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. Computer Science with Cognitive Systems

(III - IV Semester)

for 2022-23 admitted students

DEPARTMENT OF ICT & COGNITIVE SYSTEMS

SRI KRISHNA ARTS AND SCIENCE COLLEGE
COIMBATORE – 641008

DEPARTMENT OF ICT & COGNITIVE SYSTEMS
(2022-2023)

I. PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)	
PEO 1	Prepare knowledgeable and industry relevant quality graduates who possess software & application skills and critical thinking skills in serving the domestic and global community in the relevant area.
PEO 2	Acquire the technical information from various sources in solving the computer related problems through software development skills and demonstrate professionalism and ethical values in the relevant field.
PEO 3	Perform as a team player and becoming a market leader in the field of consultancy and skill development with effective communicative skills which will help the organization to grow.
PEO 4	Become technologically competent with sense of programming and entrepreneurial skills in the area of artificial intelligence with a passion of lifelong learning to create their own brand image.

II. PROGRAMME LEARNING OUTCOMES (PLOs)	
No.	**The Graduates of B.Sc. Computer Science with CognitiveSystems programme will be able to:**
PLO1	Describe the knowledge of computer science to meet the requirements of current industry standards. (Cognitive)
PLO2	Analyze challenging problems and solve using critical thinking skills (Cognitive)
PLO3	Adapt to implement and evaluate a computational system to meet the pining needs within realistic constraints. (Psychomotor Skills)
PLO4	Function effectively in teams to solve problems and produce positive outcomes. (Affective)
PLO5	Communicate effectively in a variety of professional contexts to promote ideas, goals or products. (Affective)
PLO6	Incorporate digital tools and techniques in designing software products, prototypes and solutions. (Affective)
PLO7	Apply appropriate mathematical principles for solving relevant industrial computational problems. (Cognitive)
PLO8	Initiate and function effectively as an individual to lead teams in diversified environments. (Affective)
PLO9	Promote professional development growth through contextual, reflective and lifelong learning. (Affective)
PLO10	Enhance entrepreneurial skill for making the students to undertake independent ventures. (Affective)
PLO11	Follow ethical principles and commits to professional ethics and responsibilities for a relevant technical practice (Affective)

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 & Professionalism	Cognitive	Psychomotor	Affective
1	√											√		
2		√										√		
3			√										√	
4				√										√
5					√									√
6						√								√
7							√					√		
8								√						√
9									√					√
10										√				√
11											√			√

IV. PROGRAMME LEARNING OUTOMES VS PROGRAMME EDUCATIONAL OBJECTIVES

PLO	PEO 1	PEO 2	PEO 3	PEO 4
PLO 1	√			
PLO 2	√			
PLO 3		√		
PLO 4			√	
PLO 5			√	
PLO 6		√		
PLO 7		√		
PLO 8			√	
PLO 9				√
PLO 10				√
PLO 11		√		

V. ADDITIONAL PROGRAMME OUTCOMES (APOs)	
APO 1	The students will have an ability to be socially intelligent with intelligent quotient and emotional quotient
APO 2	They will be having virtual collaborating ability
APO 3	They will have the ability to use the social media effectively for productive use
APO 4	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 apply algorithms, mathematical and scientific reasoning to solve ranged computational problems.
PSO 2	Ability to apply emerging software development techniques and tools in providing real-time solutions

VII. Curriculum Structure for B.Sc. Computer Science with Cognitive Systems

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	11	1100	30
III & IV	2	DSC – Discipline Specific Courses	15	1500	50
	3	DSE – Discipline Specific Electives	10	1000	45
	4	GEC – General Elective Courses	5	400	15
IV	5	ANCC I & II – Audit Non-Credit Courses	3	-	-
V		ANCC III – Audit Non-Credit Courses	1	Completed	
-	6	DTC – Drive Through Courses (SWAYAM-NPTEL, Coursera, any courses certified by statutory bodies, etc.)	Any number	-	Addl. Credits
Total				**4000**	**140**

Group 1. Ability Enhancement Courses (AECs)(10 Courses)

