals and society.

TECHNICAL ARTICLE

<u>Why Firewalls Are Essential for Educational Institutions</u>

Cyberattacks on education have surged by over 35% from 2023 to 2024, with the sector facing an average of 4,388 weekly cyberattacks in the second quarter of 2025—double the global average. Threats include ransomware, phishing, and AI-powered scams that jeopardize privacy and network integrity. Firewalls not only block malicious access but also ensure compliance with privacy regulations, optimize network traffic, and provide administrators transparency through monitoring tools.

Technical Features of Modern Firewalls
Today's educational firewalls are equipped with AI-driven threat detection, intrusion prevention systems, secure VPN support, and cloud integration—helping institutions defend against evolving threats in real time. Features like content filtering ensure that harmful or inappropriate online content is restricted, maintaining a safe digital space for students and faculty alike.

Best Practices for Firewall Deployment
- Segment user traffic and configure role-based access controls to minimize unnecessary exposure.
- Maintain up-to-date firewall software; most exploits target known vulnerabilities in outdated systems.
- Perform regular audits and monitor network logs for anomalies.
- Educate staff and students on cybersecurity best practices since human errors are a leading cause of breach.
- Integrate firewalls into a layered security framework alongside antivirus and

endpoint protection.

Conclusion

Firewall protection is no longer optional but critical for contemporary educational institutions. Robust, actively managed firewalls, combined with trained personnel, fortify campuses against cyber threats and preserve the integrity of academic data. For PG MCA students, understanding firewall technologies is a vital skill set to ensure secure digital learning environments now and in the future.

By,
Dr.Rajankrupa C AP III
Department of Computer Applications

STUDENT ARTICLE

The Innovation: Crime Hotspot Mapping & Behavioral Analysis System
Competing under the theme **Digital Forensics and Incident Response**, we built **"Crime Hotspot Mapping and Behavioral Analysis System"** - a product designed to transform crime data into actionable intelligence for the **Tamil Nadu Police**.

Key Features:
- **Data Integration**: Uses real-time inputs from Tamil Nadu Police and the National Crime Records Bureau.
- **Predictive Analysis**: Employs a **Random Forest Classifier** to forecast potential crime incidents with enhanced accuracy.
- **Smart Policing**: Optimizes patrol routes using **clustering techniques and Dijkstra's algorithm**.
- **Interactive Dashboard**: Delivered via a **Python–Streamlit interface**, featuring **Folium maps** and **Plotly visualizations** for dynamic insights.

This milestone marks a transition — from calling it a *project* or *solution* to proudly

positioning it as a **product-in-the-making**.

Teamwork, Mentorship & Gratitude:
Our success is a reflection of **team synergy**, real-time problem-solving, and resilience under pressure. Special appreciation goes to **Harini Sekar & Methunarajan Arul**, whose contributions kept us moving forward.
We extend heartfelt gratitude to our **mentor, Dr. Jayakanthan N**, for his invaluable guidance, and to **Raghuveer VR sir (Director, KSI)** and **Divya Vadlamudi ma'am (Assistant Director, KSI)** for their encouragement and recognition that will always stay close to our hearts.
Congratulations to fellow teams **Zyndicate** and **Cyber Warriors** from the Department of MCA, Kumaraguru College of Technology, for reaching the finals and showcasing outstanding innovation.

Looking Ahead

We connected with industry leaders, shared knowledge with peers, and walked away with the motivation to scale higher.
As we move forward, our vision remains clear: **to turn innovation into impact, and research into reality for safer communities**.
We thank **Tamil Nadu Police, The Hackers Meetup, Kumaraguru School of Innovation, Defcon Coimbatore Chapter**, and sponsors including **Amber Connect Limited, 4i Apps Solutions, CYBERNERDS SOLUTIONS, Rootecstak KRIYAVAN Cyber**, and many others for powering this journey.

