SRI KRISHNA ARTS AND SCIENCE COLLEGE

An Autonomous College Affiliated to Bharathiar University
Coimbatore-641008, Tamil Nadu, India.

LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK (LOCF)

B.Sc. Artificial Intelligence and Machine Learning
(I to VI Semester)

for 2024-25 admitted Students

DEPARTMENT OF SOFTWARE SYSTEMS

SRI KRISHNA ARTS AND SCIENCE COLLEGE
COIMBATORE – 641008

DEPARTMENT OF SOFTWARE SYSTEMS

(2024-2025)

I. PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)	
Graduates from the B.Sc. **Artificial Intelligence and Machine Learning** Programme are expected to achieve the following PEOs	
PEO 1	Prepare industry relevant quality graduates with programming and critical thinking skills to serve the domestic and global community.
PEO 2	Disseminate the conceptual knowledge in the concerned discipline for societal development and transformation.
PEO 3	Develop as a capable technical industry leader with outstanding communication skills.
PEO 4	Become technically competent in the field of computer science with a passion forlifelong learning.

II. PROGRAMME LEARNING OUTCOMES (PLOs)	
The Graduates of B.Sc. **Artificial Intelligence and Machine Learning** Programme will be able to:	
PLO1	**Knowledge:*(Cognitive)*** Identify the programming and technical knowledge acquired in the current computational demands.
PLO2	**Critical Thinking Skills:*(Cognitive)*** Analyze the complex problems and identify solutions through critical thinkingskills.
PLO3	**Practical Skills:*(Psychomotor)*** Adapt to the latest tools and techniques used to develop domain based innovative solutions with the acquired technical and operational skills.
PLO4	**Teamwork Skills:*(Affective)*** Function and contribute as a team in the diversified environment in taking competitive decision.
PLO5	**Communication Skills:*(Affective)*** Communicate effectively with the computing community as well as society tocomprehend effective documentation and presentation.
PLO6	**Digital Skills:*(Affective)*** Incorporate advanced digital skills in designing, developing, managing and deploying in media and technical field.

PLO7	**Numeracy Skills:*(Cognitive)*** Apply quantitative, numerical and statistical skills to solve challenging problems with effective solutions.
PLO8	**Leadership Skills:*(Affective)*** Articulate leadership skills in motivating the team towards the target in a multi-disciplinary environment.
PLO9	**Lifelong Learning Skills:*(Affective)*** Recognize the need and ability to involve independent and life-long learning inthe changing era of technology.
PLO10	**Entrepreneurial Skills:*(Affective)*** Interpret the impact of professional business solutions on business environment for sustainable development.
PLO11	**Ethics & Professional Skills:*(Affective)*** Follow ethical principles and commit to professional responsibilities for a relevant technical practice.

III. PROGRAMME LEARNING OUTCOMES VS GRADUATE ATTRIBUTES VSTAXONOMY OF VERBS

PLO	Graduate Attributes										Blooms		
	Knowledge	Critical Thinking	Practical Skills	Team work	Communication skills	Digital skills	Numeracy	Leadership skills	Lifelong learning	Entrepreneurial skills	Ethics & Professionalis	Cognitive	Psychomotor	Affective
1	√											√		
2		√										√		
3			√										√	
4				√										√
5					√									√
6						√								√
7							√					√		
8								√						√
9									√					√
10										√				√
11											√			√

IV. PROGRAMME LEARNING OUTOMES VS PROGRAMME EDUCATIONAL OBJECTIVES

PLO	**PEO1**	**PEO2**	**PEO3**	**PEO4**
PLO 1	√			
PLO 2	√			

PLO 3		√		
PLO 4			√	
PLO 5			√	
PLO 6		√		
PLO 7		√		
PLO 8			√	
PLO 9				√
PLO10				√
PLO11		√		

V ADDITIONAL PROGRAMME OUTCOMES (APOs)	
APO1	The students will have an ability to be socially intelligent with intelligent quotient and emotional quotient.
APO2	They will be having virtual collaborating ability.
APO3	They will have the ability to use the social media effectively for productive use.
APO4	They will have critical thinking and innovative skills.
APO 5	They will be provided with good digital footprint.