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

S. No.	Course Code	Course Title	Semester	Ownership Department	Contact Hours	Credits	Marks
1	22AEC02/ 22AEC07/ 22AEC11/ 22AEC17/ 22AEC21/	**AEC Part I:** Tamil-I – Tamizhum Ariviyalum - I/ Hindi-I/ French-I/ Malayalam-ISanskrit – I	I	Language Dept.	6	3	100
2	22AEC26	**AEC Part II:** English-I : Englishfor Professional Communication	I	English Dept.	6	3	100
3	22AEC41	**AEC Part III:** Probability andStatistics	I	Mathematics Dept.	5	3	100
4	22AEC04/ 22AEC08/ 22AEC12/ 22AEC18/ 22AEC22	**AEC Part I:** Tamil-II – Panpattu Padhivugalam Ariviyalalargalum - II/ Hindi-II/ French-II/ Malayalam-II/ Sanskrit – II	II	Language Dept.	6	3	100
5	22AEC28	**AEC Part II:** English – II: Campus toCorporate	II	English Dept	6	3	100
6	22AEC33	**AEC Part III:** Academic Skills forComputer Studies	II	CS Dept.	3	3	100
7	22AEC53	**AEC Part III:** Capstone Project for Computer Studies	III	CS Dept.	-	4	100
8	22AEC81 \22AEC83\22AEC85	Tamil-III – Neelakkurinchi\ Hindi-III - Pryojanmoolak Hindi \ Advanced French-I	III	LanguageDept.	3	2	100

9	22AEC91	English III - Creative Writing	III	Langua geDept.	3	2	100
10	22AEC82 / 22AEC84 22AEC86	Tamil-IV – Semmullai / Hindi-IV - Takneeki Hindi Basha / Advanced French-II		Languag eDept.	3	2	100
11	22AEC92	English III - English for Digital Media		Languag eDept.	3	2	100
					Total	**30**	**1100**

Group 2. Discipline Specific Courses (DSCs)(15 Courses)

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.

S. No.	Course Code	Course Title	Semester	Contact Hours	Credits	Marks
1	22CGU01A	**DSC 1A:** Operating System	I	3	3	50
	22CGU01B	**DSC 1B:** Practical - Operating System		3	2	50
2	22CGU02	**DSC 2:** Data Structures	I	4	3	100
3	22CGU03	**DSC 3:** Practical - Introduction to Work Sheets	I	3	2	100
4	22CGU04	**DSC 4:** Computer Networks	II	3	2	100
5	22CGU05	**DSC 5:** Practical - Computer Networks	II	3	2	100
6	22CGU06	**DSC 6:** Practical- Web Technology	II	4	3	100
7	22CGU07	**DSC 7:** Virtualization and Cloud	III	5	4	100
8	22CGU08	**DSC 8:** Practical - Virtualization and Cloud	III	4	3	100
9	22CGU09	**DSC 9:** Infrastructure Management	IV	4	3	100
10	22CGU10	**DSC 10:** Practical - Infrastructure Management	IV	3	2	100
11	22CGU11A	**DSC 11A:** Process Management	IV	4	3	50
	22CGU11B	**DSC 11B:** Practical - DevOps Tools	IV	3	2	50
12	22CGU12A	**DSC 12A:** Problem solving and programming in python	IV	4	4	50
	22CGU12B	**DSC 12B:** Practical -Python Programming	IV	2	2	50

13	22CGU13	**DSC 13 A:** Client Relationship Management	V	4	4	100
14	22CGU14	**DSC 13 B:** Practical - Client Relationship Management	V	2	2	100
15	22CGU15	**DSC 15:** Major Project	VI	6	4	100
Total					**50**	**1500**

Group 3. Discipline Specific Elective (DSEs) (10 Courses)

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 TEN courses from the following list and compulsory IET.

