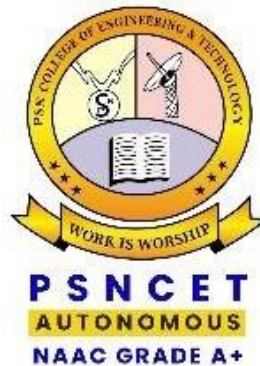


PSN College of Engineering and Technology



Department of Computer Science and Engineering

R 2022- Curriculum (I to VIII Semester)

Vision and Mission of the Institute

Vision

Emerge as a pioneer institute inculcating engineering education and skills, research, values and ethics.

Mission

- **To achieve greater heights of excellence in technical knowledge and skill development through innovative teaching and learning practices.**
- **To develop the state of art infrastructure to meet the demands of technological revolution.**
- **To improve and foster research in all dimensions for betterment of society.**
- **To develop individual competencies to enhance innovation, employability and entrepreneurship among students.**
- **To instill higher standards of discipline among students, inculcating ethical and moral values for societal harmony and peace**

Vision and Mission of the Department

Vision

To emerge as a preeminence program to produce quality Computer Science and Engineering graduates.

Mission

- **To enhance professional and entrepreneurial skills through industry institute interaction to enable them in getting better placement**
- **To promote research and continuing education**
- **To train the students according to their discipline to meet dynamic needs of the society**

Program Outcomes (POs)

PO's No	KNOWLEDGE	STATEMENTS
1	Engineering Knowledge:	Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2	Problem Analysis:	Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3	Design / Development of Solutions:	Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4	Conduct Investigations of Complex Problems:	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5	Modern Tool usage:	Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an UN 2 of the limitations.
6	The Engineer and Society:	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7	Environment and Sustainability:	Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8	Ethics:	Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9	Individual and Team Work:	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10	Communication:	Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11	Project Management and Finance:	Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12	Life-long Learning:	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Educational Objectives (PEOs)

S.No	Topic	PEOs
PEO1	Fundamental Knowledge	Graduates will be able to perform in technical and managerial roles ranging from design, development and problem solving to suit to the industrial needs
PEO2	Career Development	Graduates will be able to successfully pursue higher education and also Graduates will have the ability to adapt, contribute and innovate new technologies in different domains of Computer Science and Engineering
PEO3	Social Identity	Graduates will be ethically and socially responsible engineers in Computer Science and Engineering disciplines

Program Specific Outcomes (PSOs)

Graduating student shall be able to:

PSO1	The computer science and Engineering graduates are able to analyze, design, develop, test and apply Management strategy, Mathematical concept in the development of computational solutions, make them expert in computer software and hardware.
PSO2	Proficient and Innovative with a strong cognizance in the IOT, through the application of acquired knowledge and skills.

CURRICULAM
B.E. COMPUTER SCIENCE AND ENGINEERING
Regulation R2022

Sl.No	Course code	Course Name	Category		L	T	P	C
1	IC610001	Professional English I	ICC	Theory	2	0	0	2
2	IC610002	Matrices and Calculus	ICC	Theory	2	1	0	3
3	IC610003	Engineering Physics	ICC	Theory	3	0	0	3
4	IC610004	Engineering Chemistry	ICC	Theory	3	0	0	3
5	CS610005	Problem Solving and 'C' Programming	ICC	Theory	3	0	0	3
6	ME610006	Engineering Graphics with CAD	ICC	Theory with Practical Component	2	0	2	3
7	IP610101	Physics & Chemistry Laboratory	ICC	Practical	0	0	3	1.5
8	IP610102	Programming in 'C' Laboratory	ICC	Practical	0	0	3	1.5
9		NCC/NSS/NSO *	IMC	Institute Mandatory	1*	0	0	0
10	IC610007	Tamil marabu/Heritage of Tamil	ICC	Theory	1	0	0	1
		Total			17	1	8	21

Sem - 02

11	IC620008	Professional English II	ICC	Theory with Practical Component	2	0	2	3
12	IC620009	Transforms & Partial Differential Equations	ICC	Theory	2	1	0	3
13	IC620010	Engineering Materials (for Non Circuit Branches)	ICC	Theory	3	0	0	3
	IC620011	Semiconductor Physics (for Circuit Branches)			3	0	0	
14	ME620012	Engineering Mechanics (for Non Circuit Branches)	PCC	Theory	3	0	0	3
	CS620013	Fundamentals of Artificial Intelligence (for Circuit Branches)			3	0	0	