VI PROGRAMME SPECIFIC OUTCOMES (PSO's)	
PSO 1	Ability to understand the programming concepts, methodologies and algorithm to solve computational problems.
PSO 2	Ability to apply emerging software development techniques and tools in providing real-time solutions.

VII Mapping of PEOs with PSOs

	PSO 1	PSO 2
PEO 1	√	
PEO 2		√
PEO 3	√	
PEO 4		√

VIII. Curriculum Structure for B.Sc. Artificial Intelligence and Machine Learning

Course Components, Credits & Marks Distribution

Part No	Group	Basic Structure: Distribution of Courses	Number of Courses	Total Marks	Total Credits
I – IV	1	AEC – Ability Enhancement Courses	10	1000	24
III & IV	2	DSC – Discipline Specific Courses	20	1500	65

	3	DSE – Discipline Specific Electives	11	1000	35
	4	GEC – Generic Elective Courses	4	400	12
	5	SEC – Skill Enhancement Courses	2	100	4
IV	6	ANCC I & II – Audit Non-Credit Courses	2	Completed	
V		ANCC III – Audit Non-Credit Courses	1		
-	7	Drive Through Courses (DTCs) – (SWAYAM-NPTEL, Coursera, any courses certified by statutory bodies, etc.)	Any number	-	Additional Credits
Total				**4000**	**140**

Group 1. Ability Enhancement Courses (AECs)(10 Courses)– **Part (I–IV)**

AEC are the courses based upon the content that leads to knowledge enhancement. Ability Enhancement Courses (AEC) are the following:

S. No.	Course Code	Course Title	Semester	Ownership Department	Contact Hours	Marks	Credits
1	24AEC02/ 24AEC07/ 24AEC11	**AEC Part I:** Language – I: Tamil – I: Tamil Nila - I/ Hindi – I/ French – I	I	Language	5	100	3
2	24AEC22	**AEC Part II:** English-I: English Language Dynamics	I	English	5	100	3
3	24AEC33	**AEC Part III:** Academic Skills for Computer Studies	I	CS Stream	2	100	2
4	24AEC04/ 24AEC08/ 24AEC12	**AEC Part I:** Language – II Tamil – II-Tamil Nila - II/ Hindi – II/ French – II	II	Language	5	100	3
5	24AEC24	**AEC Part II:** English–II: Campus to Corporate	II	English	5	100	3
6	24AEC43	**AEC Part III:** Comprehensive Project for Computer Studies	III	CS Stream	-	100	4
7	24AEC83	**AEC Part IV**: Communication Enhancement Course: Communication Excellence	III	English	2	100	1
8	24AEC81/	**AEC Part IV:** Spoken Hindi/	IV	Language	2	100	1

	24AEC82	Spoken Tamil					
9	24AEC71	**AEC Part III:** Artificial Intelligence	V	CS Stream	5	100	3
10	24AEC51	**AEC Part III:** Cyber Ethics	VI	CS Stream	2	100	1
Total						**1000**	**24**

Group 2. Discipline Specific Courses (DSCs)(20 Courses) – **Part III**

These courses are to be studied compulsorily by the students as a core requirement. The students are required to take DSCs across six semesters. The courses designed under this category aim to cover the basics that a student is expected to imbibe in the particular discipline. It includes major project.

	Course Code	Course Title	Semester	Contact Hours	Marks	Credits
1	24CSS01	**DSC 1**: Digital Computer Fundamentals	I	4	100	3
2	24AIU01/ 24DSU01	**DSC 2**:C++Programming	I	5	50	4
3	24AIU02/ 24DSU02	**DSC 3**: Practical: C++Programming	I	2	50	2
4	24CSS04	**DSC 4**: Data Structures and Algorithms	II	5	100	4
5	24AIU03/ 24DSU03	**DSC5:** Java Programming	II	5	50	4
6	24AIU04/ 24DSU04	**DSC 6:** Practical: Java Programming	II	3	50	3
7	24CSS07	**DSC 7:** Operating System	III	4	100	4
8	24AIU05/ 24DSU05	**DSC 8**: Python Programming	III	4	100	4
9	24AIU06/ 24DSU06	**DSC 9**: Practical: Python Programming	III	3	50	3
10	24CSS10	**DSC 10**: Software Engineering	III	4	50	3
11	24CSS11	**DSC 11**: Practical: Software Testing using Selenium	III	3	50	2
12	24CSS12	**DSC12:** Computer Networks	IV	5	100	4
13	24CSS13	**DSC 13**: Relational Database Management Systems	IV	5	100	4
14	24CSS14	**DSC 14**: Practical: SQL and PL/SQL	IV	3	100	3
15	24CSS15	**DSC 15**: Machine Learning using Python	V	5	100	4
16	24CSS16	**DSC 16:** Practical: Machine Learning using Python	V	4	50	3
17	24CSS17	**DSC 17:** Major Project	VI	5	100	4