S. No.	Course Code	Course Title	Ownership Department	Contact Hours	Credits	Marks
1	22CSU18/ 22ITU18/ 22CTU18/ 22CAU18/ 22SAU18/ 22SSU18/ 22DSU18/ 22AIU18	**DSE 1:** Computer Forensics	ICT Dept	5	4	100
	22CGU16A	**DSE 1A:** Problem Solving and Programming in Java	ICT Dept	3	2	50
	22CGU16B	**DSE 1B:** Practical: Java Programming	ICT Dept	2	2	50
2	22CSU19/ 22ITU19/ 22CTU19/ 22CAU19/ 22SAU19/ 22SSU19	**DSE 2:** Green Computing	ICT Dept/ECS Dept	5	4	100
	22CGU17	**DSE 2:** Physics for Computer Science				
	22CGU18A	**DSE 3A:** DBMS	ICT Dept	3	2	50
	22CGU18B	**DSE 3B:** Practical: DBMS		2	2	50
	22CSU23A/ 22ITU23A/ 22CTU23A/ 22CAU23A/ 22SAU23A/ 22SSU23A	**DSE 3A:** Web Designing using PHP		3	2	50

	22CSU23B/ 22ITU23B/ 22CTU23B/ 22CAU23B/ 22SAU23B/ 22SSU23B	**DSE 3B:** Practical: Web Designing Using PHP		2	2	50
4	22CGU19A	**DSE 4A**: Software Testing	ICT Dept	3	2	50
	22CGU19B	**DSE 4B:** Practical: Software Testing Using Selenium		2	2	50
	22CGU20	**DSE 4:** Compiler Design		5	4	100
5	22CGU21A	**DSE 5A:** Introduction to Digital Technologies	ICT Dept	3	3	50
	22CGU21B	**DSE 5B:** Practical: Introduction to Digital Technologies		2	2	50
	22CSU10A/ 22ITU10A/ 22CTU10A/ 22CAU10A/ 22SAU10A/ 22SSU10A/ 22DSU10A/ 22AIU10A	**DSE 10A:** Software Engineering and UML	ICT Dept	3	3	50
	22CSU10B/ 22ITU10B/ 22CTU10B/ 22CAU10B/ 22SAU10B/ 22SSU10B/ 22DSU10B/ 22AIU10B	**DSE 10B:** Practical: Software Testing and UML		2	2	50
6	22CSU32/ 22ITU32/ 22CTU32/ 22CAU32/ 22SAU32/ 22SSU32/ 22DSU32	**DSE 6:** Wireless Technology	ECS	5	4	100
	22CSU33/ 22ITU33/ 22CTU33/ 22CAU33/ 22SAU33/ 22SSU33/ 22DSU33	**DSE 6:** Internet of Things				
7	22CGU22	Industrial Exposure Training	ICT Dept	4 weeks	5	100
8	22CGU23/ 22CGU24	**DSE 8:** Data Analytics using R/ NoSQL Database	ICT Dept	5	3	50
9	22CGU25/ 22CGU26	**DSE 8B:** Practical: Data Analytics using R/ Practical: No SQLdatabase		4	3	50

10	22CGU27A	**DSE 9A:** Application Deve8opment using Android	ICT Dept	3	3	100
	22CGU27B	**DSE 9B:** Practical- Application Development using Android		3	2	
	22CGU27A	**DSE 9A:** System Modelling using UML	ICT Dept	4	3	100
	22CGU27B	**DSE 9B:** Practical: System Modelling using UML	ICT Dept.	2	2	
11	22CGU29	**DSE 10**: Artificial Intelligence and Expert Systems	ICT Dept	6	4	100
	22CGU30	**DSE 10:** Web Research	ICT Dept	4	4	100
				Total	**45**	**1000**

Industrial Exposure Training (IET):

Students can opt for Industrial Exposure Training during fifth semester for a period of 4 weeks; in such case one DSE course will be exempted.

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

Component	Mode of Conduct	Project Coverage	Marks
3 Reviews	Presentation	Phase by Phase	25
Work Diary	Written	Phase by Phase	10
Report	Submission	Entire Process	15
		Total	**50**

Major Project:

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 will be evaluated jointly by the internal and external examiners for **50 Marks** and Viva-voce examination shall be conducted jointly for **50 Marks.**

Three Reviews should be conducted and marks have to be entered in Myklassroom portal as follows:

Review – 25 Marks
Work Dairy – 10 Marks
Report – 15 Marks
Total – 50 (Internal) Marks
End Semester Viva-Voce will be conducted for 50 (External) Marks.
(**Dissertation - 30 Marks & Viva-voce - 20 Marks**)

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Group 4. Generic Elective Courses (GECs) (5 Courses)

