



Kongunadu College of Engineering and Technology (Autonomous)
Affiliated to Anna University, Chennai
B.Tech. – Artificial Intelligence and Data Science
Regulations: KNCET-UGR2024
Choice Based Credit System
I to VIII Semesters Curricula
(Applicable for the students Admitted from 2024-25 Onwards)

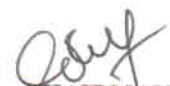
Semester – I							
S.No	Course Code	Course Title	Course Category	No. of Hours / Week			Credit
				L	T	P	
1.	24MC001	Induction Programme	MC	-	-	-	0
Theory							
2.	24EN101	Communicative English	HSMC	3	0	0	3
3.	24MA101	Matrices and Calculus	BSC	3	1	0	4
4.	24PH101	Engineering Physics	BSC	3	0	2	4
5.	24CY101	Engineering Chemistry	BSC	3	0	2	4
6.	24GE101	Computer Fundamentals and C Programming	ESC	3	0	0	3
7.	24TA101	தமிழர் மரபு / Heritage of Tamils	HSMC	1	0	0	1
Practical							
8.	24GE103L	C Programming Laboratory	ESC	0	0	3	1.5
9.	24EEC101L	Interpersonal Communication Laboratory	EEC	0	0	2	1
Total				16	1	9	21.5

Semester – II							
S.No	Course Code	Course Title	Course Category	No. of Hours / Week			Credit
				L	T	P	
Theory							
1.	24EN201	Technical English	HSMC	3	0	0	3
2.	24MA201	Vector Calculus and Complex Integration	BSC	3	1	0	4
3.	24MC002	Universal Human Values 2: Understanding Harmony	MC	2	1	0	3
4.	24CY201	Environmental Science	BSC	3	0	0	3
5.	24GE102	Engineering Graphics	BSC	3	0	2	4
6.	24AD201	Python Programming	ESC	3	0	0	3
7.	24TA201	தமிழரும் தொழில்நுட்பமும் / Tamils and Technology	HSMC	1	0	0	1
Practical							
8.	24AD202L	Python Programming Laboratory	ESC	0	0	3	1.5
9.	24GE104L	Engineering Practices Laboratory	ESC	0	0	4	2
10.	24EEC2011	Professional Communication Laboratory	EEC	0	0	2	1
Total				19	1	6	25.5

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Semester – III							
S.No	Course Code	Course Title	Course Category	No. of Hours / Week			Credit
				L	T	P	
Theory							
1.	24MA301	Discrete Mathematics and Linear Programming	BSC	3	1	0	4
2.	24AD301	Foundations of Data Science	PCC	3	0	0	3
3.	24CS301	Data Structures	PCC	3	0	0	3
4.	24CS302	Object Oriented Programming using Java	PCC	3	0	0	3
5.	24CS303	Principles of Operating Systems	PCC	3	0	2	4
6.	24EC304	Digital Logic and Computer Organizations	PCC	3	0	0	3
Practical							
7.	24CS304L	Data Structures Laboratory	PCC	0	0	2	1
8.	24AD302L	Fundamentals of Data Science Laboratory	PCC	0	0	2	1
9.	24EEC301L	Soft Skills Development	EEC	0	0	2	1
Total				20	1	8	23

Semester – IV							
S.No	Course Code	Course Title	Course Category	No. of Hours / Week			Credit
				L	T	P	
Theory							
1.	24MA403	Probability and Statistics	BSC	3	1	0	4
2.	24AD401	Artificial Intelligence	PCC	3	0	0	3
3.	24AD402	Big Data Analytics	PCC	3	0	0	3
4.	24CS401	Computer Networks	PCC	3	0	0	3
5.	24IT401	Database Design and Management	PCC	3	0	0	3
6.	24MC003	Constitution of India	MC	2	0	0	0
Practical							
7.	24AD403L	Big Data Analytics Laboratory	PCC	0	0	2	1
8.	24AD404L	Artificial Intelligence Laboratory	PCC	0	0	2	1
9.	24IT402L	Database Design and Management Laboratory	PCC	0	0	2	1
10.	24EEC401L	Life Skills and Personality Development	EEC	0	0	2	1
Total				20	1	8	20


