



M.O.P. VAISHNAV COLLEGE FOR WOMEN (Autonomous)

(College Affiliated to University of Madras & Re-accredited at "A++" Grade by NAAC)

Chennai - 600 034



**DEPARTMENT OF INFORMATION TECHNOLOGY
BACHELOR OF COMPUTER APPLICATIONS
(B.C.A.)**



B.C.A. PROGRAMME CURRICULUM

The programme has eminent and experienced faculty with sturdy technical and research experience. Students are exposed to multifarious areas of computer applications and the department has been meeting the changing needs of IT industry by periodically updating the syllabus with the inclusion of latest technology.

CORE PAPERS

Programming in C	Basics of Digital Logic and Computer Architecture	Database System Concepts
Data Structures using Python	Programming in Java	Operating Systems with Unix
Optimization Techniques using Open Source Tool	Software Engineering with Devops	Data Mining
Web Programming	Data Communication & Networks	High Performance Computing
Programming in Advanced Java	Cyber Security	Machine Learning

ALLIED PAPERS

Statistics for Computer Applications	Mathematics for Computer Applications	Fundamentals of Accounting
Fundamentals of Cost & Management Accounting	Accounting Software (Tally)-I	Accounting Software (Tally)-II

TECHNICAL SKILL COURSES

PHP& MySQL	Software Testing
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SPECIALIZED PAPERS

XML and its Applications	Business Intelligence	Artificial Intelligence
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TEACHING AND LEARNING METHODOLOGIES

In order to provide an effective learning experience, the programme faculty adopts various teaching methodologies like case studies, group projects, and practical labs apart from activities like seminars, workshops, role-plays, quiz and brainstorming sessions.

WORKSHOPS on current topics like IOT, MongoDB, Scilab and website portability were organized to provide the students with hands-on experience.

SEMINARS on latest topics like Data Analytics, Cloud Computing and Internet of Things were conducted.

WEBINARS: A series of webinars were conducted by the programme to enhance knowledge such as Technology management in Healthcare, Low code No code, Artificial Intelligence and Machine Learning.

RESEARCH INITIATIVES: Students of B.C.A. under the guidance of staff members have published research papers on latest trending topics in various International and National conferences and have publications in UGC Listed and Scopus-indexed journals.

ICCCMIT: An International Conference on Communication, Computing and Information Technology (ICCCMIT) is organized by the department of Information technology, providing a platform for academia, research scholars and professionals from industry as well as students to discuss, share and disseminate innovative views on recent trends and development in communication, computing and information technology. So far, 6 International conferences have been held in the year 2012, 2014, 2017 ,2019, 2022 and 2024.



STUDENT SUPPORT AND PROGRESSION

The students from the B.C.A programme join their hands to organize the following events as a part of the department club 'THE HASH CLUB'.

PRAGYAAN - The flagship event of B.C.A., stands as a fusion of Pragathi and Vigyaan, embodying a celebration of academic excellence and technological innovation.

OLAP- An intercollegiate event that brings together students from different colleges belonging to the department of Information Technology in and around the city to explore and exhibit their talents in their domains.

JOURNAL- The programme inculcates the art of article writing skills amongst students by means of publishing the thematic journal "The Compiler". Some of the key topics of this journal include Blockchain technology, Artificial Intelligence, Cyber Security, Machine Learning.

INTERNATIONAL PROGRAMMER'S DAY- It is celebrated on the 256th day of every year. The day honors programmers and innovators for innovating and designing programs for a easy living. The department also commemorates it by conducting events like Web-A-Thon and IoT Idea-thon.

INTERNATIONAL CYBER SECURITY DAY- B.C.A. commemorates "International Cybersecurity Day" every year. The celebration includes a series of workshops, seminars, and webinars, offering a dynamic platform for students to evolve

COMPUTER FAIR - Students display real time projects for school and other college students showcasing their technical prowess.