18	24AIU07/ 24DSU07	**DSC 18:** Data Analytics using PySpark	VI	5	100	4
19	24AIU08/ 24DSU08	**DSC 19:** Practical: Data Analytics using PySpark	VI	3	50	2
20	24CSS20	**DSC 20:** Developing Thinking Skills	VI	2	50	1
Total					**1500**	**65**

Project Work

During the Sixth semester each student should undertake a project work and submit the report. A guide will be allotted to each student by the Department. A student can select any research topic in discussion with the guide. The project report shall be subject to internal evaluation followed by a Viva-Voce. The project should be demonstrated at the time of examination.

Internal Evaluation:

Reviews (3) – 60 Marks
Report – 20 Marks
Attendance – 20 Marks
Total – 100 Marks will be converted to 40 (Internal) Marks

End Semester Viva-Voce will be conducted for 60 Marks.
(Dissertation - 40 Marks & Viva-voce - 20 Marks)

Group 3. Discipline Specific Elective (DSEs) (11 Courses) – **Part III**

Discipline Specific Elective courses offered under the main discipline of study which may be specialized or advanced or supportive to the discipline of study. Students can choose any one course from two courses each in the list of following DSEs.

S. No.	Course Code	Course Title	Ownership Department	Contact Hours	Marks	Credits
1	24AIU09	**DSE 1:** Self Study Practical: Spreadsheet	Software Systems	-	100	2
2	24AIU10	**DSE2:** Fuzzy logic and Neural Networks	Software Systems	5	100	4
	24AIU11	**DSE 2:** Artificial Neural Networks	Software Systems			
3	24CSS23	**DSE 3:** UI/UX Design	CS Stream	4	100	3
	24AIU12	**DSE 3:** R Programming	Software Systems			
4	24CSS26	**DSE 4:** Practical: UI/UX Design	CS Stream	3	100	2
	24AIU13	**DSE 4:** Practical: R Programming	Software Systems			
5	24CSS28	**DSE 5:** Industrial Exposure Training	CS Stream	4 Weeks	100	4

6	24CSS29	**DSE 6:** Ethical Hacking	CS Stream	5	100	4
	24AIU14/ 24DSU14	**DSE 6:** Time Series Analysis	Software Systems/ DS			
7	24CSS32	**DSE 7:** Practical: Ethical Hacking	CS Stream	3	50	2
	24AIU15/ 24DSU15	**DSE 7:** Practical: Scientific programming using R	Software Systems/ DS			
8	24AIU16	**DSE 8:** Open AI	Software Systems	5	100	4
	24AIU17	**DSE 8:** Generative AI	Software Systems			
9	24CSS35	**DSE 9:** Mobile Application Development	CS Stream	5	100	4
	24AIU18	**DSE 9:** Natural Language Processing	Software Systems			
10	24CSS38	**DSE 10:** Practical: Mobile Application Development	CS Stream	3	50	2
	24AIU19	**DSE 10**: Practical: Natural Language Processing	Software Systems			
11	24CSS41/ 24AIU20	**DSE 11:** Internet of Things/ Deep Learning	CS Stream/ Software Systems	5	100	4
	Total				1000	35

Industrial Exposure Training (IET)

Students can opt for Industrial Exposure Training during fifth semester for a period of 4 weeks.

The Continuous Internal Assessment mark distribution for IET is as follows:

Component	Mode of Conduct	Project Coverage	Marks
3 Reviews	Presentation	Phase by Phase	60
Work Diary	Written	Phase by Phase	20
Report	Submission	Entire Process	20
Total			**100***

*100 Marks will be converted to 40 (Internal) Marks

The end semester examination of the Industrial Exposure Training will be given based on the report and viva-voce for 60 marks, conducted by the Department

Report:40 Marks

Viva-voce: 20 Marks

Group 4. Generic Elective Courses (GECs)(4 Courses)– **Part III**

Generic Elective Courses are interdisciplinary in nature. They are additional courses based on expertise, specialization, requirements, scope, and need of the department.