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Semester – V							
S.No	Course Code	Course Title	Course Category	No. of Hours / Week			Credit
				L	T	P	
Theory							
1.	24AD501	Business Analytics	PCC	3	0	0	3
2.	24AD502	Text Analytics	PCC	3	0	0	3
3.	24AD503	Machine Learning Techniques	PCC	3	0	0	3
4.	24IT501	Web Technology	PCC	3	0	2	4
5.		Professional Elective-I	PEC	3	0	0	3
6.		Open Elective-I	OEC	3	0	0	3
Practical							
7.	24AD504L	Machine Learning Laboratory	PCC	0	0	2	1
8.	24AD505L	Mini Project-I	EEC	0	0	2	1
9.	24EEC501L	Professional Skills Development	EEC	0	0	2	1
Total				15	0	8	22

Semester – VI							
S.No	Course Code	Course Title	Course Category	No. of Hours / Week			Credit
				L	T	P	
Theory							
1.	24AD601	Computer Vision	PCC	3	0	0	3
2.	24AD602	R Programming	PCC	3	0	2	4
3.	24AD603	Deep Learning	PCC	3	0	0	3
4.		Professional Elective-II	PEC	3	0	0	3
5.		Professional Elective-III	PEC	3	0	0	3
6.		Open Elective-II	OEC	3	0	0	3
Practical							
7.	24AD604L	Deep Learning Laboratory	PCC	0	0	2	1
8.	24AD605L	Mini Project-II	EEC	0	0	2	1
9.	24EEC601L	Employability Skills	EEC	0	0	2	1
Total				18	0	8	22


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Semester – VII							
S.No	Course Code	Course Title	Course Category	No. of Hours / Week			Credit
				L	T	P	
Theory							
1.	24CS710	Cloud and Distributed Computing	PCC	3	0	0	3
2.	24IT701	Cryptography and Network Security	PCC	3	0	0	3
3.	24ME708PE	Principles of Management	HSMC	3	0	0	3
4.		Professional Elective-IV	PEC	3	0	0	3
5.		Professional Elective-V	PEC	3	0	0	3
Practical							
6.	24CS702L	Cloud Computing Laboratory	PCC	0	0	2	1
7.	24IT702L	Security Laboratory	PCC	0	0	2	1
Total				15	0	4	17

Semester – VIII							
S.No	Course Code	Course Title	Course Category	No. of Hours / Week			Credit
				L	T	P	
Theory							
1.		Professional Elective-VI	PEC	3	0	0	3
2.		Professional Elective-VII	PEC	3	0	0	3
Practical							
3.	24AD801L	Project Work	EEC	0	0	20	10
Total				6	0	20	16

Total no. of credits: 167


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PROFESSIONAL ELECTIVE COURSES: VERTICALS

Vertical I	Vertical II	Vertical III	Vertical IV	Vertical V	Vertical VI	Vertical VII
Intelligent Systems and Analytics	Full Stack Development for IT	Cloud Computing and Data Center Technology	Cyber Security and Data Privacy	Creative Media	Emerging Technologies	Computational Intelligence
Knowledge Representation and Reasoning	Mobile Application Development	Virtualization Techniques	Cyber Security and Privacy	Augmented Reality / Virtual Reality	Robotics Process Automation	Optimization Techniques
Recommender Systems	User Interface Design	Data Warehousing	Digital Forensics	Computer Graphics and Multimedia	Neural Networks and Deep Learning	Reinforcement Learning
Natural Language Processing	Software Development with Python	Storage Technologies	Modern Cryptography	Video Creation and Editing	Quantum Computing	Game Theory
Health Care Analytics	Web Application Security	Cloud Services Management	Ethical Hacking	Digital Marketing	3D Printing and Design	Ethics and AI
Image and Video Analytics	DevOps	Security and Privacy in Cloud	Secure Software Systems	Multimedia Data Compression and Storage	IoT and its Applications	Agile Methodologies
Engineering Predictive Analytics	XML and Web Services	Edge Computing	Blockchain Technology	Game Development	Prompt Engineering	Soft Computing
Cognitive Science and Analytics	Human Computer Interaction	Information Retrieval Techniques	Network Security	System Design	Social Network Analysis	Genetic Algorithms