By,
Dhivakar R, Harini S, Methunarajan A
Department of Computer Applications

FACULTY BOOK AND PAPER PUBLICATIONS

- **The faculty members of MCA department, R K Kavitha – Assistant Professor III, Dr.C Rajankrupa – Assistant Professor III , along with V Kaarthikeyan published a paper on the title "AI-Powered Digital Solutions on Smart Learning - Revolutionizing Education"**

- **Dr. C. Rajankrupa – Assistant Professor III and Students of II MCA - Kavidharshini I (23MCA028) and Vasundhara G (23MCA062) collaboratively published a paper regarding "Safeguarding Digital Learning Environments in the Era of Advanced Technologies"**

- **Dr.R.K.Kavitha, Assistant Professor III, have collaboratively published a book titled "Information Security" in partnership with three other distinguished professors :**

  1. **Ms. V. Jalaja Jayalakshmi , Assistant Professor**
  2. **Dr. C. Rajankrupa , Assistant Professor**
  3. **Dr. L. Dhanabal , Assistant Professor III**

- **A group of 3 students from II MCA has participated in a research paper publication in collaboration with our faculty member – Dr.Geetha.M.C.S in CRC Press Group's "Call For Book Chapters" on the title "Education 4.0 : Unravelling the Data Science Connection", which is in progress for publication**

  Student Participants :
  1. **Judith Pacifica – 23MCA024(II MCA)**
  2. **Kaviyadharshini M – 23MCA029(II MCA)**
  3. **Kaviyassri K – 23MCA030(II MCA)**

DEAPARTMENT ASSOCIATION (2023 – 2024)

Madhumitha K

President

Nithesh Somasundaram

Vice President

Vasundhara G

Secretary

Sachin Kumar G

Join Secretary

Abisheck Kumar J

Technical Ambassador

Jeyalakshmi S

Event Coordinator

Jolene Isabella Menezes

Lead - Placements

Kavidharshini I

Placement Coordinator

Pugazhendhi K

Placement Coordinator

DEAPARTMENT ASSOCIATION (2023 – 2024)

HarishBabu K

Lead – Media &

Documentation

Mohamed Ibrahim Afrith M

Media & Marketing

Coordinator

Sangeeth Kumar M

Documentation

Coordinator

Madhumitha K

Alumni Coordinator

Prathika S

Alumni Coordinator

Dharshini T K

Treasurer

Logesh Raja M

Sports Coordinator

Hemanth Kumar J

Student Chapter

Coordinator

DEAPARTMENT ASSOCIATION (2023 – 2024)

Anu Ratna Devi R S

PG Forum

Representative

Siddarth K Duraisamy

Entrepreneurship

Coordinator

Chitra Banu G

Executive Member

Arun Surya P

Executive Member

Office Bearers

Department Of Master Of Computer Applications

2023 - 2024

ASSOCIATION ACTIVITIES

"Tech Humm", conducted on 20/12/2023, **is an engaging and fast-paced team activity focused on technology-related terms. The session is designed to test participants' communication, and teamwork, all while reinforcing key technological concepts in an interactive way.**

Consultancy projects provided by our organization offered students a unique opportunity to work on real-world challenges. Students applied their academic knowledge to practical scenarios, gaining hands-on experience while contributing valuable insights to the organizations

Organized an interactive workshop on 'Building RAG Applications Using LLMs and Langchain' on 20th March , 2023. The hands-on sessions included practical examples and coding exercises, allowing participants to directly implement the concepts

The department association members conducted a technical event called "ENIGMA" during YUGAM 2024, on 21st March 2023. Students from different colleges participated in this exciting event.

"BATTLE TO WIN" is an exciting team competition conducted to celebrate the Independence Day , on 13th August 2024. The event focussed on strengthening the importance of Freedom Fighters and Independence with a fun quiz round.

"Department Association Inauguration" was conducted on October 21st 2024 , for the new association members of the department to honor them with their badges and responsibilities.