Sl. No.	Course Code	Course Title	Semester	Ownership Department	Contact Hours	Marks	Credits
1	24GEU07	**GEC 1:** Probability and Statistics	I	Mathematics	5	100	3
	24GEU10	**GEC 1:** Statistics for Machine Learning					
2	24GEU08	**GEC 2:** Discrete Mathematics	II	Mathematics	5	100	3
	24GEU11	**GEC 2:** Linear Algebra for Machine Learning					
3	24GEU13	**GEC 3:** Applied Mathematics	III	Mathematics	5	100	3
	24GEU16	**GEC 3:** Operations Research for Computer Studies					
4	24GEU47	**GEC 4:** Embedded Systems	IV	ECS	5	100	3
	24GEU48	**GEC 4:** Robotics and Applications					
	24GEU49	**GEC 4:** PC Hardware					
Total						**400**	**12**

Group 5. Skill Enhancement Courses(SECs)(2 Courses)

SEC I: Compulsory Course: Arithmetical Ability

SECII: A Bucket of Skill based Courses are offered for the Under Graduate Programmes by the departments aimed at imparting skill. A Student has to subscribe one course from list offered by the department.

S.No	Course Code	Course Title	Ownership Department
1.	24SEC01B	**SEC 1**: Arithmetical Ability	Mathematics
2.	24SEC02	**SEC 2:** Search Engine Optimization	CS
3.	24SEC03	**SEC 2: Practical :** Modeling data Using Tableau	CT &DS
4.	24SEC04	**SEC 2: Practical :** Data visualization using Tableau	IT &CG
5.	24SEC05	**SEC 2:** Full Stack Web Development	CA
6.	24SEC06	**SEC 2:** Tensor Flow for Machine Learning	Software Systems

Group 6. Audit Non-Credit Courses (ANCC) – Part IV & V

Non-Credit Courses are intended for students who want to gain general knowledge, learn a new skill, upgrade existing skills, enrich their understanding of a wide range of topics, or develop personal interests. A student has to complete any two courses during Semester I and II.

Part IV- ANCC			
S. No.	**Course Code**	**Course Title**	**Ownership Department**
ANCC 1 (Semester I)			
1	24ANC01	Environmental Studies	Bioscience
ANCC 2 - Values & Ethics (Semester II)			
2	24ANC02	Human Rights	Social Work
3	24ANC03	Women's Rights	Social Work
4	24ANC04	Yoga for Human Excellence	Psychology
5	24ANC05	Indian Culture and Heritage	English
6	24ANC06	Introduction to Cyber Security	CS
7	24ANC07	Consumer Protection	Commerce
8	24ANC08	Constitution of India	Commerce
9	24ANC09	Waste Management	Bioscience
10	24ANC10	Sustainable Development Goals	Management

Student has to take part in any one extension activity during their course of study.

Part V- ANCC		
ANCC 3 - Extension Activities		
S. No.	**Course Code**	**Course Name**
1	24ANC11	National Service Scheme
2	24ANC12	National Cadet Corps
3	24ANC13	Youth Red Cross
4	24ANC14	Red Ribbon Club
5	24ANC15	Rotaract Club
6	24ANC16	Sports
7	24ANC17	Association Activities
8	24ANC18	Club Activities

Group 7.

i) Drive-Through Courses (DTCs)I & II– Additional Credits

These courses are intended to bring out and promote the self-learning initiative of the students – where their own motivation is what drives them to complete the course and not external compulsions. This fosters the habit of keeping oneself updated always by means of self-study. It gives opportunities to the students to explore new areas of interest and earn additional credits. Students can take any number of courses under this cafeteria system. The credits will not be taken for CGPA calculation. Additional 4/3/2 credits per course will be given on submission of certificate.

1. Coursera
2. NPTEL
3. Any courses certified by statuary bodies.

ii) Drive-Through Course (DTC – III) Internship Training/Mini Project/ Spoken Tutorial/etc.