Generic Elective Courses are interdisciplinary in nature. They are additional courses based on expertise, specialization, requirements, scope, and need of the department. The student has to subscribe any 5 courses in the following list:

Sl. No.	Course Code	Course Title	Semester	Ownership Department	Contact Hours	Credits	Marks
1	22GEU13/ 22GEU14	**GEC 1:** Mathematical Structures for Computer Science/ Discrete Mathematics	II	Maths Dept.	5	3	100
2	22GEU18/ 22GEU19	**GEC 2:** Operations Research for Computer Studies/ Numerical Methods	III	Maths Dept.	5	3	100
3	22GEU59/ 22GEU60/ 22GEU61	**GEC 3:** Embedded System/ Robotics and Applications/ PC Hardware	IV	ECS Dept.	5	3	100
4	22GEU71	**GEC 4:** Cognition and Problem Solving	IV	Psychology Dept.	3	3	50
5	22GEU109/ 22GEU110	**GEC 5:** Cyber Ethics/ Business Ethics & Corporate Social Responsibility	VI	ICT Dept	3	3	50
Total						**15**	**400**

Group 5. Audit Non-Credit Courses (ANCC)

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 Name**
Semester I - ANCC 1		
1.	22ANC01	Environmental Studies
Semester II - ANCC 2 - Values & Ethics		
2.	22ANC02	Human Rights
3.	22ANC03	Women's Rights
4.	22ANC04	Yoga for Human Excellence
5.	22ANC05	Indian Culture and Heritage
6.	22ANC06	Introduction to Cyber Security
7.	22ANC07	Consumer Protection
8.	22ANC08	Constitution of India
9.	22ANC09	Waste Management

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

Part V - ANCC 3 - Extension Activities		
S. No.	**Course Code**	**Course Name**
1.	22ANC10	National Service Scheme
2.	22ANC11	National Cadet Corps
3.	22ANC12	Youth Red Cross
4.	22ANC13	Red Ribbon Club
5.	22ANC14	Rotaract Club
6.	22ANC15	Sports
7.	22ANC16	Association Activities

Group 6.

i) Drive-Through Course (DTC)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 updatedalways 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 credits per Course will be given on submission of certificate.

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

ii)Drive-Through Course (DTC – III) – To be Completed

Internship Training/Mini Project/ Spoken Tutorial/Economic Talent test 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 5th 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	ESE Dur. Hrs	Ins. Hrs/ Week	CIA Marks	ES Marks	Total Marks	Credits	SD/ EM/ EN	G/L/ R/N
22AEC02/ 22AEC07/ 22AEC11/ 22AEC17/ 22AEC21	**AEC PART I: Language I: -** Tamil-I – Tamizhum Ariviyalum-I /Hindi-I/ French-I/** Malayalam-I Sanskrit – I	T	3	6	50	50	100	3	SD	L/N G/R/ N
22AEC26	**AEC: PART II** English-I: English for Professional Communication	T	3	6	50	50	100	3	SD	G
22AEC41	**AEC: PART III** Probability and Statistics	T	3	5	50	50	100	3	SD	G
22CGU01A	**DSC 1A:** Operating System	E	2	3	25	25	50	3	SD/ EN	G
22CGU01B	**DSC 1B:** Practical: Operating System	E	2	3	25	25	50	2	SD/ EN	G

