UNIVERSITY OF MYSORE
Established: 1916

Vishwavidyanilaya Karyasoudha,
Crawford Hall, Mysore-570 005.
Dated: 19.08.2020

No.AC.2(S)/378/2020-21

NOTIFICATION

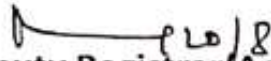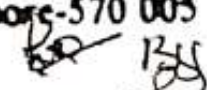**Sub:** Introduction of laboratories in M.Sc. Mathematics program from the Academic Year 2020-21.

Ref: 1. Decision of Board of Studies in Mathematics (PG) meeting held on 18.12.2019.
2. Decision of the Faculty of Science & Technology Meeting held on 18.02.2020.
3. Decision of the Academic Council meeting held on 18.06.2020.

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The Board of Studies in Mathematics (PG) which met on 18.12.2019 has recommended to introduce Laboratories in M.Sc. Mathematics program from the Academic Year 2020-21.

The Faculty of Science and Technology and the Academic Council meetings held on 18.02.2020 and 18.06.2020 respectively have approved the above said proposal and the same is hereby notified.

The syllabus of M.Sc. Mathematics program is annexed. The contents may be downloaded from the University Website i.e., www.uni-mysore.ac.in.

Draft approved by the Registrar

Deputy Registrar (Academic)
Deputy Registrar (Academic)
University of Mysore
Mysore-570 005

To:

1. The Registrar (Evaluation), University of Mysore, Mysore.
2. The Dean, Faculty of Science & Technology, DOS in Psychology, Manasagangotri, Mysore.
3. The Chairperson, BoS in Mathematics, DOS in Mathematics, Manasagangotri, Mysore.
4. The Chairperson, Department of Studies in Mathematics, Manasagangotri, Mysore.
5. The Director, College Development Council, Moulya Bhavan, Manasagangotri, Mysore.
6. The Deputy/Assistant Registrar/Superintendent, AB and EB, UOM, Mysore.
7. The P.A. to the Vice-Chancellor/Registrar/Registrar (Evaluation), UOM, Mysore.
8. Office file.

BSc Mathematics

Tables Containing Details of Revision

Existing

Semester	Course Type	Course	L	T	P	Total Credits	Work Hours per week
1	DSC	Algebra-I and Calculus-I	4	0	2	6	4+0+4
2	DSC	Calculus-II and Theory of Numbers	4	0	2	6	4+0+4
3	DSC	Algebra-II and Differential Equations	4	0	2	6	4+0+4
4	DSC	Differential Equations-II and Real Analysis-I	4	0	2	6	4+0+4
5	DSE	Real Analysis-II and Algebra-III	4	0	2	6	4+0+4
6	DSE	Algebra-IV and Complex Analysis-I	4	0	2	6	4+0+4

Revised with Minor Changes

Semester	Course Type	Course	L	T	P	Total Credits	Work Hours per week
1	DSC	Algebra-I and Calculus-I	4	0	2	6	4+0+4
2	DSC	Calculus-II and Theory of Numbers	4	0	2	6	4+0+4
3	DSC	Algebra-II and **Differential Equations-I**	4	0	2	6	4+0+4
4	DSC	Differential Equations-II and Real Analysis-I	4	0	2	6	4+0+4
5	DSE	**Real Analysis-II and Algebra-III**	3	0	3	6	3+0+6
6	DSE	Algebra-IV and Complex Analysis-I	3	0	3	6	3+0+6