Students individually or with the maximum of four members per batch should take up either Internship training or mini project for a period of fifteen days during IV Semester vacation. The report will be evaluated and viva-voce examination will be conducted during V semester. Otherwise, the students have to complete one spoken tutorial course or any certification course suggested by the department.

VIII. Semester-wise Scheme

Semester I										
Course Code	Course Title	T/P/E	Ins. Hrs/ Week	ESE Dur. Hrs	CIA Marks	ES Marks	Total Marks	Credits	SD/ EM/ EN	L/ R/ N/ G
24AEC02/ 24AEC07/ 24AEC11/	**AEC 1:** Language – I: Tamil – I: Tamil Nila - I/ Hindi – I/ French – I/	T	5	3	25	75	100	3	SD	L/ N/ G/ R
24AEC22	**AEC 2:** English-I: English Language Dynamics	T	5	3	25	75	100	3	SD	G
24AEC33	**AEC 3:** Academic Skills for	T	2	3	100	-	100	2	SD	G

	Computer Studies									
24CSS01	**DSC 1**: Digital Computer Fundamentals	T	4	3	25	75	100	3	SD	G
24AIU01/ 24DSU01	**DSC 2**: C++ Programming	T	5	3	10	40	50	4	SD/ EM	G
24AIU02/ 24DSU02	**DSC 3**: Practical: C++ Programming	P	2	3	20	30	50	2	SD/ EM	G
24GEU07/ 24GEU10	**GEC 1** Probability and Statistics/ Statistics for Machine Learning	T	5	3	25	75	100	3	EM	G
24ANC01	**ANCC1 (NF2F)** Environmental Studies	T	2	-	-	-	Completed		SD	G
Drive Through Course I: Additional Credit Courses							Additional Credits			
Total			**30**				**600**	**20**		

Semester II

Course Code	Course Title	T/P /E	Ins. Hrs/ Week	ESE Dur. Hrs	CIA Marks	ES Marks	Total Marks	Credits	SD/ EM/ EN	L/ R/ N/ G
24AEC04/ 24AEC08/ 24AEC12/	**AEC 4:** Language – II Tamil – II-Tamil Nila -II Hindi – II/ French – II/	T	5	3	25	75	100	3	SD	L/ N/ G/ R
24AEC24	**AEC 5:** English – II: Campus to Corporate	T	5	3	25	75	100	3	SD	G
24CSS04	**DSC 4**: Data Structures and Algorithms	T	5	3	25	75	100	4	SD/ EM	G
24AIU03/ 24DSU03	**DSC5:** Java Programming	T	5	3	10	40	50	4	SD/ EM	G
24AIU04/ 24DSU04	**DSC 6:** Practical: Java Programming	P	3	3	20	30	50	3	SD/ EM	G
24AIU09	**DSE 1:** Self Study Practical: Spreadsheet	P	-	3	-	100	100	2	SD	G
24GEU08/ 24GEU11	**GEC 2**: Discrete Mathematics/ Linear Algebra for Machine Learning	T	5	3	25	75	100	3	EM	G
24ANC02/ 24ANC03/ 24ANC04/	**ANCC2 (NF2F)** Human Rights/ Women's Rights/	T	2	-	-	-	Completed		SD	G

24ANC05/ 24ANC06/ 24ANC07/ 24ANC08/ 24ANC09/ 24ANC10	Yoga for Human Excellence/ Indian Culture and Heritage/ Introduction to Cyber Security/ Consumer Protection/ Constitution of India/ Waste Management Sustainable Development Goals									
Drive Through Course II: Additional Credit Courses							Additional Credits			
Total			**30**				**600**	**22**		

