SRI KRISHNA ARTS AND SCIENCE COLLEGE

An Autonomous College Affiliated to Bharathiar University
Re-Accredited by NAAC with A Grade
Coimbatore -641 008, Tamil Nadu, India.

Scheme of Instruction and Syllabus for

M.Sc. Software Systems (2020 BATCH)

(VIII to X Semester)

DEPARTMENT OF SOFTWARE SYSTEMS

SRI KRISHNA INSTITUTIONS
COIMBATORE

SRI KRISHNA ARTS AND SCIENCE COLLEGE
KNOWLEDGE LOVE & SERVICE
KUNIAMUTHUR (PO)
COIMBATORE - 641 008

SRI KRISHNA ARTS AND SCIENCE COLLEGE

An Autonomous College affiliated to Bharathiar University
Coimbatore - 641 008, Tamil Nadu, India.

DEPARTMENT OF COMPUTER SCIENCE

SCHEME OF EXAMINATION - CBCS PATTERN

Programme: M.Sc. SS
(Effective from the Academic Year 2022-2023)

Curriculum Structure, Credits & Marks Distribution

Course Type	Number of Courses	Credits per Course	Total Credits	Marks	Semester
Discipline Specific Courses (DSC)	47	1-5	165	4400	I to X
Discipline Specific Elective Courses (DSE)	4/8	2-5	15	400	I to X
Generic Electives Courses (GEC)	07	2-4	19	700	I to X
Mini Project / Project	3	8-15	35	500	I to X
Additional Credit Course (ACC) - Courses offered in SWAYAM/NPTEL National MOOC Portal	Additional 4 Credits per Course will be given on submission of Certificate				I to X
Total	65		**234**	**6000**	

Course Code	Course Title	Ins. Hrs/ week	Examination				MAP Code	Credits
			Dur. Hrs	CIA	ES	Total Marks		
Semester – I								
20SSI01	DSC 1: English	4	3	40	60	100	A	3
20SSI02	DSC 2: C Programming	5	3	40	60	100	F	4
20SSI03	DSC 3: Algebra for Software Systems	4	3	40	60	100	I	3
20SSI04	DSC 4: Computer System Architecture	5	3	40	60	100	H	4
20SSI05	DSC 5: Practical -Programming Lab- C	4	3	40	60	100	K	3
20SSI06	DSC 6: Self Study Paper -PC Software Lab	1	3	-	50	50	M	1
20GEP17	GEC 1: Digital Electronics	4	3	40	60	100	H	3
20GEP18	GEC 2: Digital Electronics Lab	3	3	40	60	100	L	2
		30				**750**		**23**
Semester – II								
20SSI07	DSC 7: Calculus and Applications	4	3	40	60	100	I	3
20SSI08	DSC 8: C++ Programming	5	3	40	60	100	F	4
20SSI09	DSC 9: Data Structures	5	3	40	60	100	C	4
20SSI10	DSC 10: Practical- C++ with Data Structures Lab	4	3	40	60	100	K	3
20GEP19	GEC 3: Embedded Systems	4	3	40	60	100	F	3
20GEP20	GEC 4: Embedded Systems Lab	3	3	40	60	100	M	2
20GEP27	GEC 5: Fundamentals of Accounting	5	3	40	60	100	I	4
		30				**700**		**23**

Course Code	Course Title	Ins. Hrs/ week	Examination				MAP Code	Credits
			Dur. Hrs	CIA	ES	Total Marks		
Semester – III								
20SSI11	DSC 11: Numerical and Statistical Methods	4	3	40	60	100	J	4
20SSI12	DSC 12: Computer Networks	5	3	40	60	100	C	5
20SSI13	DSC 13: Linux Programming	4	3	40	60	100	F	4
20SSI14	DSC 14: System Software and Operating System	4	3	40	60	100	D	4
20SSI15	DSC 15: Practical- Linux Programming Lab	3	3	40	60	100	K	2
20SSI16	DSC 16: Practical-System Software Lab (C & C++)	3	3	40	60	100	M	2
20GEP21	GEC 6: Internet of Things	4	3	40	60	100	D	3
20GEP22	GEC 7: Practical - Internet of Things	3	3	40	60	100	M	2
		30				**800**		**26**
Semester – IV								
20SSI17	DSC 17: Discrete Structures	4	3	40	60	100	J	4
20SSI18	DSC 18: Java Programming	5	3	40	60	100	F	5
20SSI19	DSC 19: Database Management Systems	5	3	40	60	100	C	5
20SSI20	DSC 20: Compiler Design	5	3	40	60	100	D	5
20SSI21	DSC 21: Practical - Java Programming Lab	4	3	40	60	100	K	3
20SSI22	DSC 22: Practical-Database Management Systems Lab	4	3	40	60	100	M	2
20SSI23	DSC 23: Practical- Compiler Design Lab	3	3	40	60	100	L	2
		30				**700**		**26**