Registration of Professional Elective Courses from Verticals:

- Professional Elective Courses will be registered in Semesters V and VIII. These courses are listed in groups called verticals that represent a particular area of specialization / diversified group. Students are permitted to choose all the Professional Electives from a particular vertical or from different verticals. Further, only one Professional Elective course shall be chosen in a semester horizontally (row-wise). However, two courses are permitted from the same row.
- The registration of courses for B.E./B.Tech (Honours) or Minor degree shall be done from Semester V to VIII. The procedure for registration of courses explained above shall be followed for the courses of B.E./B.Tech (Honours) or Minor degree also.


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PROFESSIONAL ELECTIVE COURSES (PEC): VERTICALS
Vertical I: Intelligent Systems and Analytics

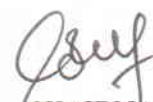
S.No.	Course Code	Name of the Course	Course Category	No. of Hours / Week			Credit
				L	T	P	
1	24AD101PE	Knowledge Representation and Reasoning	PEC	3	0	0	3
2	24AD102PE	Recommender Systems	PEC	3	0	0	3
3	24AD103PE	Natural Language Processing	PEC	3	0	0	3
4	24AD104PE	Health Care Analytics	PEC	3	0	0	3
5	24CS104PE	Image and Video Analytics	PEC	3	0	0	3
6	24AD105PE	Engineering Predictive Analytics	PEC	3	0	0	3
7	24AD106PE	Cognitive Science and Analytics	PEC	3	0	0	3

Vertical II: Full Stack Development

S.No.	Course Code	Name of the Course	Course Category	No. of Hours / Week			Credit
				L	T	P	
1	24IT205PE	Mobile Application Development	PEC	3	0	0	3
2	24AD201PE	User Interface Design	PEC	3	0	0	3
3	24CS203PE	Software Development with Python	PEC	3	0	0	3
4	24AD202PE	Web Application Security	PEC	3	0	0	3
5	24CS204PE	DevOps	PEC	3	0	0	3
6	24CS206PE	XML and Web Services	PEC	3	0	0	3
7	24IT704PE	Human Computer Interaction	PEC	3	0	0	3

Vertical III: Cloud Computing and Data Center Technology

S.No.	Course Code	Name of the Course	Course Category	No. of Hours / Week			Credit
				L	T	P	
1	24AD301PE	Virtualization Techniques	PEC	3	0	0	3
2	24AD302PE	Data Warehousing and Data Mining	PEC	3	0	0	3
3	24AD303PE	Storage Technologies	PEC	3	0	0	3
4	24CS302PE	Cloud Services Management	PEC	3	0	0	3
5	24AD304PE	Security and Privacy in Cloud	PEC	3	0	0	3
6	24AD305PE	Edge Computing	PEC	3	0	0	3
7	24AD306PE	Information Retrieval Techniques	PEC	3	0	0	3


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Vertical IV: Cyber Security and Data Privacy

S.No.	Course Code	Name of the Course	Course Category	No. of Hours / Week			Credit
				L	T	P	
1	24AD401PE	Cyber Security and Privacy	PEC	3	0	0	3
2	24AD402PE	Digital Forensics	PEC	3	0	0	3
3	24CS403PE	Modern Cryptography	PEC	3	0	0	3
4	24IT106PE	Ethical Hacking	PEC	3	0	0	3
5	24AD403PE	Secure Software Systems	PEC	3	0	0	3
6	24IT107PE	Blockchain Technology	PEC	3	0	0	3
7	24CS405PE	Network Security	PEC	3	0	0	3