15	CS620014	Python Programming	ICC	Theory	3	0	0	3
16	EE620015	Basic Engineering	ICC	Theory	3	0	0	3
17	IP620103	Python Laboratory	ICC	Practical	0	0	3	1.5
18	IP620104	Engineering practice laboratory	ICC	Practical	0	0	3	1.5
19	IM610401	Environmental Studies	IMC	Institute Mandatory	2*	0	0	0
20	IC620016	Tamils and technology	ICC	Theory	1	0	0	1
		Total			19	1	8	22

Sem - 03

21	IC630017	Numerical Methods and Statistics	ICC	Theory	3	0	0	3
22	CS630201	Computer Organization and Architecture	PCC	Theory with Practical Component	2	0	2	3
23	CS630202	Data Structures using C++	PCC	Theory	3	0	0	3
24	CS630203	Database Management Systems	PCC	Theory	3	0	0	3
25	CS630204	Operating Systems	PCC	Theory	3	0	0	3
26		Professional elective-1	PEC	Theory	3	0	0	3
27	CS630301	Data Structures using C++ laboratory	PCC	Practical	0	0	3	1.5
28	CS630302	Database Application laboratory	PCC	Practical	0	0	3	1.5
29	CS630501	Integrated Aptitude Skills - I (Lower)	EEC	skill based course	0	0	1	0.5#
30	IM630402	Universal Human Values	IMC	Institute Mandatory	2*	0	0	0
		Total			19	0	9	21

Sem - 04

31	IC640018	Boundary value problems and probability distributions	ICC	Theory	3	0	0	3
32	EC640907	Digital Electronics and Microprocessor	PCC	Theory with Practical Component	2	0	2	3
33		Object Oriented Programming	PCC	Theory	3	0	0	3

	CS640205	using JAVA						
34	CS640206	Software Engineering	PCC	Theory	3	0	0	3
35		Professional elective-2	PEC	Theory	3	0	0	3
36		Institute elective -1	IEC	Theory	3	0	0	3
37	CS640303	Java Programming laboratory	PCC	Practical	0	0	3	1.5
38	CS640304	Office Automation Laboratory	PCC	Practical	0	0	3	1.5
39	CS640502	Integrated Aptitude Skills - II (Lower)	EEC	skill based course	0	0	1	0.5 [#]
40		Inplant Training (2 Weeks)	IMC	Institute Mandatory				0
		Total			17	0	9	21

Sem - 05

41	CS650207	Computer Networks and Management	PCC	Theory with Practical Component	2	0	2	3
42	CS650208	Web Programming	PCC	Theory	3	0	0	3
43	CS650209	Object Oriented Analysis and Design	PCC	Theory	3	0	0	3
44		Institute elective -2	IEC	Theory	3	0	0	3
45		Professional elective-3	PEC	Theory	3	0	0	3
46		Professional elective-4	PEC	Theory	3	0	0	3
47	CS650305	Web Application development laboratory	PCC	Practical	0	0	3	1.5
48	CS650306	Object Oriented Analysis and Design laboratory	PCC	Practical	0	0	3	1.5
49	CS650503	Integrated Aptitude Skills - I (Higher)	EEC	skill based course	0	0	2	1 [#]
50	CS650801	IT Project Management	PMC	Programme Mandatory	2*	0	0	0
		Total			20	0	8	21

Sem - 06

51	CS660210	Computer Graphics and Multimedia	PCC	Theory with Practical Component	2	0	2	3
52	CS660211	Cloud Technologies	PCC	Theory	3	0	0	3

53	CS660212	Machine Learning	PCC	Theory	3	0	0	3
54		Institute elective -3	IEC	Theory	3	0	0	3
55		Professional elective-5	PEC	Theory	3	0	0	3
56		Professional elective-6	PEC	Theory	3	0	0	3
57	CS660307	Cloud Technologies laboratory	PCC	Practical	0	0	3	1.5
58	CS660308	Machine Learning laboratory	PCC	Practical	0	0	3	1.5
59	CS660504	Training in IoT using arduino	EEC	skill based course	0	0	2	1 [#]
60	IM660403	Professional Ethics	IMC	Institute Mandatory	2*	0	0	0
61		Internship	IMC	Institute Mandatory				0
		Total			19	0	10	21