Semester III

Course Code	Course Title	T/P/E	Ins. Hrs/ Week	ESE Dur. Hrs	CIA Marks	ES Marks	Total Marks	Credits	SD/ EM/ EN	L/ R/ N/ G
24AEC43	**AEC 6:** Comprehensive Project for Computer Studies	P	-	3	100	-	100	4	EN	G
24AEC83	**AEC 7**: Communication Enhancement Course: Communication Excellence	T	2	2	100	-	100	1	SD	G
24CSS07	**DSC 7:** Operating System	T	4	3	25	75	100	4	SD	G
24AIU05/ 24DSU05	**DSC 8**: Python Programming	T	4	3	25	75	100	4	SD/ EM	G
24AIU06/ 24DSU06	**DSC 9**: Practical: Python Programming	P	3	3	20	30	50	3	SD/ EM	G
24CSS10	**DSC 10**: Software Engineering	T	4	3	10	40	50	3	SD/ EM	G
24CSS11	**DSC 11**: Practical: Software Testing using Selenium	P	3	3	20	30	50	2	SD/ EM	G
24AIU10/ 24AIU11	**DSE 2:** Fuzzy logic and Neural Networks/ Artificial Neural Networks	T	5	3	25	75	100	4	SD/ EM/ EN	G
24GEU13/ 24GEU16	**GEC 3:** Applied Mathematics/ Operation Research for Computer Studies	T	5	3	25	75	100	3	SD/ EM	G
Total			**30**				**750**	**28**		

Semester IV										
Course Code	**Course Title**	**T/P /E**	**Ins. Hrs/ Week**	**ESE Dur. Hrs**	**CIA Marks**	**ES Marks**	**Total Marks**	**Credits**	**SD/ EM/ EN**	**L/ R/ N/ G**
24AEC81/ 24AEC82/	**AEC 8:** Spoken Hindi/ Spoken Tamil/	T	2	2	100	-	100	1	SD	L/ N/ G/ R
24CSS12	**DSC 12:** Computer Networks	T	5	3	25	75	100	4	SD/ EM	G
24CSS13	**DSC 13**: Relational Database Management Systems	T	5	3	25	75	100	4	SD	G
24CSS14	**DSC 14**: Practical: SQL and PL/SQL	P	3	3	40	60	100	3	SD	G
24CSS23/ 24AIU12	**DSE 3:** UI/UX Design/ R Programming	T	4	3	25	75	100	3	EN/ EM	G
24CSS26/ 24AIU13	**DSE 4:** Practical: UI/UX Design/ Practical: R Programming	P	3	3	40	60	100	2	EN/ EM	G
24GEU47/ 24GEU48/ 24GEU49	**GEC4 :** Embedded Systems/ Robotics and Applications/ PC Hardware	T	5	3	25	75	100	3	EM	G
24SEC01B	SEC 1: Arithmetical Ability	T	3	3	50	-	50	2	SD	G
Total			**30**				750	22		

Semester V										
Course Code	**Course Title**	**T/P /E**	**Ins. Hrs/ Week**	**ESE Dur. Hrs**	**CIA Marks**	**ES Marks**	**Total Marks**	**Credits**	**SD/ EM/ EN**	**L/ R/ N/ G**
24CSS28	**DSE 5:** Industrial Exposure Training	-	4 Weeks	-	40	60	100	4	EM	G
24AEC71	**AEC 9:** Artificial Intelligence	T	5	3	25	75	100	3	SD/ EM	G
24CSS15	**DSC 15**: Machine Learning using Python	T	5	3	25	75	100	4	SD/ EM	G
24CSS16	**DSC 16:** Practical: Machine Learning using Python	P	4	3	20	30	50	3	SD/ EM	G
24CSS29/	**DSE6:** Ethical	T	5	3	25	75	100	4	EN	G

24AIU14/ 24DSU14	Hacking/ Time Series Analysis									
24CSS32/ 24AIU15/ 24DSU15	**DSE 7:** Practical: Ethical Hacking/ Practical: Scientific programming using R	P	3	3	20	30	50	2	EN	G
24AIU16/ 24AIU17	**DSE 8:** Open AI/ Generative AI	T	5	3	25	75	100	4	SD/ EM	G
24SEC02/ 24SEC03/ 24SEC04/ 24SEC05/ 24SEC06	**SEC 2:** Search Engine Optimization/ Practical :Modeling data Using Tableau/ Practical : Data visualization using Tableau / Full Stack Web Development / Tensor Flow for Machine Learning	T	3	3	10	40	50	2	SD/EN /EM	G
Drive Through Course III – Internship Training /Mini Project/Spoken Tutorial							Completed			
Total			**30**				**650**	**26**		