STUDENT ACHIEVEMENTS

MAHATMA GANDHI MERIT SCHOLARSHIP AWARD

11 outstanding students from II MCA has been awarded the prestigious Mahatma Gandhi Scholarship for their academic excellence and commitment

Award Recipients:

1. Anu Rathna Devi R S – 23MCA005
2. Asha Mercy R – 23MCA008
3. Chitra Banu G – 23MCA009
4. Franklin Immanuel N – 23MCA013
5. Gayathri P – 23MCA014
6. Helan Sharmila S – 23MCA020
7. Jayapriya E– 23MCA022
8. Kaviyassri K – 23MCA030
9. Pooja R – 23MCA042
10. Prabanya K – 23MCA043
11. Yazhini K – 23MCA064

STUDENT ACHIEVEMENTS

HANDS – ON WORKSHOP

- **As part of our department initiative in collaboration with KSI , the students from II MCA , taught full-stack development to students of the KSI cluster**

- **Their dedication and proficiency have earned them special recognition, with both being awarded for their contribution to peer-led learning.**

  Student Details :
  1. Abisheck Kumar J– 23MCA001
  2. Pugazhendhi K – 23MCA048

STUDENT ACHIEVEMENTS

CERTIFICATIONS

Surendar R G (23MCA059) , has successfully completed the *"AWS Certified Solution Architect - Associate"* certification. The student has demonstrated exceptional dedication to the field of cloud computing, as an active participant in this rapidly evolving domain.

PROTOSEM

Two Students from II MCA, joined ProtoSem a comprehensive learning program to offer project-based experience over six months. Through hand-on projects, the students experienced theoretical knowledge and stood as an inspiration for other students.

Students Details:

1. Girinikesh V– 23MCA015
2. Hemanth Kumar J – 23MCA021

STUDENTSZONE

Inter-Departmental Event Participation

EVENT : LOGIN

PLACE : PSG COLLEGE OF TECHNOLOGY

DATE : SEPTEMBER 23 & 24, 2023

EVENT NAME	PARTICIPANTS NAME
TECHIADZ	PRABANYA K – 1st PRIZE JEYALAKSHMI S – 1st PRIZE

STUDENT ZONE

WORKSHOPS ORGANIZED

1. CLOUD WORKSHOP

Mr. Gowtham Rameshbabu , an Alumni of MCA Department , a distinguished AWS Architect, conducted a workshop centered on Cloud and Data Engineering for students to understand the significance and applications of

cloud computing in the modern tech landscape.

2. HANDS – ON SESSION ON ANDROID DEVELOPMENT

Mr. Mohamed Farooq from Forge Innovations , conducted a hands-on session on Android development, coordinated by faculty members : Dr. L. Dhanabal , Assistant Professor III and Dr..Hameed Ibrahim S Assistant Professor III

STUDENTS ZONE

WORKSHOPS ORGANIZED

3. AI WORKSHOP

An AI workshop on "AI : Building RAG Application using LLMs and LangChain" was conducted to provide hands-on experience in building a RAG Application using LLMs ,led by Mr. Sakthivel Senthilkumar, a seasoned Lead ML Engineer at Nunnari Labs.

4. WEB DEVELOPMENT WORKSHOP

The Web Development Workshop was conducted by our students form II MCA, Abishek Kumar J (23MCA001) and Pugazhendhi K (23MCA048) as an Initiative from KSI ,to mentor participants with hands-on experience in the MERN stack technology.

STUDENTS ZONE

HACKATHON PARTICIPATION

1. WEB SPARK : 12 HOUR HACKATHON

"Web Spark", is an 12-Hour Express Hackathon organized by the Web and Software Development. A group of 5 Students from II MCA , has won the second prize, with cash amount of RS.1000 , for their unique ideas and presentation on the title "Student Inventory Management"

2. WISE-AI-THON '24

Wise-Ai-Thon '24 is an 30-hour Hackathon, a collaboration between KSI and Wise Work. 2 teams(4 members per team) from II MCA were qualified, showcasing their technical expertise and innovation.

STUDENTS ZONE

HACKATHON PARTICIPATION

3. SMART INDIA HACKATHON

 Students from II MCA, participated in Smart India Hackathon 2024 and engaged in this competitive platform, showcasing their creativity and technical skills to tackle real-world challenges. A team of 5 members qualified for the second round among 64 teams .