22CGU02	**DSC 2:** Data Structures	T	3	4	50	50	100	3	SD	G
22CGU03	**DSC 3:** Practical: Introduction to Work Sheets	P	3	3	50	50	100	2	SD/ EN	G
DTC - I - Additional Credit Courses (NPTEL/Coursera)								4		
22ANC01	**ANCC-1 (NF2F) Environmental Studies**	T	2	-	-	-	Completed		SD	G
Total				**30+2**			**600**	**19 + 4**		
Semester II										
Course Code	**Course Title**	**T/P/E**	**ESE Dur. Hrs**	**Ins. Hrs/ Week**	**CIA Marks**	**ES Marks**	**Total Marks**	**Credits**	**SD/ EM/ EN**	**G/L/ R/N**
22AEC04/ 22AEC08/ 22AEC12/ 22AEC18/ 22AEC22	**AEC Part I:** Tamil-II – Panpattu Padhivugalam Ariviyalalargalum - II/s Hindi-II/ French-II/ Malayalam-II/ Sanskrit – II	T	3	6	50	50	100	3	SD	G
22AEC28	**AEC Part II:**English – II: Campus to Corporate	T	3	6	50	50	100	3	SD	G
22AEC33	**AEC Part III:** Academic Skills for Computer Studies	T	3	3	50	50	100	3	SD	G
22CGU04	**DSC 4:** Computer Networks	T	3	3	50	50	100	2	EM	G
22CGU05	**DSC 5:** Practical: Computer Networks	P	2	3	50	50	100	2	SD/ EM	G
22CGU06	**DSC 6:** Practical: Web Technology	P	3	4	50	50	100	3	SD/ EM	G
22GEU13/ 22GEU14	**GEC 1:** Mathematical	T	3	5	50	50	100	3		

	Foundation for Computer Science/ Discrete Mathematics								SD	G
DTC II : Additional Credit Courses (NPTEL/Coursera)								4		
22ANC09	**ANCC-2 (NF2F) Value & Ethics: Waste Management**	T	2	-	-	-	Completed		EN	G
	Total			**30+2**			**700**	**19 +4**		
Semester III										
Course Code	**Course Title**	**T/P /E**	**ESE Dur. Hrs**	**Ins. Hrs/ Week**	**CIA Marks**	**ES Marks**	**Total Marks**	**Credits**	**SD/ EM/ EN**	**G/L/ R/N**
22AEC81\ 22AEC83\ 22AEC85	Tamil-III – Neelakkurinchi\ Hindi-III - Pryojanmoolak Hindi \ Advanced French-I	T	3	3	50	50	100	2	SD	L/N/ G/R
22AEC91	English III - Creative Writing	T	3	3	50	50	100	2	SD	G
22CGU07	**DSC 7:** Virtualization and Cloud	T	3	5	50	50	100	4	SD	G
22CGU08	**DSC 8:** Practical: Virtualization and Cloud	P	3	4	50	50	100	3	SD/ EM	G
22CGU16A	**DSE 1A :** Problem Solving and Programming in Java	E	2	3	25	25	50	2	SD/ EM	G
22CGU16B	**DSE 1B :** Practical: Java Programming		2	2	25	25	50	2	SD/ EM	G
OR										

22CSU18/ 22ITU18/ 22CTU18/ 22CAU18/ 22SAU18/ 22SSU18/ 22DSU18/ 22AIU18	**DSE 1:** Computer Forensics	T	3	5	50	50	100	4	SD/ EM	G
22CGU17/ 22CSU19/ 22ITU19/ 22CTU19/ 22CAU19/ 22SAU19/ 22SSU19	**DSE 2:** Physics for Computer Science / Green Computing	T	3	5	50	50	100	4	SD	G
22GEU18/ 22GEU19	**GEC 2:** Operations Research for Computer Studies/ Numerical Methods	T	3	5	50	50	100	3	EM	G
22AEC53	**AEC: PART III-** Capstone Project for Computer Studies	T	3	-	50	50	100	4	SD/ EM	G
	Total			**30**			**800**	**26**		
Semester IV										
Course Code	**Course Title**	**T/P /E**	**ESE Dur. Hrs**	**Ins. Hrs/ Week**	**CIA Marks**	**ES Marks**	**Total Marks**	**Credits**	**SD/ EM/ EN**	**G/L/ R/N**
22AEC82 / 22AEC84 22AEC86	Tamil-IV – Semmullai / Hindi-IV - Takneeki Hindi Basha / Advanced French-II	T	3	3	50	50	100	2		
22AEC92	English III - English for Digital Media	T	3	3	50	50	100	2		

