

ಸಂತ ಅಲೋಷಿಯಸ್ ಕಾಲೇಜು  
(ಸ್ವಾಯತ್ತ)  
ಮಂಗಳೂರು- 575 003



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Re-accredited by NAAC with 'A' Grade with a CGPA – 3.62 (3<sup>rd</sup> cycle)  
Recognized by UGC as "College with Potential for Excellence"  
College with "Star Status" conferred by DBT, Government of India

No: SAC 40/Syllabus 2016-17

Date: 24-11-2016

### NOTIFICATION

Sub: Syllabus of **M.Sc.Mathematics** Under Choice Based  
Credit System.

Ref: 1. Academic Council decision dated 24-09-2016  
2. Office Notification dated 24-11-2016

Pursuant to the Notification cited under reference (2)  
above, the Syllabus of **M.Sc.Mathematics** Under Choice Based  
Credit System is hereby notified for implementation with effect  
from the academic year 2016-17.

  
PRINCIPAL



  
REGISTRAR

To:

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

Core courses are related to the discipline of the M. Sc Mathematics programme. Hard core courses are compulsorily studied by a student as a core requirement to complete the programme. Soft core courses are electives but are related to the discipline of the programme. Two open elective courses of 3 credits each shall be offered in the II and III semester by the department. Open elective will be chosen from an unrelated programme within the faculty.

Total credit for the M.Sc Mathematics programme is 92. Out of the total 92 credits of the programme, the hard core shall make up 58.69% of the total credits; soft core is 34.78% while the open electives will have a fixed 6 credits.

### COURSE IN TAKE:

The maximum number of students to be admitted to the course is 40.

### ELIGIBILITY:

As per Mangalore university Regulations.

### Semester wise distribution of credits for M.Sc. Mathematics Programme

Mathematics												
m	Hard core			Soft core		Open elective			Others			Total
	No of papers	credits	Total credits	No of papers	Total credits	No of papers	credits	Total credits	Project	Seminar	credits	
	3	5	15	2	8							23
	3	5	15	1	4	1	3	3				22
	2	5	10	2	8	1	3	3				21
	2	5	10	3	12				1(4C)		4	26
tal			50		32			6			4	92

**M.Sc. Mathematics**

**I Semester (2+1 Hard core and 2+1 soft core paper)**

Code	Papers	Instructi on hours/ Week	Duration of Exam	Marks		Total	Credits
				IA	End Semester		

**I Semester (3 Hard core and 2 Soft core papers)**

PH 561.1	Algebra I	5	3	30	70	100	5
PH 562.1	Linear Algebra I	5	3	30	70	100	5
PH 563.1	Real Analysis I	5	3	30	70	100	5
PS 564.1	Graph Theory	4	3	30	70	100	4
PS 565.1	Fluid Mechanics	4	3	30	70	100	4
PS 566.1	Operations Research						
<b>Total</b>						<b>500</b>	<b>23</b>

**II Semester (3 Hard core and 1 Soft core papers and 1 open elective paper)**

PH 561.2	Algebra II	5	3	30	70	100	5
PH 562.2	Numerical Analysis with Computational Lab	4+2	3	30	70	100	5
PH 563.2	Real Analysis II	5	3	30	70	100	5
PS 564.2	Linear Algebra II	4	3	30	70	100	4
PS 565.2	Lattice theory						
PO 566.2	Basic Tools in Mathematics	3	3	30	70	100	3
<b>Total</b>						<b>500</b>	<b>22</b>

Code	Papers	Instructi on hours/ Week	Duration of Exam	Marks		Total	Credits
				IA	End Semester		
<b>III Semester (2 Hard core and 2 Soft core papers and 1 open elective paper)</b>							
PH 561.3	Complex Analysis I ✓	5	3	30	70	100	5
PH 562.3	Topology ✓	5	3	30	70	100	5
PS 563.3	Ordinary Differential Equations ✓	4	3	30	70	100	4
PS 564.3	Commutative Algebra ✓	4	3	30	70	100	4
PS 565.3	Multivariate Calculus and Geometry						
PS 566.3	Probability Theory						
PO 567.3	Differential Equations and Applications	3	3	30	70	100	3
						500	21
<b>IV Semester (3 Hard core and 3 Soft core papers)</b>							
PH 561.4	Measure Theory and Integration	5	3	30	70	100	5
PH 562.4	Complex Analysis II	5	3	30	70	100	5
PH 563.4	Project Work	8	3	30	70	100	4
PS 564.4	Functional Analysis	4	3	30	70	100	4
PS 565.4	Partial Differential Equations	4	3	30	70	100	4
PS 566.4	Algebraic Number Theory	4	3	30	70	100	4
PS 567.4	Cryptography						
PS 568.4	Distribution Theory						
						600	26
						2100	92