SOCIAL RESPONSIBILITIES

- **VIGYAN** - Vaishnav initiative for Gyaan dhaan- providing computer skills to junior students of Ananya-the learning center of madras dyslexia association. The students were trained on basic working with MS-word and MS-paint.
- **VILLAGE VISIT** - 'Thozhil Seyyallam Thozhi'. The Department of B.C.A adopted a village A.Reddipalayam near Minjur , Tiruvallur District where BCA students imparted Basic Office Skills in word and excel.
- **VIKAS** - As part of the VIKAS initiative, the students of the B.C.A. programme conducts an enriching five-day course to impart a diverse array of skills to the students at Mary Clubwala Jadhav Girls' Higher Secondary School in Egmore, Chennai

INTERNSHIPS AND PLACEMENTS

Students are also led in the right direction to pursue an internship in various top companies like Goldman Sachs, HCL, TCS and more. The unique curriculum, communication and presentation skills have made the students to reach their speculated positions in top IT companies.

Cognizant Infosys	Wipro TCS	HCL Deloitte
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STUDENT ACHIEVEMENTS:

CM AWARD -For the year 2015-16, at the Chennai District level, the Chief Minister's Award for Excellence in e-Governance for Students was won by the BCA students of M.O.P. Vaishnav College for Women for developing an Android application. The students were rewarded Rs.10,000 by Collector E. Sundaravalli IAS. The project has been nominated for the State level award.

OVERALL TROPHIES - Students from B.C.A. have consistently excelled, securing numerous overall trophies in competitions top colleges across Chennai showcasing their dedication in academic and extracurricular endeavors.

TERTIARY LEVEL EDUCATION

- M.S from Foreign Universities
- M.Sc. (Data Science)
- M.Sc. (IT)
- M.Sc. (Computer Science)
- Masters of Computer Applications
- M.B.A

CAREERS IN IT / IT-RELATED INDUSTRY

- Software Engineer
- Developer / Tester
- Data Scientist / Data Analyst
- UX / UI Designer
- Cyber Security Expert
- Financial Analyst / Operational Executives in Banks



ALUMNI OF B.C.A

Students from B.C.A have pursued their higher studies in various National and International universities. They are also placed in reputed IT and IT related companies.



Keerthana Muralidharan, batch of 2011-2014, is pursuing her corporate career as a Manager, Solution Engineer at Freshworks, Chennai.

Pranjal S, batch of 2020-2023, is pursuing her corporate career as an Associate Analyst at Deloitte, Bangalore .



ALUMNI TALKS



“The B.C.A. curriculum in M.O.P is unique and upto date with the current requirements of the IT industry. This helped me publish research papers in national and international conferences during the three years. The staff provided constant support and ample opportunities to explore my skills in various technologies like Data Science, Cyber Security, Internet of things. The projects, guest lectures, workshops, and internship in these technologies helped me achieve my dream job.”

Usha Selvamani
Batch: 2006-2009
Asst. Vice President, Senior Developer
Citi Corp, Chennai

“Doing B.C.A. in M.O.P gives us a lot of exposure to groom ourselves to face the rapid growth in IT industry. A course that gives you dual opportunities to explore the Banking Industry as well as IT sector. With the amount of additional crash course programs that MOP offers will help us get uplift our skill sets.”

Sri Lalitha R
Batch: 2017-2020
Business Operations Analyst
NatWest, Chennai



MILESTONES OF B.C.A.

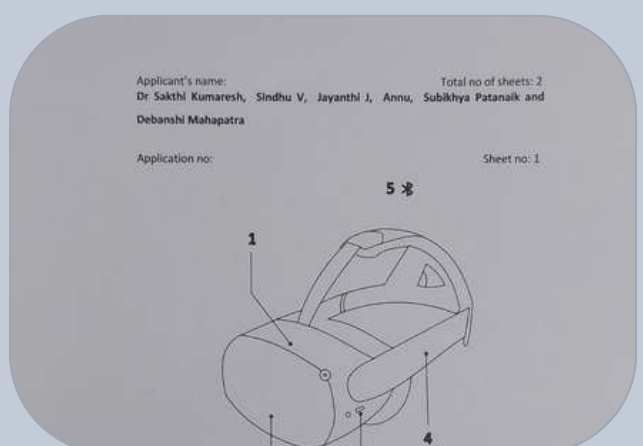
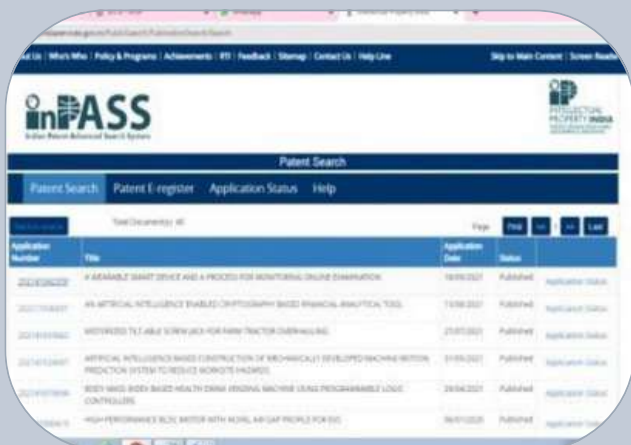
SILVER JUBILEE OF B.C.A.

