

ಸಂತ ಆಲೋಶಿಯಸ್ ಕಾಲೇಜು  
(ಸ್ವಾಯತ್ತ)  
ಮಂಗಳೂರು- 575 003



ST ALOYSIUS COLLEGE  
(Autonomous)  
P.B.No.720  
MANGALURU- 575 003, INDIA  
Phone:+91-0824 2449700,2449701  
Fax: 0824-2449705  
Email: [principal\\_sac@yahoo.com](mailto:principal_sac@yahoo.com)  
[principal@staloyisius.edu.in](mailto:principal@staloyisius.edu.in)  
Website: [www.staloyisius.edu.in](http://www.staloyisius.edu.in)

Re-accredited by NAAC with 'A' Grade - CGPA 3.62

Recognised by UGC as "College with Potential for Excellence"

College with 'STAR STATUS' conferred by DBT, Government of India

3<sup>rd</sup> Rank in "Swacch Campus" Scheme, by MHRD, Govt of India

Date: 25-06-2020

### NOTIFICATION

Sub: Syllabus of B.Sc. Computer Science under Choice Based Credit System.

- Ref: 1. Decision of the Academic Council meeting held on 09-06-2020 vide  
Agenda No: 23(2020-21)  
2. Office Notification dated 25-06-2020

Pursuant to the above, the Syllabus of B.Sc. Computer Science under Choice Based Credit System which was approved by the Academic Council at its meeting held on 09-06-2020 is hereby notified for implementation with effect from the academic year 2020-21.

*S. S. S. S.*  
PRINCIPAL



*M. S. S.*  
REGISTRAR

To:

1. The Chairman/Dean/HOD.
- ✓ 2. The Registrar Office
3. The Library

**SYLLABUS STRUCTURE OF COMPUTER SCIENCE PAPER AS ONE OF THE OPTIONAL  
SUBJECT FOR B.Sc. THREE YEAR DEGREE PROGRAMME**

Subject Code	Sem	Subject	Theory Hours/Week	Practical Hours/Week	Duration of Exams (Hours)	Marks and Credits			
						IA	Exam	Total	Credits
G505.1	I	Problem solving using C	4	-	3	20	80	100	2
G505.1P	I	C Programming Lab	-	2+2	3	10	40	50	1
G505.1E(i&ii)	I	Introduction to computers/Computer System Architecture	2	-	2	10	40	50	1
G505.2	II	Data Structure Using C	4	-	3	20	80	100	2
G505.2P	II	Data Structure Lab using C	-	4	3	10	40	50	1
G505.2E(i&ii)	II	Introduction to Data science/Cyber Security	2	-	2	10	40	50	1
G505.3	III	Java Programming	4	-	3	20	80	100	2
G505.3P	III	Java Programming Lab	-	3	3	10	40	50	1
G505.3(i)E	III	Basics of Android Programming	1	1	2	10	40	50	1
G505.3(ii)E		Computer Hardware and Maintenance	2	-	2	10	40	50	1
G505.4	IV	Relational Data Base Management System Using ORACLE/MySQL	4	-	3	20	80	100	2
G505.4P	IV	RDBMS Lab	-	3	3	10	40	50	1
G505.4E	IV	Office Automation	1	1	2	10	40	50	1
G505.5A1/ G505.5A2	V	Operating System and Linux/ Principles of TCP/IP	3	-	3	20	80	100	2
G505.5B1/ G505.5B2 Elective Paper	V	Python Programming/ J2EE	3	-	3	20	80	100	2
G505.5AP & G505.5BP	V	Shell Programming using LINUX/ Principles of TCP/IP Lab & Python Lab/J2EE lab	-	2+2	2+2	20	80	100	2
G505.6A1/ G505.6A2	VI	Data Analytics / Software engineering and testing	3	-	3	20	80	100	2
G505.6B1/ G505.6B2 Elective Paper	VI	Web Programming using PHP/ Computer Networks	3	-	3	20	80	100	2
G505.6AP & G505.6BP	VI	Data Analytics lab/ Software Engineering Lab & PHP Lab/ Computer Networks lab	-	2+2	2+2	20	80	100	2