Course Code	Course Title	Ins. Hrs/ week	Examination				MAP Code	Credits
			Dur. Hrs	CIA	ES	Total Marks		
Semester – V								
20SSI24	DSC 24: Operations Research	4	3	40	60	100	J	4
20SSI25	DSC 25: Design and Analysis of Algorithms	5	3	40	60	100	D	4
20SSI26	DSC 26: Web Technology	5	3	40	60	100	D	5
20SSI27	DSC 27: Advanced Java Programming	4	3	40	60	100	F	4
20SSI28	DSC 28: Practical - Algorithm Lab	4	3	20	30	50	M	2
20SSI29	DSC 29: Practical- J2EE Lab	4	3	40	60	100	K	3
20SSI30	DSC 30: Practical - Web Technology Lab	4	3	20	30	50	M	2
		30				**600**		**24**
Semester – VI								
20SSI31	DSC 31: Software Engineering	4	3	40	60	100	D	4
20SSI32	DSC 32: Advanced Web Technology	5	3	40	60	100	C	5
20SSI33	DSC 33: Android Programming	5	3	40	60	100	D	5
20SSI34	DSC 34: Distributed Operating Systems	5	3	40	60	100	D	5
20SSI35	DSC 35: Practical - Advanced Web Technology Lab	4	3	20	30	50	M	2
20SSI36	DSC 36: Practical - Application Development Using Android	4	3	40	60	100	M	3
20SSI37	DSC 37: Self Study Paper: Practical-UML and CASE Tools	1	3	-	50	50	M	1
20SSI38	Mini Project Work and Viva Voce	2	-	40	60	100*	N	8
		30				**700**		**33**
Semester – VII								
20SSI39	Project Work (6 months)	-	-	80	120	200**	-	12
						200		**12**
Semester – VIII								
20SSI40	DSC 38: Data Mining and Warehousing	4	3	40	60	100	C	3

20SSI41	DSC 39: Crytography and Network Security	5	3	40	60	100	D	5
20SSI42	DSC 40: Software Testing	5	3	40	60	100	D	5
20SSI43	DSC 41: Practical - Cryptography Lab	4	3	40	60	100	M	3
20SSI44	DSC 42: Practical - Software Testing Lab using Selenium	3	3	40	60	100	M	2
20SSI45/ 20SSI46	DSE 1/2: Option I - Computer Graphics / Machine Learning	5	3	40	60	100	D	5
20SSI47/ 20SSI48	DSE 3/4: Option II - Practical - Multimedia Techniques: Computer Graphics Lab/ Machine Learning Using R	4	3	40	60	100	M	3
		30				700		26
Semester – IX								
20SSI49	DSC 43: Digital Image Processing	5	3	40	60	100	F	5
20SSI50	DSC 44: Python Programming	5	3	40	60	100	F	5
20SSI51	DSC 45: Cloud Computing	5	3	40	60	100	C	4
20SSI52	DSC 46: Practical - Image Processing Lab	4	3	40	60	100	K	3
20SSI53	DSC 47: Practical - Python Programming	3	3	20	30	50	K	2
20SSI54/ 20SSI55	DSE 5/6: Option III - Animation Techniques / Deep Learning	5	3	40	60	100	D	5
20SSI56/ 20SSI57	DSE 7/8: Option IV - Practical - Animation Lab / Deep Learning Lab	3	3	40	60	100	M	2
		30				650		26
Semester – X								
20SSI58	Project Work (6 months)	-	-	80	120	200**	-	15
						200		15

Semester Wise Distribution:

Semester	Total Marks	Total Credits
I	750	23
II	700	23
III	800	26
IV	700	26
V	600	24
VI	700	33
VII	200	12
VIII	700	26
IX	650	26
X	200	15
Total	**6000**	**234**

Regulations:

1. Generic Elective (GE) :

An elective course chosen from an unrelated discipline, with an intention to seek exposure beyond discipline/s of choice is called a Generic Elective Courses. The list provided under this category are suggestive in nature and each department has complete freedom to suggest their own courses under this category based on their expertise, specialization, requirements, scope, and need. A DSCs offered in a discipline may be treated as an elective by other discipline and vice versa.

