SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY (AUTONOMOUS)

VIDYA NAGAR, PALISSERY, KARUKUTTY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Curriculum for Master of Computer Applications (MCA)

2026 Scheme • Semesters S1 – S4

Vision

- To be among the leading CSE departments, developing ethical engineers and impactful research aligned with societal and sustainable development goals.

Mission

- Provide Computer Science education that cultivates creativity, problem-solving, and a passion for lifelong learning.
- Develop competent Computer Science professionals by fostering teamwork, leadership and ethical responsibility.
- Promote impactful research in cybersecurity to address societal challenges and support sustainable development.

Program Outcomes (POs)

- PO1: Engineering Knowledge: Apply math, science, computing, and engineering fundamentals to complex problems.
- PO2: Problem Analysis: Formulate and analyse complex engineering research and literature.
- PO3: Design/Development of Solutions: Design solutions considering public safety, cost, and net-zero carbon goals.
- PO4: Conduct Investigations: Use research methods, experiment design, and data analysis for valid conclusions.
- PO5: Engineering Tool Usage: Select and apply modern engineering and IT tools with an understanding of limits.
- PO6: The Engineer and the World: Evaluate societal, health, legal, and environmental sustainability impacts
- PO7: Ethics: Apply professional ethics, human values, inclusivity, and legal compliance.
- PO8: Individual and Collaborative Teamwork: Function effectively as an individual or team leader.
- PO9: Communication: Communicate and write effectively across diverse cultural and technical communities.
- PO10: Project Management and Finance: Apply management and economic principles in multidisciplinary settings.
- PO11: Life-Long Learning: Adapt to emerging technologies and engage in independent critical thinking.

ABBREVIATIONS & COURSE CATEGORIES

L – Lecture (hours)	T – Tutorial (hours)	P – Practical (hours)
SL – Self-Learning (hours)	MC – Massive Open Online Course (MOOC)	Cr. - Credits
IAT-1 / IAT-2 – Internal Assessment Test 1 / 2	CIA – Continuous Internal Assessment	SEE – Semester End Examination
CC – Common Courses	CC-PC Common Courses-– Programme Core	PC - Programme Core Courses
PE – Programme Elective Courses	CC-SEC Common Course-Skill Enhancement Course	PS – Project Work / Seminar/ Comprehensive Viva
MOOC – Massive Open Online Course	PCL – Programme Core Laboratory Courses	

SEMESTER 1 (S1)

Sl.	Slot	Course Code	Course Title	Type	Cat.	Cr.	Hour Structure				Total Hrs	CIA	SEE	Total Marks
							L	T	P	SL				
1	A	26PCMCA101	Mathematical Foundations for Computing	CC	PC	4	45	15	-	60	120	40	60	100
2	B	26PCMCA102	Digital Fundamentals & Computer Architecture	PC	PC	4	45	15	-	60	120	40	60	100
3	C	26PCMCA103	Advanced Data Structures	PC	PC	4	45	15	-	60	120	40	60	100
4	D	26PCMCA104	Advanced Software Engineering	PC	PC	4	45	15	-	60	120	40	60	100
5	E	26PLMCA105	Programming Lab	PCL	PCL	2	-	-	45	15	60	50	50	100
6	F	26PLMCA106	Data Structures Lab	PCL	PCL	2	-	-	45	15	60	50	50	100
7		26SEMCA107	Entrepreneurship & Innovations in Technology	CC	SEC	1	15	-	-	15	30	100	-	100
8			Minimum one MOOC Course is to be completed	MC	MC	2	-	-	-	60	60	-	-	-
TOTAL						**23**	**195**	**60**	**90**	**345**	**690**	**360**	**340**	**700**

SEMESTER 2 (S2)

Sl.	Slot	Course Code	Course Title	Type	Cat.	Cr.	Hour Structure				Total Hrs	CIA	SEE	Total Marks
							L	T	P	SL				
1	A	26PCMCA201	Advanced Database Management Systems	PC	PC	4	45	15	-	60	120	40	60	100
2	B	26PCMCA202	Advanced Computer Networks	PC	PC	4	45	15	-	60	120	40	60	100
3	C	26PEMCA21N	Elective 1	PE	PE	3	45	-	-	45	90	40	60	100
4	D	26PEMCA22N	Elective 2	PE	PE	3	45	-	-	45	90	40	60	100
5	E	26PLMCA203	Object Oriented Programming Lab	PCL	PCL	2	-	-	45	15	60	50	50	100
6	F	26PLMCA204	Advanced DBMS Lab	PCL	PCL	2	-	-	45	15	60	50	50	100
7		26SEMCA205	Industrial Readiness Training	CC	SEC	1	15	-	-	15	30	100	-	100
8			Second MOOC Course is to be completed	MC	MC	2	-	-	-	60	60	-	-	-
TOTAL						**21**	**195**	**30**	**90**	**315**	**630**	**360**	**340**	**700**

SEMESTER 3 (S3)