**Compulsory Bridge Course will be conducted for the new entrants without computer science background for 12 hours during the first two weeks -After Class Hours**

ಸಂಕ ಅಲೋಷಿಯಸ್ ಕಾಲೇಜು  
(ಸ್ವಾಯತ್ತ)  
ಮಂಗಳೂರು- 575 003



ST ALOYSIUS COLLEGE  
(Autonomous)  
P.B.No.720  
MANGALURU- 575 003, INDIA  
Phone:+91-0824 2449700,2449701  
Fax: 0824-2449705  
Email: principal\_sac@yahoo.com  
principal@staloyisius.edu.in  
Website: www.staloyisius.edu.in

Re-accredited by NAAC with 'A' Grade - CGPA 3.62  
Recognised by UGC as "College with Potential for Excellence"  
College with 'STAR STATUS' conferred by DBT, Government of India  
3<sup>rd</sup> Rank in "Swacch Campus" Scheme, by MHRD, Govt of India

Date: 18-07-2019

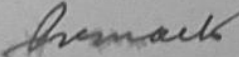
No: SAC 40/Syllabus 2019-20

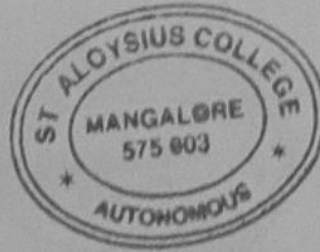
### NOTIFICATION

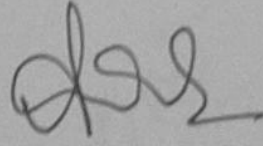
Sub: Syllabus of **B.Sc. Electronics** under Choice Based Credit System.

Ref: 1. Decision of the Academic Council meeting held on 02-05-2019 vide  
Agenda No: 24(2019-20)  
2. Office Notification dated 18-07-2019

Pursuant to the above, the Syllabus of **B.Sc. Electronics** under Choice Based Credit System which was approved by the Academic Council at its meeting held on 02-05-2019 is hereby notified for implementation with effect from the academic year 2019-20.

  
PRINCIPAL



  
REGISTRAR

To:

1. The Chairman/Dean/HOD.
2. The Registrar Office
3. Library

ಸಂತ ಅಲೋಶಿಯಸ್ ಕಾಲೇಜು  
(ಸ್ವಾಯತ್ತ)  
ಮಂಗಳೂರು- 575 003



ST ALOYSIUS COLLEGE  
(Autonomous)  
P.B.No.720  
MANGALURU- 575 003, INDIA  
Phone:+91-0824 2449700,2449701  
Fax: 0824-2449705  
Email: [principal\\_sac@yahoo.com](mailto:principal_sac@yahoo.com)  
[principal@staloyisius.edu.in](mailto:principal@staloyisius.edu.in)  
Website: [www.staloyisius.edu.in](http://www.staloyisius.edu.in)

Re-accredited by NAAC with 'A' Grade - CGPA 3.62

Recognised by UGC as "College with Potential for Excellence"

College with 'STAR STATUS' conferred by DBT, Government of India

3<sup>rd</sup> Rank in "Swacch Campus" Scheme, by MHRD, Govt. of India

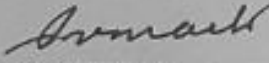
Date: 25-06-2020

### NOTIFICATION

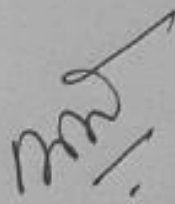
Sub: Syllabus of **B.Sc. Electronics** under Choice Based Credit System.