ALUMNI INTERACTION

GLOBAL ALUMNI MEET (GAM)

- **"GAM" is an event that brought together our alumni from around the world to reconnect with their alma mater, network with fellow graduates, and share their experiences.**

- **Provided a platform for former students to engage with current students, faculty, and industry professionals, fostering collaborations and mentorship opportunities**

DECADE

A reunion held every ten years for a specific batch of graduates. It's a chance for alumni to reconnect, reminisce about their college days, and celebrate milestones together.

NOTABLE ALUMNI CONTRIBUTIONS

- **Mr. Aswin S - Delivered an informative session on Microsoft Azure, discussing its features, services, and how students can leverage cloud platforms to enhance their skills and career prospects.**

- **Mr. Gowtham Rameshbabu - Mr. Gowtham conducted a workshop focused on cloud and AWS platform, sharing insights and practical knowledge to help students understand the significance and applications of cloud computing in today's tech landscape.**

- **Mr.Pavith - Participated in the Ignite event, where he provided valuable guidance on placements and internships, outlining the pathways students can take to secure jobs in the tech industry.**

- **Ms. Sujithra - Sujithra from Infosys shared her experiences and insights about working in the IT industry, discussing career opportunities and the skills needed to succeed in a competitive job market.**

NOTABLE ALUMNI CONTRIBUTIONS

- **Mr.Kristen Kennedy K- Engaged with students to discuss his career journey, offering advice on skills development and the importance of practical experience in software development.**

- **Mr.Varun – Lead Data Scienttist, Quantium, attended the Inauguration ceremony of Department Association , where he shared his experiences in data analysis and the impact of data-driven decision-making in businesses.**

- **Mr.Sharan Madhav – A Full Stack Developer, interacted with students to share insights into full stack development, emphasizing the importance of mastering both frontend and backend technologies in the ever-evolving tech landscape.**

- **Mr. Arul Kumar Palaniswamy - Delivered the keynote address in our Department Association Inauguration and emphasized the importance of skill-building for a career and encouraged adopting an entrepreneurial mindset**

PLACEMENT INFORMATION

The following students have been placed during their academic tenure and has been offered.

S.No	Roll No	Student Name	Company Name	Salary(Per Annum)
1	23MCA001	Abisheck Kumar J	AVASOFT	5 L
2	23MCA009	Chitra Banu G	MATHCO	5.5 L
3	23MCA012	Durga Nandhini S	MULTICOREWARE	Intern
4	23MCA020	Helan Sharmila S	ASSEMBLY	8 L
5	23MCA022	Jayapriya E	WISE WORK	Intern
6	23MCA028	Kavidharshini I	MATHCO	5.5 L
7	23MCA037	Nagavelan C	MULTICOREWARE	Intern
8	23MCA043	Prabanya K	NALLAS SOFTWARE SOLUTIONS	5 L
9	23MCA048	Pugazhendhi K	WISE WORK	Intern
10	23MCA052	Sanjay V	AVASOFT	5 L
11	23MCA058	Sriram S	AVASOFT	5 L
12	23MCA062	Vasundhara G	MATHCO	5.5 L
13	23MCA064	Yazhini K	ASSEMBLY	8 L

INTERNSHIP PLACED STUDENTS

The following students from II MCA ,have actively participated in internships during their academic tenure and have been offered.

Roll number	Name of the student	Name and address of the industry
23MCA005	ANU RATHNA DEVI R S	HASH AGILE TECHNOLOGIES PVT LTD
23MCA011	Dharshini Tk	Texcoms worldwide
23MCA012	Durga Nandhini. S	Multicoreware
23MCA022	Jayapriya E	Wise Work
23MCA037	Nagavelan C	Multicoreware
23MCA038	Narendhar R	Goat Robitics
23MCA041	POOJA JENIFER C	Interlace India Pvt Ltd
23MCA043	PRABANYA K	Nallas
23MCA048	Pugazhendhi K	Wise work

Editorial Desk:

	STAFF INCHARGE: Dr. C. Rajankrupa – Assistant Professor III
	STUDENT COORDINATOR: Chitra Banu G – 23MCA009 (II MCA)
	STUDENT COORDINATOR: Kavidharshini I – 23MCA028 (II MCA)