22CGU09	**DSC 9:** Infrastructure Management	T	3	4	50	50	100	3	EN	G
22CGU10	**DSC 10:** Practical: Infrastructure Management	P	3	3	50	50	100	2	SD/ EN	G
22CGU11A	**DSC 11A:** Process Management	E	2	4	25	25	50	3	SD	G
22CGU11B	**DSC 11B:** Practical: DevOps Tools		2	3	25	25	50	2	SD/ EM	G
22CGU18A	**DSE 3A: DBMS**	E	2	3	25	25	50	2	SD/ EM	G
22CGU18B	**DSE 3B:** Practical: DBMS		2	2	25	25	50	2	SD/ EM	G
OR										
22CSU23A/ 22ITU23A/ 22CTU23A/ 22CAU23A/ 22SAU23A/ 22SSU23A	**DSE 3A:** Web Designing using PHP	E	**2**	**3**	25	25	50	2	SD/ EM	G
22CSU23B/ 22ITU23B/ 22CTU23B/ 22CAU23B/ 22SAU23B/ 22SSU23B	**DSE 3B:** Practical: Web Designing using PHP		**2**	**2**	25	25	50	2	SD/ EM	G
22GEU59/ 22GEU60/ 22GEU61	**GEC 3:** Embedded System/ Robotics and Applications/ PC Hardware	T	3	5	50	50	100	3	EM	G
	Total			**30**			**700**	**21**		
Semester V										
Course Code	**Course Title**	**T/P /E**	**ESE Dur. Hrs**	**Ins. Hrs/ Week**	**CIA Marks**	**ES Marks**	**Total Marks**	**Credits**	**SD/ EM/ EN**	**G/L/ R/N**

22CGU12A	**DSC 12A:** ProblemSolving and Programming in Python	E	2	4	25	25	50	4	SD/ EM	G
22CGU12B	**DSC 12B:** Practical: Python Programming		2	2	25	25	50	2	SD/ EM	G
22CGU13	**DSC 13 A:** Client Relationship Management	T	3	4	25	25	100	4	SD/ EM	G
22CGU14	**DSC 13 B:** Practical: Client Relationship Management	P	3	2	25	25	100	2	SD/ EM	G
22CGU19A	**DSE 4A**: Software Testing	E	2	3	25	25	50	2	SD/ EM	G
22CGU19B	**DSE 4B:** Practical: Software Testing Using Selenium		2	2	25	25	50	2	SD/ EM	G
OR										

22CGU20A	**DSE 4:** Compiler Design		3	5	50	50	100	4	SD/ EM	G
22CGU21A	**DSE 5A:** Introduction to Digital Technologies	E	2	3	25	25	50	3	SD/ EM	G
22CGU21B	**DSE 5B:** Practical: Introduction to Digital Technologies		2	2	25	25	50	2	SD/ EM	G
OR										

22CSU10A/ 22ITU10A/ 22CTU10A/ 22CAU10A/ 22SAU10A/ 22SSU10A/ 22DSU10A/ 22AIU10A	**DSC 10A:** Software Engineering and UML	**E**	2	3	25	25	50	3	SD/ EM	G
22CSU10B/ 22ITU10B/ 22CTU10B/ 22CAU10B/ 22SAU10B/ 22SSU10B/ 22DSU10B/ 22AIU10B	**DSC 10B:** Practical: Software Testing and UML		2	2	25	25	50	2	SD/ EM	G
22CGU22	IET	-	3	4 Week	-	-	100	5	S	G
22CSU32/ 22ITU32/ 22CTU32/ 22CAU32/ 22SAU32/ 22SSU32/ 22DSU32	**DSE 6:** Wireless Technology	T	3	5	50	50	100	4	SD	G
OR										
22CSU33/ 22ITU33/ 22CTU33/ 22CAU33/ 22SAU33/ 22SSU33/ 22DSU33	**DSE 6:** Internet of Things	T	3	5	50	50	100	4	SD	G
22GEU71	**GEC 4:** Cognition and Problem Solving	T	3	3	25	25	50	3	SD	G
22CGU31	**Drive Through Course III – I nternship/ Mini Project/ Spoken Tutorial**	Completed							SD/ EM	G