Sem - 07

62	CS670213	Artificial Intelligence with Machine Learning	PCC	Theory with Practical Component	2	0	2	3
63	CS670214	Industry 4.0: Augmented Reality	PCC	Theory	3	0	0	3
64	CS670215	Deep Learning	PCC	Theory	3	0	0	3
65		Institute elective -3	IEC	Theory	3	0	0	3
66		Professional elective-7	PEC	Theory	3	0	0	3
67		Professional elective-8	PEC	Theory	3	0	0	3
68	CS670309	Artificial Intelligence with Machine Learning laboratory	PCC	Practical	0	0	3	1.5
69	CS670310	Advance Python Programming laboratory	PCC	Practical	0	0	3	1.5
70	MG670019	Innovation Entrepreneurship and Startups	ICC	Theory	3	0	0	3
71	CS670505	Advanced career development	EEC	skill based course	0	0	2	1 [#]
		Total			20	0	10	24

Sem - 08

72	CS680506	Project Work	EEC	Practical	0	0	20	10
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The credits will not be included for CGPA calculation.

*Mandatory courses for which no credits are assigned.

Semester wise Total credits									
SEM	I	II	III	IV	V	VI	VII	VIII	Total
Credit	21	22	21	21	21	21	24	10	161

Abbreviation	Particulars
ICC	Institute Core Course (includes Basic science, Engineering science, humanities & social science including management course)
PCC	Professional Core Course
PE	Professional Elective Course
IE	Institute Elective (open electives)
EEC	Employability Enhancement course
IMC	Institute Mandatory Course
PMC	Programme Mandatory Course

Vertical 1 : Full Stack Development

1	CS606101	Design And Analysis of Algorithms (NPTEL)	PE	Theory	3	0	0	3
2	CS606102	App Development	PE	Theory	3	0	0	3
3	CS606103	PHP Programming	PE	Theory	3	0	0	3
4	CS606104	UI and UX Design	PE	Theory	3	0	0	3
5	CS606105	Software Testing (NPTEL)	PE	Theory	3	0	0	3
6	CS606106	Web Application Security	PE	Theory	3	0	0	3
7	CS606107	Dev-ops	PE	Theory	3	0	0	3
8	CS606108	Principles of Programming Languages	PE	Theory	3	0	0	3
9	CS606109	Social Networks (NPTEL)	PE	Theory	3	0	0	3
10	CS606110	Multimedia Technology	PE	Theory	3	0	0	3

Vertical 2: Cloud and Data Science

1	CS606201	Cloud Computing (NPTEL)	PE	Theory	3	0	0	3
2	CS606202	Virtualization	PE	Theory	3	0	0	3
3	CS606203	Cloud Computing And Distributed Systems (NPTEL)	PE	Theory	3	0	0	3
4	CS606204	Data Warehousing	PE	Theory	3	0	0	3
5	CS606205	Storage Technologies	PE	Theory	3	0	0	3
6	CS606206	Software Defined Networks (Common to ECE&CSE)	PE	Theory	3	0	0	3
7	CS606207	Grid Computing	PE	Theory	3	0	0	3
8	CS606208	Security and Privacy in Cloud	PE	Theory	3	0	0	3
9	CS606209	IoT and Cloud	PE	Theory	3	0	0	3
10	CS606210	Google Cloud Computing Foundations (NPTEL)	PE	Theory	3	0	0	3

Vertical 3: Cyber Security

1	CS606301	Ethical Hacking (NPTEL)	PE	Theory	3	0	0	3
2	CS606302	Digital and Mobile Forensics	PE	Theory	3	0	0	3
3	CS606303	Systems And Usable Security (NPTEL)	PE	Theory	3	0	0	3
4	CS606304	Modern Cryptography	PE	Theory	3	0	0	3
5	CS606305	Engineering Secure software systems	PE	Theory	3	0	0	3
6	CS606306	Crypto currency and Block chain Technologies	PE	Theory	3	0	0	3
7	CS606307	Cryptography And Network Security (NPTEL)	PE	Theory	3	0	0	3
8	CS606308	Network Management	PE	Theory	3	0	0	3
9	CS606309	Cyber Crime And Laws	PE	Theory	3	0	0	3
10	CS606310	Design of Network Router	PE	Theory	3	0	0	3

Vertical 4: INTERNET OF THINGS (Common to ECE&CSE)

1	CS606401	Introduction to Internet Of Things (NPTEL)	PE	Theory	3	0	0	3
2	CS606402	IoT Architecture and Framework	PE	Theory	3	0	0	3
3	CS606403	Communication Protocols For IoT	PE	Theory	3	0	0	3
4	CS606404	Cloud Services for IoT	PE	Theory	3	0	0	3
5	CS606405	Computer Networks And Internet Protocol (NPTEL)	PE	Theory	3	0	0	3
6	CS606406	Privacy and Security in IoT	PE	Theory	3	0	0	3
7	CS606407	IoT Platform for Smart City Planning	PE	Theory	3	0	0	3
8	CS606408	IoT for Smart Grids	PE	Theory	3	0	0	3
9	CS606409	IoT and its Applications	PE	Theory	3	0	0	3
10	CS606410	Introduction To Industry 4.0 And Industrial Internet Of Things (NPTEL)	PE	Theory	3	0	0	3