SEMESTER	Course Code	Course Name	Programme	T/ P	Ins. hours	Map Code	CIA	ES	Total	Credit
I	20GEP17	GEC 1: Digital Electronics	M.Sc. SS	T	4	H	40	60	100	3
I	20GEP18	GEC 2: Digital Electronics Lab	M.Sc. SS	p	3	L	40	60	100	2
II	20GEP19	GEC 3: Embedded Systems	M.Sc. SS	T	4	F	40	60	100	3
II	20GEP20	GEC 4: Embedded Systems Lab	M.Sc. SS	P	3	M	40	60	100	2
II	20GEP27	GEC 5: Fundamentals of Accounting	M.Sc. SS	T	5	I	40	60	100	4
III	20GEP21	GEC 6: Internet of Things	M.Sc. SS	T	4	D	40	60	100	3
III	20GEP22	GEC 7: Practical - Internet of Things	M.Sc. SS	P	3	M	40	60	100	2

List of Courses Offered to MSW Department

Semester	Course Code	Course Name	Programme	T/ P	Ins. hours	Map Code	CIA	ES	Total	Credit
III	20GEP16	Excel Macro	MSW	P	4	K	40	60	100	3

2. Additional Credit Courses (ACC)

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 the students the opportunities to explore new areas of interest and earn additional credits. Students can take any number of courses under this cafeteria system, four credits will be given on completion of each course. The credits will not be taken for CGPA calculation.

Two ways to earn Additional Credit:

i. MOOC**:** Apart from completing one MOOC, students can take any number of online courses offered in SWAYAM/NPTEL online portal and earn additional credits. When a student take more number of online courses, the first course will be taken for compulsory MOOC and for the subsequent MOOCs additional 4 credits will be given in the same semester upon clearing the exam and submitting certificate at least 15 days before the release of semester examination results.

ii. The College will release list of additional credit courses of self-study nature during every semester. Upon clearing the exam, additional credits will be given for each Additional Credit Course.

3. Project Work

During the sixth semester, every student should undergo a Mini Project. Report of mini project should be submitted. A guide will be allotted to each student in the department. Student can select any topic in discussion with the guide. The project report shall be subjected to internal evaluation followed by a Viva-Voce**.**

Mark Distribution: Mini Project*

First Review	15 Marks
Second Review	15 Marks
Work Diary	10 Marks
	40 Marks

During the seventh and tenth semester, every student shall prepare a Major Project report. A guide will be allotted to each student by the department. Student can select any topic in

discussion with the guide. The project report shall be subjected to internal evaluation followedby a Viva Voce.

Mark Distribution: Major Project**

First Review	10 Marks
Second Review	20 Marks
Third Review	20 Marks
Fourth Review	20 Marks
Work Diary	10 Marks
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80 Marks	

4. Optional Paper: Student can opt any of the following groups**.**

Optional Group I:

Option I: 20SSI45 Computer Graphics
Option II: 20SSI47 Practical -
Computer Graphics Lab Option III:
20SSI54 Animation Techniques
Option IV: 20SSI56 Practical - Animation Lab

Optional Group II:

Option I: 20SSI46 Machine Learning
Option II: 20SSI48 Practical -
Machine Learning using R Option III:
20SSI55 Deep Learning
Option IV: 20SSI57 Practical - Deep Learning Lab

5. Amendments:

The Following changes has been done due to the swapping of Courses between Semester VIII and IX

- 20SSI50, DSC: 44 Cryptography and Network Security is shifted from Semester IX to SemesterVIII with new course code 20SSI41.
- 20SSI53, DSC: 47 Practical – Cryptography Lab is shifted from Semester IX to Semester VIII with new course code 20SSI43.
- 20SSI41, DSC: 39 Python Programming is shifted from Semester VIII to Semester IX with new course code 20SSI50.
- 20SSI43, DSC: 41 Practical – Python Programming is shifted from Semester VIII to Semester IXwith new course code 20SSI53.
- In Semester VIII, the Unit I & V content of DSC 38: Data Mining and warehousing has been revised and the instructional hours per week has been changed from 5 to 4 and the credits from4 to 3
- In Semester IX, the Unit I content of DSC 45: Cloud Computing has been revised and the instructional hours per week for has been changed from 4 to 5 the credits from 3 to 4.

In Semester IX, 20SSI55, DSE 6: Option III: Deep Learning Syllabus has been revised.