Vertical V: Creative Media

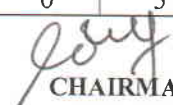
S.No.	Course Code	Name of the Course	Course Category	No. of Hours / Week			Credit
				L	T	P	
1	24CS601PE	Augmented Reality / Virtual Reality	PEC	3	0	0	3
2	24IT301PE	Computer Graphics and Multimedia	PEC	3	0	0	3
3	24CS503PE	Video Creation and Editing	PEC	3	0	0	3
4	24AD501PE	Digital Marketing	PEC	3	0	0	3
5	24AD502PE	Multimedia Data Compression and Storage	PEC	3	0	0	3
6	24AD503PE	Game Development	PEC	3	0	0	3
7	24AD504PE	System Design	PEC	3	0	0	3

Vertical VI: Emerging Technologies

S.No.	Course Code	Name of the Course	Course Category	No. of Hours / Week			Credit
				L	T	P	
1	24AD601PE	Robotics Process Automation	PEC	3	0	0	3
2	24CS602PE	Neural Networks and Deep Learning	PEC	3	0	0	3
3	24AD602PE	Quantum Computing	PEC	3	0	0	3
4	24AD603PE	3D Printing and Design	PEC	3	0	0	3
5	24EC501	IoT and its Applications	PEC	3	0	0	3
6	24AD604PE	Prompt Engineering	PEC	3	0	0	3
7	24AD605PE	Social Network Analysis	PEC	3	0	0	3

Vertical VII: Computational Intelligence

S.No.	Course Code	Name of the Course	Course Category	No. of Hours / Week			Credit
				L	T	P	
1	24CS704PE	Optimization Techniques	PEC	3	0	0	3
2	24AD701PE	Reinforcement Learning	PEC	3	0	0	3
3	24AD702PE	Game Theory	PEC	3	0	0	3
4	24AD703PE	Ethics and AI	PEC	3	0	0	3
5	24AD704PE	Agile Methodologies	PEC	3	0	0	3
6	24EE701PE	Soft Computing	PEC	3	0	0	3
7	24AD705PE	Genetic Algorithms	PEC	3	0	0	3


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SUMMARY

S.No.	Course Category	Credits as per Semester								Total Credit	Percentage
		I	II	III	IV	V	VI	VII	VIII		
1.	HSMC	4	4	-	-	-	-	3	-	11	6.58
2.	BSC	12	11	4	4	-	-	-	-	31	18.56
3.	ESC	4.5	6.5	-	-	-	-	-	-	11	6.58
4.	EEC	1	1	1	1	2	2	-	10	18	10.78
5.	PCC	-	-	18	15	14	11	8	-	66	39.53
6.	PEC	-	-	-	-	3	6	6	6	21	12.58
7.	OEC	-	-	-	-	3	3	-	-	6	3.59
8.	MC	-	3	-	-	-	-	-	-	3	1.80
Total		21.5	25.5	23	20	22	22	17	16	167	100


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ENROLLMENT FOR B.E. / B. TECH. (HONOURS) / MINOR DEGREE (OPTIONAL)

- A student can also optionally register for additional courses (18 credits) and become eligible for the award of B.E. / B. Tech. (Honours) or Minor Degree.
- For B.E. / B. Tech. (Honours), a student shall register for the additional courses (18 credits) from semester V onwards. These courses shall be from the same vertical or a combination of different verticals of the same programme of study only.
- For minor degree, a student shall register for the additional courses (18 credits) from semester V onwards. All these courses have to be in a particular vertical from any one of the other programmes, Moreover, for minor degree the student can register for courses from any one of the following verticals also.