- Ref: 1. Decision of the Academic Council meeting held on 09-06-2020 vide  
Agenda No: 13(2020-21)  
2. Office Notification dated 25-06-2020

Pursuant to the above, the incorporation of CBCS III & IV Semester to the Syllabus of **B.Sc. Electronics** under Choice Based Credit System which was approved by the Academic Council at its meeting held on 09-06-2020 is hereby notified for implementation with effect from the academic year **2020-21**.

  
PRINCIPAL



  
REGISTRAR

To:

4. The Chairman/Dean/HOD.
- ✓ 5. The Registrar Office
6. Library

Semester & Course Code	Lecture/ Practical Per week (Hr)	Duration of Exam (Hr)	Max Marks			Credits
			Internal Assessment	End semester	Total	
<b><u>I SEM</u></b>						
G 504.1	4	3	30	70	100	2
G 504.1P	3	4	10	40	50	2
G 504.1E	2	2	10	40	100	1
<b><u>II SEM</u></b>						
G 504.2	4	3	30	70	100	2
G 504.2P	3	4	10	40	50	2
G 504.2E	2	2	10	40	100	1
<b><u>III SEM</u></b>						
G 504.3	4	3	30	70	100	2
G 504.3P	3	4	10	40	50	2
<b><u>IV SEM</u></b>						
G 504.4	4	3	40	60	100	2
G 504.4P	3	4	10	40	50	2
<b><u>V SEM</u></b>						
G 504.5a	3	3	30	70	100	2
G 504.5b	3	3	30	70	100	2
G 504.5P	4	4	20	80	100	2
<b><u>VI SEM</u></b>						
G 504.6a	3	3	30	70	100	2
G 504.6b	3	3	30	70	100	2
G 504.6P	4	4	20	80	100	2

Semester	Code	Paper Title
I	G 504.1	Fundamentals of Analog and Digital Electronics
	G 504.1P	Practical-I
	G 504.1E	<b>Electronic Devices and Applications</b>
II	G 504.2	Transistor Biasing Circuits, Small Signal Amplifiers, Field Effect Transistors and Digital Circuits
	G 504.2P	Practical-II
	G 504.2E	<b>Semiconductors and Integrated Circuits</b>
III	G 504.3	Linear Integrated Circuits and Applications, Sequential Logic Circuits and Logic Families
	G 504.3P	Practical-III
	G 504.3E	<b>Electronic Communication Systems</b>
IV	G 504.4	Breakdown Devices, Power Amplifiers, Fundamentals of Electronic Communication and Digital Computers
	G 504.4P	Practical-IV
	G 504.4E	<b>Principles Of Medical Electronics And Biomedical Instrumentation</b>
V	G 504.5a	Electronic Communication Systems
	G 504.5b	8085 Microprocessor and 8051 Microcontroller
	G 504.5P	Practical-V
VI	G 504.6a	Biomedical Instruments, VLSI and Robotics
	G 504.6b	ELECTIVE I : 8086 Microprocessor & C Language
	G 504.6b	ELECTIVE 2: Fundamentals of Digital Signal Processing
	G 504.6P	Practical-VI

ಸಂಕೆ ಅಲೋಸಿಯಸ್ ಕಾಲೇಜು  
(ಸ್ವಾಯತ್ತ)  
ಮಂಗಳೂರು- 575 003



ST ALOYSIUS COLLEGE  
(Autonomous)  
P.B.No.720  
MANGALURU- 575 003, INDIA  
Phone:+91-0824 2449700,2449701  
Fax: 0824-2449705  
Email: [principal\\_sac@yahoo.com](mailto:principal_sac@yahoo.com)  
[principal@staloyisius.edu.in](mailto:principal@staloyisius.edu.in)  
Website: [www.staloyisius.edu.in](http://www.staloyisius.edu.in)

Re-accredited by NAAC with 'A' Grade - CGPA 3.62  
Recognised by UGC as "College with Potential for Excellence"  
College with 'STAR STATUS' conferred by DBT, Government of India  
3<sup>rd</sup> Rank in "Swacch Campus" Scheme, by MHRD, Govt of India

No: SAC 40/Syllabus 2019-20

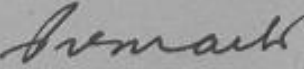
Date: 18-07-2019

### NOTIFICATION

Sub: Syllabus of **B.Sc. Mathematics** under Choice Based Credit System.

