

**SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE  
(AUTONOMOUS), COIMBATORE - 641 020**

**Name of the Programme:** B.Sc. Mathematics

**Month & Year of Revision:** May 2020

S.No.	Course Title	Course Code	% of Revision
1	Classical Algebra	20UMA1C01	10
2	Calculus	20UMA1C02	5
3	Differential Equations and Laplace Transforms	20UMA2C03	10
4	Trigonometry, Vector calculus & Fourier series	20UMA2C04	10
5	Real Analysis - I	20UMA5C12	20
6	Real Analysis - II	20UMA6C15	5
7	Number Theory	20UMA6C20	New Course

**Note:**

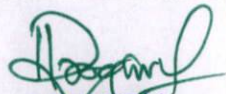
No. of Courses offered by the Department (A)	32
No. of Courses revised in BoS (20% Revision) (B)	2
Formula for Syllabus revision: $(B/A)*100$	6.3%

Course Title	Course code	Unit	Existing Content	Modified/Revised content	% of Revision / Modification
Algebra	18UMA1C01	II	Binomial theorem for rational index – Application of the Binomial theorem to the summation of series – Approximate values.  <b>Chapter 3 Sections: 5 - 10 and 14</b>	Binomial theorem – Positive integral index – <b>The greatest term in the expansion of <math>(1 + x)^{n*}</math></b> - Summation of various series involving binomial coefficients - Vandermonde's theorem – Binomial theorem for a rational index – <b>Some important particular cases of Binomial expansion</b> – <b>The method of splitting functions into partial fractions</b> - Application of the binomial theorem to the summation of series.  <b>Chapter 3: Sections 1 – 10</b>	8
		V	<b>THEORY OF EQUATIONS</b> :To increase or decrease the roots of a given equation by a given quantity – Removal of terms – Descartes' Rule of signs - Roll's theorem – Multiple roots – Horner's method of approximation.  <b>Chapter 6 Sections: 17, 19, 24 - 26 and 30. (Omit section 30.1)</b>	To increase or decrease the roots of a given equation by a given quantity – Removal of terms – Descartes' Rule of signs - <b>Roll's theorem*</b> – Multiple roots – <b>Strum's theorem</b> - Horner's method of approximation.  <b>Chapter 6 Sections: 17, 19, 24 –27 and 30. (Omit section 30.1)</b>	2
<b>Total Percentage of course content Modified/Revised</b>					<b>10</b>

Course Title	Course code	Unit	Existing Content	Modified/Revised content	% of Revision / Modification
Calculus	18UMA1C02	I	<p><b>CURVATURE OF PLANE CURVES:</b>Curvature – Circle, radius and centre of curvature – Cartesian formula for the radius of curvature – The coordinates of the centre of curvature - Evolutes and involutes –Radius of curvature when the curve is given in polar co-ordinates - Pedal equation of a curve.</p> <p><b>PARTIAL DIFFERENTIATION:</b>Total differential coefficient – Implicit functions – Homogeneous functions - Euler’s theorem.</p>	<p><b>CURVATURE OF PLANE CURVES:</b> Curvature – Circle, radius and centre of curvature – Cartesian formula for the radius of curvature – The coordinates of the centre of curvature - Evolute and involute –<b>Radius of curvature when the curve is given in polar co-ordinates*</b> - Pedal equation of a curve – <b>finding asymptotes of rational algebraic curves.</b></p>	5
<b>Total Percentage of course content Modified/Revised</b>					5
Course Title	Course code	Unit	Existing Content	Modified/Revised content	% of Revision / Modification
Differential Equations and Laplace Transforms	18UMA2C03	V	<p><b>LAPLACE TRANSFORMS:</b> Laplace transforms – Definition – Transform of <math>f(t)</math>, - <math>e^{at}</math>, <math>\cos at</math>, <math>\sin at</math> and <math>t^n</math> when <math>n</math> is an integer – Laplace transforms to solve ordinary differential equations with constant co-efficient.</p>	<p><b>LAPLACE TRANSFORMS:</b> Laplace transforms – Definition – Transform of <math>f(t)</math>, - <math>e^{at}</math>, <math>\cos at</math>, <math>\sin at</math> * and <math>t^n</math> when <math>n</math> is an integer – <b>The inverse Laplace transform</b> - Laplace transforms to solve ordinary differential equations with constant and <b>variable co-efficient – to solve system of differential equations.</b></p>	10

<i>Total Percentage of course content Modified/Revised</i>						10
Course Title	Course code	Unit	Existing Content	Modified/Revised content	% of Revision / Modification	
Trigonometry, Vector Calculus and Fourier series	18UMA2C04	II	TRIGONOMETRY :Expansions of Cos $n\theta$ , Sin $n\theta$ , Cos $\theta$ , Sin $\theta$ , Hyperbolic functions – Separation of real and imaginary parts of Hyperbolic functions.	TRIGONOMETRY :Expansions of cos $n\theta$ , sin $n\theta$ , <b>tan <math>n\theta</math>, tan (A+B+C+...)</b> , cos $\theta$ , sin $\theta$ , Hyperbolic functions – <b>Inverse Hyperbolic functions*</b> - Separation of real and imaginary parts of Hyperbolic functions.	10	
<i>Total Percentage of course content Modified/Revised</i>						
Course Title	Course code	Unit	Existing Content	Modified/Revised content	% of Revision / Modification	
Real Analysis-I	18UMA5C10	I	Some basic notions of set theory: Ordered pairs –relations and functions –sequences – similar sets – finite and infinite sets – countable and uncountable sets– countable collections of countable sets.	<b>THE REAL AND COMPLEX NUMBER SYSTEMS:</b> Introduction – The field and order axioms - the unique factorization theorem for integers – rational and irrational numbers – upper bounds and the completeness axiom – <b>the Archimedean property of the real number system*</b> - the Cauchy Schwarz inequality.	20	
<i>Total Percentage of course content Modified/Revised</i>						20

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Name of the Programme: M.Sc. Mathematics      Month & Year of Revision: May 2020

S. No.	Course Title	Course Code	% of Revision
1	Neural Networks	20PMA3C11	New Course

**Note:**

No. of Courses offered by the Department (A)	22
No. of Courses revised in BoS (20% Revision) (B)	1
Formula for Syllabus revision: $(B/A)*100$	4.5%

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