Vertical I	Vertical II	Vertical III	Vertical IV	Vertical V
Domain Name				
Fintech and Block Chain	Entrepreneurship	Public Administration	Business Data Analytics	Environment and Sustainability
Financial Management	Foundations of Entrepreneurship	Principles of Public Administration	Statistics for Management	Sustainable Infrastructure Development
Fundamentals of Investment	Team Building and Leadership Management for Business	Elements of Public Administration	Data Mining for Business Intelligence	Sustainable Agriculture and Environmental Management
Banking, Financial Services and Insurance	Creativity and Innovation in Entrepreneurship	Public Personnel Administration	Human Resource Analytics	Sustainable Bio Materials
Introduction to Blockchain and its Applications	Principles of Marketing Management for Business	Administrative Theories	Marketing and Social Media Web Analytics	Materials for Energy Sustainability
Fintech Personal Finance and Payments	Human Resource Management for Entrepreneurs	Indian Administrative System	Operation and Supply Chain Analytics	Green Technology
Introduction to Fintech	Financing New Business Ventures	Public Policy Administration	Financial Analytics	Environmental Quality Monitoring and Analysis
-	-	-	-	Integrated Energy Planning for Sustainable Development
-	-	-	-	Energy Efficiency for Sustainable Development


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(Choice of courses for Minor degree is to be made from any one vertical of other programmes or from anyone of the following verticals)

Vertical I: Fintech and Block Chain

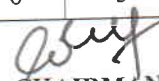
S.No.	Course Code	Course Title	Course Category	No. of Hours/Week			Credit
				L	T	P	
1	24M101	Financial Management	PEC	3	0	0	3
2	24M102	Fundamentals of Investment	PEC	3	0	0	3
3	24M103	Banking, Financial Services and Insurance	PEC	3	0	0	3
4	24M104	Introduction to Blockchain and its Applications	PEC	3	0	0	3
5	24M105	Fintech Personal Finance and Payments	PEC	3	0	0	3
6	24M106	Introduction to Fintech	PEC	3	0	0	3

Vertical II: Entrepreneurship

S.No.	Course Code	Course Title	Course Category	No. of Hours/Week			Credit
				L	T	P	
1	24M201	Foundations of Entrepreneurship	PEC	3	0	0	3
2	24M202	Team Building and Leadership Management for Business	PEC	3	0	0	3
3	24M203	Creativity and Innovation in Entrepreneurship	PEC	3	0	0	3
4	24M204	Principles of Marketing Management for Business	PEC	3	0	0	3
5	24M205	Human Resource Management for Entrepreneurs	PEC	3	0	0	3
6	24M206	Financing New Business Ventures	PEC	3	0	0	3

Vertical III: Public Administration

S.No.	Course Code	Course Title	Course Category	No. of Hours/Week			Credit
				L	T	P	
1	24M301	Principles of Public Administration	PEC	3	0	0	3
2	24M302	Elements of Public Administration	PEC	3	0	0	3
3	24M303	Public Personnel Administration	PEC	3	0	0	3
4	24M304	Administrative Theories	PEC	3	0	0	3
5	24M305	Indian Administrative System	PEC	3	0	0	3
6	24M306	Public Policy Administration	PEC	3	0	0	3


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Vertical IV: Business Data Analytics

S.No.	Course Code	Course Title	Course Category	No. of Hours/Week			Credit
				L	T	P	
1	24M401	Statistics for Management	PEC	3	0	0	3
2	24M402	Data Mining for Business Intelligence	PEC	3	0	0	3
3	24M403	Human Resource Analytics	PEC	3	0	0	3
4	24M404	Marketing and Social Media Web Analytics	PEC	3	0	0	3
5	24M405	Operation and Supply Chain Analytics	PEC	3	0	0	3
6	24M406	Financial Analytics	PEC	3	0	0	3

Vertical V: Environment and Sustainability

S.No.	Course Code	Course Title	Course Category	No. of Hours/Week			Credit
				L	T	P	
1	24M501	Sustainable Infrastructure Development	PEC	3	0	0	3
2	24M502	Sustainable Agriculture and Environmental Management	PEC	3	0	0	3
3	24M503	Sustainable Bio Materials	PEC	3	0	0	3
4	24M504	Materials for Energy Sustainability	PEC	3	0	0	3
5	24M505	Green Technology	PEC	3	0	0	3
6	24M506	Environmental Quality Monitoring and Analysis	PEC	3	0	0	3
7	24M507	Integrated Energy Planning for Sustainable Development	PEC	3	0	0	3
8	24M508	Energy Efficiency for Sustainable Development	PEC	3	0	0	3


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