B.C.A.'s Silver Jubilee signifies 25 years of academic excellence, innovation, and transformative education at M.O.P Vaishnav College for Women. It's a milestone that celebrates a legacy of nurturing skilled professionals in the ever-evolving field of computer applications. It is a testament to the enduring success and relevance of the B.C.A. programme at M.O.P, promising to continue inspiring excellence for years to come.



PATENT PUBLICATIONS

The B.C.A. faculty has secured patents, including one for "A Wearable Smart Device And A Process For Monitoring Online Examination" and another collaborative effort with students on "An AI Career Counseling Bot with Metaverse Platform and Haptic Technology."



B.C.A. RANKINGS

One of the programme's standout achievements lies in its consistent rankings among India's top institutions. The B.C.A. Programme at M.O.P Vaishnav College for Women has been ranked at the 43rd position among India's top 110 institutes offering B.C.A. courses for three consecutive years.

RANKINGS 2023						
BCA						
RANK 2023	TOP 110 INSTITUTES	ACADEMIC & RESEARCH EXCELLENCE	INDUSTRY INTERFACES & PLACEMENT	INFRASTRUCTURE & FACILITIES	GOVERNANCE & ADMISSIONS	DIVERSITY & OUTREACH
		250	200	200	200	150
34	DAY COLLEGE, HOSHAURPUR	184.01	1735	153.73	168.6	15.59
35	MAHARAJI LAKSHMI AMMANI COLLEGE FOR WOMEN, BANGALORE	184.39	92.64	110.29	116.3	90.30
36	ST JOSEPH'S COLLEGE, TRICHURAPPALLI	187.17	3.64	178.51	132.1	53.14
37	ADARSH MOTIBAI PATEL INSTITUTE OF COMPUTER STUDIES, SANPAT UNIVERSITY, KHERIA	168.32	28.06	173.01	144.73	17.36
38	ST MIRAS COLLEGE FOR GIRLS, PUNE	118.52	80.42	150.06	133.74	45.53
39	SHIVANAND SARMA MEMORIAL RV COLLEGE, BANGALORE	182.63	22.1	166.74	134.12	18.68
40	PARUL INSTITUTE OF COMPUTER APPLICATION, VADODARA	166.03	34.31	172.12	127.09	19.05
41	PRESTIGE INSTITUTE OF MANAGEMENT, DEWAS	161.66	41.24	155.91	119.21	39.09
42	SRI KRISHNA ARTS AND SCIENCE COLLEGE, COMBATORE	171.21	28.97	191.09	139.90	20.5
43	MOP VAISHNAV COLLEGE FOR WOMEN, CHENNAI	161.71	22.19	166.9	151.03	12.89
44	DR S N S RAJALAKSHMI COLLEGE OF ARTS AND SCIENCE, COMBATORE	165.27	12.42	172.5	118.57	44.69
45	BISHOP HEBER COLLEGE, TRICHURAPPALLI	177.79	1.58	146.58	155.24	31.78
46	SCHOOL OF COMPUTER AND SYSTEMS SCIENCES, JALPURI NATIONAL UNIVERSITY, JALPURI	167.22	43.89	160	124.72	15.41
47	ST MIRAS COLLEGE FOR GIRLS, PUNE	169.93	72.35	109.63	133.18	25.92
48	INSTITUTE OF ENGINEERING AND TECHNOLOGY, GUA	168.76	48.77	153.14	123.15	16.18