Vertical 5: Block chain

1	CS606501	Foundations of Cryptography (NPTEL)	PE	Theory	3	0	0	3
2	CS606502	Blockchain And Its Applications (NPTEL)	PE	Theory	3	0	0	3
3	CS606503	Blockchain Technologies	PE	Theory	3	0	0	3
4	CS606504	Blockchain Architecture Design And Use Cases (NPTEL)	PE	Theory	3	0	0	3
5	CS606505	Blockchain Platforms	PE	Theory	3	0	0	3
6	CS606506	Blockchain Forensics	PE	Theory	3	0	0	3
7	CS606507	Robot Manipulator Control	PE	Theory	3	0	0	3
8	CS606508	Computer Vision With Open cv	PE	Theory	3	0	0	3
9	CS606509	Internet Security	PE	Theory	3	0	0	3
10	CS606510	Intelligent Transport Systems	PE	Theory	3	0	0	3

Vertical 6: DIVERSIFIED COURSES

1	CS606601	Data Analytics With Python (NPTEL)	PE	Theory	3	0	0	3
2	CS606602	Problem Solving Using Python	PE	Theory	3	0	0	3
3	CS606603	Data Science For Engineers (NPTEL)	PE	Theory	3	0	0	3
4	CS606604	Database Design (NPTEL)	PE	Theory	3	0	0	3
5	CS606605	Matlab Programming For Engineers	PE	Theory	3	0	0	3
6	CS606606	Robotics And Its Applications	PE	Theory	3	0	0	3
7	CS606607	Adhoc Networks	PE	Theory	3	0	0	3
8	CS606608	Principles of Distributed Systems	PE	Theory	3	0	0	3
9	CS606609	Python Scripting	PE	Theory	3	0	0	3
10	CS606610	Implement Rust	PE	Theory	3	0	0	3

Vertical 7: Artificial Intelligence

1	CS606701	Artificial Intelligence In Finance	PE	Theory	3	0	0	3
2	CS606702	Optimization For Machine Learning (Nptel)	PE	Theory	3	0	0	3
3	CS606703	Design Thinking In Artificial Intelligence	PE	Theory	3	0	0	3
4	CS606704	Artificial Intelligence And Reinforcement Learning	PE	Theory	3	0	0	3
5	CS606705	Machine Learning For Soil And Crop Management (Nptel)	PE	Theory	3	0	0	3
6	CS606706	Computational Intelligence	PE	Theory	3	0	0	3
7	CS606707	Deep Learning For Visual Computing (Nptel)	PE	Theory	3	0	0	3
8	CS606708	Soft Computing	PE	Theory	3	0	0	3
9	CS606709	Text And Speech Analysis	PE	Theory	3	0	0	3
10	CS606710	Machine Learning Techniques	PE	Theory	3	0	0	3

INSTITUTE ELECTIVE I

S.No	Course code	Course Name	Dept	Classification	L	T	P	C
1	CS607106	Augmented Reality / Virtual Reality	CSE	IE Theory	3	0	0	3
2	CS607107	Robotic Process Automation	CSE	IE Theory	3	0	0	3

INSTITUTE ELECTIVE II

S.No	Course code	Course Name	Dept	Classification	L	T	P	C
1	CS607205	Neural Networks and Deep Learning	CSE	IE Theory	3	0	0	3
2	CS607206	Cyber security	CSE	IE Theory	3	0	0	3

INSTITUTE ELECTIVE III

S.No	Course code	Course Name	Dept	Classification	L	T	P	C
1	CS607305	Front End Development	CSE	IE Theory	3	0	0	3
2	CS607306	Block Chain Architecture	CSE	IE Theory	3	0	0	3
3	CS607307	Optimization Techniques	CSE	IE Theory	3	0	0	3

INSTITUTE ELECTIVE IV

S.No	Course code	Course Name	Dept	Classification	L	T	P	C
1	CS607404	Decision Making Methods	CSE	IE Theory	3	0	0	3
2	CS607405	Web Design And Development	CSE	IE Theory	3	0	0	3
3	CS607406	JAVA Programming	CSE	IE Theory	3	0	0	3