Total		**30**			**750**	**33**	
Semester VI							

Course Code	Course Title	T/P/E	ESE Dur. Hrs	Ins. Hrs/ Week	CIA Marks	ES Marks	Total Marks	Credits	SD/ EM/ EN	G/L/ R/N
22CGU15	**DSC15 :** Major Project	-	3	6	50	50	100	4	SD/ EM /EN	G
22GEU109/ 22GEU110	**GEC 5:** Cyber Ethics/ Business Ethics & Corporate Social Responsibility	T	3	3	25	25	50	3	SD	G
22CGU23/ 22CGU24	**DSE 8A:** Data Analytics Using R/**:** NoSQL Database	T	3	5	25	25	50	3	SD/ EM	G
22CGU25/ 22CGU26	**DSE 8B:** Practical: Data Analytics Using R/ Practical: No SQL database System	P	3	4	25	25	50	3	SD/ EM	G
22CGU27A	**DSE 9A:** Application Development using Android	E	2	3	25	25	50	3	SD	G
22CGU27B	**DSE 9B**: Practical: Application Development using Android		2	3	25	25	50	2	SD	G
OR										
27CGU28A	**DSE 9A:** System Modellingusing UML	E	2	4	25	25	50	3	SD	G
27CGU28B	**DSE 9B:** Practical: System Modelling using UML		2	2	25	25	50	2	SD	G

22CGU29	**DSE10**: Artificial Intelligence and Expert Systems	T	2	6	50	50	100	4	EM	G
OR										
22CGU30	**DSE 10:** Web Research	T	2	6	50	50	100	4	EM	G
	ANCC-3 **E**xtension Activities	-	3	-	-	-	Grade	-	SD	G
Total				**30**			**450**	**22**		
	Total						**4000**	**140 +8**		
Drive-Through Course (DTC): Courses offered in SWAYAM-NPTEL, Coursera OR Any courses certified by statutory bodies.		Additional 4 credits per Course willbe given on submission of Certificate					During Semester I to Semester VI			

The Courses focuses the following needs:				
Needs	**G- Global**	**N -Regional**	**R-Regional**	**L-Local**

SD	Skill Development
EM	Employability
EN	Entrepreneurship

Semester-wise Distribution of Marks and Credits:

Semester	Total Marks	Total Credits
I	600	19+4
II	700	19+4
III	800	26
IV	700	21
V	750	33
VI	450	22
Total	**4000**	**140+8**

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

I	22AEC41	**AEC: PART III** Probability and Statistics	B.Sc. CS with CG	T	5	50	50	100	3
2	22GEU20/ 22GEU21	**GEC 1:** Mathematical Foundation for Computer Studies/ Discrete Mathematics	B.Sc. CS with CG	T	3	5	50	50	100
3	22GEU24 / 22GEU25	**GEC 2:** Operations Research for Computer Studies/Numerical Methods	B.Sc. CS with CG						

List of Courses Offered by ECS Department

Semester	Course Code	Course Name	Programme	T/P/E	Ins. hrs	CIA	ES	Total Marks	Credit
IV	22GEU57/ 22GEU58/ 22GEU59	**GEC 3:** Embedded System/ Robotics and Applications/ PC Hardware	B.Sc CS with CG	T	5	50	50	100	3

List of Courses Offered by Psychology Department

Semester	Course Code	Course Name	Programme	T/P/E	Ins. hrs	CIA	ES	Total Marks	Credit
IV	22GEU87	**GEC 4:** Cognition and Problem Solving	B. Sc CS with CG	T	5	50	50	100	3

Amendments in 2022 Batch B.Sc. Computer Science with Cognitive Systems Program onwards

As per Bharathiar University regulation

- 22AEC81-Tamil III - Neelakkurinchi/Hindi III - 22AEC83-Pryojanmoolak Hindi/22AEC85-Advanced French-I and

- 22AEC82-Tamil IV: Semmullai/ 22AEC84-Hindi IV: Takneeki Hindi Basha/22AEC86-Advanced French-II is included in 3rd and 4th semester.

The following course has been moved from third semester to fourth semester

- Infrastructure Management and Practical Infrastructure Management course is moved from third semester to fourth Semester.

The following Courses has been moved from fourth to fifth semester

- Problem solving and programming in Python and practical: Python programming course is moved from fourth semester to fifth semester.

The following changes were carried out

- 22AEC61 AEC Part IV: Cyber Ethics is changed as 22GEU109-Cyber Ethics / 22GEU110-Business Ethics & Corporate Social Responsibility.
- 22CGU08 DSC VIII : Practical : Virtualization and Cloud Syllabus is modified.