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		250	200	200	200	150
35	MAHARAJI LAKSHMI AMMANI COLLEGE FOR WOMEN, BANGALORE	184.39	92.64	110.29	116.3	90.30
36	ST JOSEPH'S COLLEGE, TRICHURAPPALLI	187.17	3.64	178.51	132.1	53.14
37	ADARSH MOTIBAI PATEL INSTITUTE OF COMPUTER STUDIES, SANPAT UNIVERSITY, KHERIA	168.32	28.06	173.01	144.73	17.36
38	UNIVERSITY INSTITUTE OF COMPUTING, CHANDIGARH	118.52	80.42	150.06	133.74	45.53
39	SHIVANAND SARMA MEMORIAL RV COLLEGE, BANGALORE	182.63	22.1	166.74	134.12	18.68
40	PARUL INSTITUTE OF COMPUTER APPLICATION, VADODARA	166.03	34.31	172.12	127.09	19.05
41	SRI DAMAKRISHNA COLLEGE OF ARTS AND SCIENCE FOR WOMEN, COMBATORE	161.66	41.24	155.91	119.21	39.09
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RESEARCH PAPER PUBLICATIONS

The students and faculty of B.C.A have published their research papers in UGC listed and Scopus indexed journals.

International Journal of Computer Networks and Applications (IJCNA)
DOI: 10.22247/ijcna/2023/218518 Volume 10, Issue 1, January – February (2023)

RESEARCH ARTICLE

Towards Blockchain-Based Secure IoT Communication for 5G Enabled Intelligent Transportation System

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Abstract – Intelligent Transportation System (ITS) with the internet of things (IoT) plays an integral role in smart city developments and enables substantial developments in modern human lifestyles. With the emergence of Fifth-Generation (5G) communication technologies, high-speed communications are enabled among multiple internet-connected devices. However, security, reliability, and scalability are significant factors that affect the communication performance of ITS. The conventional security models are mostly centralized and unsuitable for distributed low-powered IoT-enabled 5G ITS. The new-age distributed ledger technology Blockchain can improve the

vision but a reality. Smart ITS endeavors to improve driving quality and safety levels by effectively solving driving hazards with the assistance of the Internet of Things (IoT) and modern communication technologies such as 4G and 5G [1, 2]. Smart ITS services depend on observed data streams from various vehicles, and it is crucial to develop a secure connected environment among the vehicles to accomplish the desired ITS application. Principally, the IoT is a promising technology to combine the data of intelligent sensors, actuators, moving vehicles, and various machines.



Proceedings of International AI Conclave Deep Tech in Digital Transformation
2nd Feb 2024, Arichi College of Arts & Science, Chennai, ISBN : 978-81-964523-2-2

Analysis of Procedural Content Generation and Non-Player Character Behaviour in AI Games

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ABSTRACT: This research paper delves into the revolutionary influence of artificial intelligence (AI) on the gaming world. This study shows the use of sophisticated algorithms for dynamically adjusting game balance and difficulty. In addition, it also focuses on AI's wide-ranging impact, including non-player character (NPC) behaviour, procedural content generation, and tailor-made gaming experiences. The proposed work involves an analysis of case studies from some of the most notable games. The results of this study showcase the transformative impact of AI in heightening the authenticity, involvement, and flexibility of games. It sheds light on AI's potential to completely transform game creation and enhance user engagement, highlighting its profound influence. Furthermore, the importance of ethical considerations and regulatory frameworks in AI-driven gaming is emphasized.

PROJECTS

Students have been continuously exhibiting their projects at the Chennai Trade Fair from 2019 to 2023, organized by the Government of Tamil Nadu in Island Grounds.

In 2019, the B.C.A. students of M.O.P. Vaishnav College for Women clinched the Chief Minister's Award for Excellence in e-Governance for Students by developing an Android application. The B.C.A. students have earned the RamanuGen distinction from the esteemed Mathematics Society of Ramanujan College, Delhi