SEM	Course	Existing	Revised
I	DSC – MATH – 01 : ALGEBRA - I AND CALCULUS – I (4 lecture hours/ week: 16 x 4 – 64 HOURS)	Same as in the existing syllabus	No Change
II	DSC– MATH - 02 : CALCULUS - II AND THEORY OF NUMBERS (4 lecture hours / week: 16 x 4 = 64 HOURS)	**UNIT I:** Limits and Continuity (16 hrs) Limit of a function – Properties and problems. Continuity of functions – Properties and problems – Infimum and supremum of a function – Theorems on continuity – Intermediate value theorem.	**UNIT I: Limits, Continuity and Differentiability** (16 hrs) Limit of a function – Properties and problems. Continuity of functions – Properties and problems – Infimum and supremum of a function – Theorems on continuity Intermediate value theorem. **Differentiability.**
		UNIT II: Differential Calculus - III (16 hrs) **Differentiability** – Rolle's theorem – Lagrange's Mean Value theorem – Cauchy's mean value theorem - Taylor's theorem – Maclaurin's theorem – Taylor's infinite series and power series expansion – Maclaurin's infinite series – Indeterminate forms.	**UNIT II:** Differential Calculus - III (16 hrs) Rolle's theorem – Lagrange's Mean Value theorem – Cauchy's mean value theorem – Taylor's theorem – Maclaurin's theorem – Taylor's infinite series and power series expansion – Maclaurin's infinite series – Indeterminate forms.
		UNIT III & UNIT IV	No Change
III	DSC – MATH – 03 : ALGEBRA – II AND DIFFERENTIAL EQUATIONS-I (4 lecture hours/week: 16 x 4 = 64 HOURS)	Same as in the existing syllabus	No Change

SEM	Course	Existing	Revised
IV	DSC – MATH – 04 : DIFFERENTIAL EQUATIONS – II AND REAL ANALYSIS - I (4 lecture hours/week: 16 x 4 = 64 HOURS)	**UNIT I & UNIT II**	No Change
		UNIT III: Line and Multiple Integrals (16 hrs) Definition of a line integral and basic properties – Examples on evaluation of line integrals – Definition of a double integral – Conversion to iterated integrals – Evaluation of double integrals under given limits - Evaluation of double integrals in regions bounded by given curves. Changing the order of integration. Change of variables from Cartesian to polar - Surface areas. Definition of a triple integral – Evaluation – Change of variables (Cylindrical and Spherical) – Volume as a triple integral.	**UNIT III: Riemann integration and Line Integral (16 hrs)** The Riemann integral – Upper and lower sums – Criterion for integrability – **Properties of Riemann Integrals.** Integrability of continuous functions and monotonic functions. **Fundamental theorem of Calculus (Statement only) – Problems. Integration as a limit of sum (problems only)** Definition of a line integral and basic properties – Examples on evaluation of line integrals.
		Unit IV: Riemann integration (16 hrs) The Riemann integral – Upper and lower sums – Criterion for integrability – Integrability of continuous functions and monotonic functions. Fundamental theorem of Calculus – Change of variables – Integration by parts – First and second mean value theorems of integral calculus.	**Unit IV: Multiple Integrals (16 hrs)** Definition of a double integral – Conversion to iterated integrals – Evaluation of double integrals under given limits - Evaluation of double integrals in regions bounded by given curves. Changing the order of integration. Change of variables from Cartesian to polar - **Plane areas.** Surface areas. Definition of a triple integral – Evaluation – Change of variables (Cylindrical and Spherical) – Volume as a triple integral.

SEM	Course	Existing	Revised
V	DSE – MATH – 01 : REAL ANALYSIS-II AND ALGEBRA – III	(4 lecture hours/week: 16 x 4 = 64 HOURS + 4 hours/week for practicals (4+0+2=6 credits))	(3 lecture hours/week: 16 x3 = 48 HOURS + 6 hours/week for two practicals (3+0+3=6 credits))
VI	DSE – MATH – 02 : ALGEBRA - IV AND COMPLEX ANALYSIS I	(4 lecture hours/week: 16 x 4 = 64 HOURS + 4 hours/week for practicals (4+0+2=6 credits))	(3 lecture hours/week: 16 x 3 = 48 HOURS + 6 hours/week for two practicals (3+0+3=6 credits))

Sd/-
Chairman BOS(UG)

1) Madhusudhan H.S.   H.S. Madhudha

2. Soma B A   Somar

3 Dr SRIDHAR G

4) Dr. GURUPRASAD P.S.   P.S.

R. Ranganing

Chairman (BOS)
DOS in Mathematics
University of Mysore
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