Sl.	Slot	Course Code	Course Title	Type	Cat.	Cr.	Hour Structure				Total hrs	CIA	SEE	Total Marks
							L	T	P	SL				
1	A	26PCMCA301	Data Science & Machine Learning	PC	PC	4	45	15	-	60	120	40	60	100
2	B	26PCMCA302	Design & Analysis of Algorithms	PC	PC	4	45	15	-	60	120	40	60	100
3	C	26PEMCA31N	Elective 3	PE	PE	3	45	-	-	45	90	40	60	100
4	D	26PEMCA32N	Elective 4	PE	PE	3	45	-	-	45	90	40	60	100
5	E	26PLMCA303	Data Science Lab	PCL	PCL	2	-	-	45	15	60	50	50	100
6	F	26PLMCA304	Mobile Application Development Lab	PCL	PCL	2	-	-	45	15	60	50	50	100
7		26PSMCA305	Mini Project	PS	PS	2	-	-	60	-	60	100	-	100
8		26SEMCA306	Domain Expertise Workshops	CC	SEC	1	15	-	-	15	30	100	-	100
TOTAL						**21**	**195**	**30**	**150**	**255**	**630**	**460**	**340**	**800**

SEMESTER 4 (S4)

Sl.	Slot	Course Code	Course Title	Type	Cat.	Cr.	Hour Structure				Total hrs	CIA	SEE	Total Marks
							L	T	P	SL				
1	G	26PSMCA401	Comprehensive Viva	PS	PS	4	-	-	-	120	120	-	100	100
2		26PSMCA402	Seminar	PS	PS	2	-	-	60	-	60	50	-	50
3	H	26PSMCA403	Main Project	PS	PS	8	-	-	240	-	240	70	30	100
4	E	26PLMCA404	Web Programming Lab	PCL	PCL	2	-	-	45	15	60	50	50	100
5	F	26PLMCA405	Networking & System Administration Lab	PCL	PCL	2	-	-	45	15	60	50	50	100
TOTAL						**18**	**0**	**0**	**390**	**150**	**540**	**220**	**230**	**450**

TOTAL PROGRAMME CREDITS (S1 – S4): 83

PROGRAMME ELECTIVES

PROGRAM ELECTIVE-1

Sl.	Course Code	Course Title	Type	Cat.	Cr.	Hour Structure					Total Marks	
						L	T	P	SL	Total Hrs	CIA	SEE
1	26PEMCA211	Applied Statistics	PE	PE	3	45	-	-	45	90	40	60
2	26PEMCA212	Organizational Behavior	PE	PE	3	45	-	-	45	90	40	60
3	26PEMCA213	Functional Programming	PE	PE	3	45	-	-	45	90	40	60
4	26PEMCA214	Virtualization and Containers	PE	PE	3	45	-	-	45	90	40	60
5	26PEMCA215	Advanced Operating Systems	PE	PE	3	45	-	-	45	90	40	60
6	26PEMCA216	Soft Computing	PE	PE	3	45	-	-	45	90	40	60

PROGRAM ELECTIVE-2

Sl.	Course Code	Course Title	Type	Cat.	Cr.	Hour Structure					Total Marks	
						L	T	P	SL	Total Hrs	CIA	SEE
1	26PEMCA221	Business Management	PE	PE	3	45	-	-	45	90	40	60
2	26PEMCA222	Embedded Systems	PE	PE	3	45	-	-	45	90	40	60
3	26PEMCA223	Computer Graphics	PE	PE	3	45	-	-	45	90	40	60
4	26PEMCA224	Artificial Intelligence	PE	PE	3	45	-	-	45	90	40	60
5	26PEMCA225	IPR and Cyber Laws	PE	PE	3	45	-	-	45	90	40	60
6	26PEMCA226	Data Analytics	PE	PE	3	45	-	-	45	90	40	60

PROGRAM ELECTIVE-3

Sl.	Course Code	Course Title	Type	Cat.	Cr.	Hour Structure					Total Marks	
						L	T	P	SL	Total Hrs	CIA	SEE
1	26PEMCA311	Operations Research	PE	PE	3	45	-	-	45	90	40	60
2	26PEMCA312	Cyber Security & Cryptography	PE	PE	3	45	-	-	45	90	40	60
3	26PEMCA313	Cloud Computing	PE	PE	3	45	-	-	45	90	40	60
4	26PEMCA314	Cyber Forensics	PE	PE	3	45	-	-	45	90	40	60
5	26PEMCA315	Compiler Design	PE	PE	3	45	-	-	45	90	40	60

PROGRAM ELECTIVE-4

Sl.	Course Code	Course Title	Type	Cat.	Cr.	Hour Structure					Total Marks	
						L	T	P	SL	Total Hrs	CIA	SEE
1	26PEMCA321	Internet of Things	PE	PE	3	45	-	-	45	90	40	60
2	26PEMCA322	Deep Learning	PE	PE	3	45	-	-	45	90	40	60
3	26PEMCA323	Digital Image Processing	PE	PE	3	45	-	-	45	90	40	60
4	26PEMCA324	Bioinformatics	PE	PE	3	45	-	-	45	90	40	60
5	26PEMCA325	Social Network Analysis	PE	PE	3	45	-	-	45	90	40	60