- Ref: 1. Decision of the Academic Council meeting held on 02-05-2019 vide  
Agenda No: 21(2019-20)  
2. Office Notification dated 18-07-2019

Pursuant to the above, the Syllabus of **B.Sc. Mathematics** under Choice Based Credit System which was approved by the Academic Council at its meeting held on 02-05-2019 is hereby notified for implementation with effect from the academic year 2019-20.

  
PRINCIPAL



  
REGISTRAR

## SCOPE OF THE SYLLABUS

This syllabus is framed in such a way that the students learn Calculus and Differential Equations and their applications, which help them to learn allied subjects like Physics, Computer Science, in a better way. Also, the students learn Number Theory and Algebra which can motivate the students to go for higher studies in Mathematics. A variety of optional papers are given so that the students can learn the subjects of their interest.

Course Pattern and Scheme of Examinations

Group II: Optional III B.Sc. Mathematics

Semester	Paper	Hours per week	Duration of the Exam(hrs)	Semester Exams	Marks Internal Assessment*	Total
I	Paper1	6	3	100	50	150
II	Paper2	6	3	100	50	150
III	Paper3	6	3	100	50	150
IV	Paper4	6	3	100	50	150
V	Paper5(a)	5	3	100	50	150
	Paper5(b) Elective*	5	3	100	50	150
VI	Paper6(a)	5	3	100	50	150
	Paper6(b) Elective*	5	3	100	50	150
					Total	1200

\*For each paper Internal Assessment marks shall be awarded based on the marks scored in two tests and projects/assignment/Surprise tests.

\*During the V & VI semester, a student can opt for any one of the special papers offered in syllabus, except that a student studying statistics in B. Sc. cannot opt for the paper 'distribution theory'.



Semester	Paper	Paper Code	Title of the Paper
I	Paper1	G 503.1	Calculus
		<b>G 503.1E</b>	<b>Functions and Applications</b>
II	Paper 2	G 503.2	Calculus, Number Theory And Differential Equations
		<b>G 503.2E</b>	<b>Vector Calculus</b>
III	Paper 3	G 503.3	Number Theory, Group Theory & Multivariate Calculus
		<b>G 503.3E</b>	<b>Applications of Basic Arithmetic</b>
IV	Paper 4	G 503.4	Functions Of A Complex Variable, Number Theory, Group Theory And Real Analysis
		<b>G 503.4E</b>	<b>Skill Development Techniques In Mathematics using Computer aided Tools</b>
V	Paper5(a)	G 503.5(a)	Differential Equations, Laplace transform and Algebra
	Paper5(b)	G 503.5(b)i	5(b)i Discrete Mathematics
	Special	G 503.5(b)ii	5(b)ii Numerical Methods
	Paper	G 503.5(b)iii	5(b)iii Graph Theory
		G 503.5(b)iv	5(b)iv Linear programming
		G 503.5(b)v	5(b)v Mathematical Modeling
		G 503.5(b)vi	5(b)vi Distribution Theory
VI	Paper6(a)	G 503.6(a)	Partial Differential Equations, Fourier Series and linear algebra.
	Paper6(b)	G 503.6(b)i	6(b)i Discrete Mathematics
	Special	G 503.6(b)ii	6(b)ii Numerical Methods
	Paper	G 503.6(b)iii	6(b)iii Graph Theory
		G 503.6(b)iv	6(b)iv Linear programming
		G 503.6(b)v	6(b)v Mathematical Modeling
		G 503.6(b)vi	6(b)vi Distribution Theory

A Student has to opt a special paper in paper 6(b) which is different from what was opted earlier in paper 5(b).