Semester VI

Course Code	Course Title	T/P /E	Ins. Hrs/ Week	ESE Dur. Hrs	CIA Marks	ES Marks	Total Marks	Credits	SD/ EM/ EN	L/ R/ N/ G
24AEC51	**AEC 10:** Cyber Ethics	T	2	2	25	75	100	1	SD	**G**
24CSS17	**DSC 17:** Major Project	-	5		40	60	100	4	EN	G
24AIU07/ 24DSU07	**DSC 18:** Data Analytics using PySpark	T	5	3	25	75	100	4	EN/ EM	G
24AIU08/ 24DSU08	**DSC 19:** Practical: Data Analytics using PySpark	P	3	3	20	30	50	2	EN/ EM	G
24CSS20	**DSC 20:** Developing Thinking Skills	T	2	3	10	40	50	1	SD	G
24CSS35/ 24AIU18	**DSE 9:** Mobile Application Development/ Natural Language Processing	T	5	3	25	75	100	4	EN	G
24CSS38/ 24AIU19	**DSE 10:** Practical: Mobile Application Development**/** Practical – Natural	P	3	3	20	30	50	2	EN	G

	Language Processing									
24CSS41/ 24AIU20	**DSE 11:** Internet of Things/ Deep Learning	T	5	3	25	75	100	4	SD/ EN	G
24ANC11/ 24ANC12/ 24ANC13/ 24ANC14/ 24ANC15/ 24ANC16/ 24ANC17/ 24ANC18	**ANCC 3** Extension Activities National Service Scheme / National Cadet Corps / Youth Red Cross / Red Ribbon Club / Rotaract Club / Sports / Association Activities / Club Activities	-	-	-	-	-	Grade	-	SD	G
			30				**650**	**22**		
Total							**4000**	**140**		

Drive-Through Courses (DTCs): Courses offered in Coursera OR NPTEL OR Any courses certified by statutory bodies.	Additional 4 credits per course will be given on submission of Certificate	During Semester I to Semester VI

The courses focus on the following needs	
SD	Skill Development
EM	Employability
EN	Entrepreneurship
L	Local
R	Regional
N	National
G	Global

Semester-wise Distribution of Marks and Credits

Semester	Total Marks	Total Credits
I	600	20
II	600	22
III	750	28
IV	750	22
V	650	26
VI	650	22
Total	**4000**	**140**

OFFERED BY

List of Courses Offered by Mathematics Department

Semester	Course Code	Course Name	Programme	T/P/E	Ins. hrs	CIA	ES	Total Marks	Credit	SD/EM/EN	L/R/N/G
I	24GEU07	**GEC 1:** Probability and Statistics	B.Sc. AIML	T	3	25	75	100	3	EM	G
I	24GEU10	**GEC 1:** Statistics for Machine Learning	B.Sc. AIML	T	3	25	75	100	3	EM	G
II	24GEU08	**GEC 2:** Discrete Mathematics	B.Sc. AIML	T	3	25	75	100	3	EM	G
II	24GEU11	**GEC 2:** Linear Algebra for Machine Learning	B.Sc. AIML	T	3	25	75	100	3	EM	G
III	24GEU13	**GEC 3:** Applied Mathematics	B.Sc. AIML	T	3	25	75	100	3	SD/EM	G
III	24GEU16	**GEC 3:** Operations Research for Computer Studies	B.Sc. AIML	T	3	25	75	100	3	SD/EM	G

List of Courses Offered by ECS Department

Semester	Course Code	Course Name	Programme	T/P/E	Ins. hrs	CIA	ES	Total Marks	Credit	SD/EM/EN	L/R/N/G
IV	24GEU47	**GEC 4:** Embedded Systems	B.Sc. AIML	T	3	25	75	100	3	EM	G
IV	24GEU48	**GEC 4:** Robotics and Applications	B.Sc. AIML	T	3	25	75	100	3	EM	G
IV	24GEU49	**GEC 4:** PC Hardware	B.Sc. AIML	T	3	25	75	100	3	EM	G

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List of Courses Offered to Psychology Department

Semester	Course Code	Course Name	Programme	T/P/E	Ins. hrs	CIA	ES	Total Marks	Credit	SD/EM/EN	L/R/N/G
I	24GEU44	Practical: Office	B.Sc.	P	3	40	60	100	2	SD	G

		Automation Lab	Psycholo gy								