University of Mumbai

वेबसाइंट — mu.ac.in इमिल - आयडी - <u>dr.aams @fort.mu.ac.in</u> aams 3 @mu.ac.in



विद्याविषयक प्राधिकरणे सभा आणि सेवा विभाग(ए.ए.एम.एस) रूम नं. १२८ एम.जी.रोड, फोर्ट, मुंबई - ४०० ०३२ टेलिफोन नं - ०२२ - ६८३२००३३

(नॅक पुनमूॅल्यांकनाद्वारे ३.६५ (सी.जी.पी.ए.) सह अ++ श्रेणी विद्यापीठ अनुदान आयोगाद्वारे श्रेणी १ विद्यापीठ दर्जा)

क.वि.प्रा.स.से./आयसीडी/२०२५-२६/३७

दिनांक : २७ मे, २०२५

परिपत्रक:-

सर्व प्राचार्य/संचालक, संलिग्नित महाविद्यालये/संस्था, विद्यापीठ शैक्षणिक विभागांचे संचालक/ विभाग प्रमुख यांना कळविण्यात येते की, राष्ट्रीय शैक्षणिक धोरण २०२० च्या अमंलबजावणीच्या अनुषंगाने शैक्षणिक वर्ष २०२५-२६ पासून पदवी व पदव्युत्तर अभ्यासकम विद्यापिरिषदेच्या दिनांक २८ मार्च २०२५ व २० मे, २०२५ च्या बैठकीमध्ये मंजूर झालेले सर्व अभ्यासकम मुंबई विद्यापीठाच्या www.mu.ac.in या संकेत स्थळावर NEP २०२० या टॅब वर उपलब्ध करण्यात आलेले आहेत.

मुंबई - ४०० ०३२ २७ मे, २०२५ (डॉ. प्रसाद कारंडे) कुलसचिव

क वि प्रा.स.से वि/आयसीडी/२०२५-२६/३७ दिनांक : २७ मे, २०२५ Desktop/ Pritam Loke/Marathi Circular/NEP Tab Circular

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University of Mumbai



Science Programme Equivalence M.A./M.Sc. (Mathematics)

Syllabus for

Semester - Sem.- I to IV

(With effect from the academic year 2025-26)

List of Equivalence for M.A./M.Sc. (Mathematics)

Name of the Programme: M.Sc. Mathematics (University Department)

We are submitting herewith the list of equivalences for M.Sc. Mathematics. The same should be applied for M.A. mathematics as well.

SEMESTER-I M.Sc (Mathematics)

NOTE: Syllabus revision 2013-14 (Exam pattern 60-40) is mapped with Pre NEP CBCS syllabus revision 2020-2021/22 (Exam pattern 60:40). Syllabus revision CBSGS 2017-18 (Exam pattern 100:00) is mapped with Pre-NEP CBCS syllabus revision 2020-21/22 (Exam pattern 60:40), so appropriate conversion of marks from 60 to 100 needs to be done in this case.

List of Equivalent Courses (PG)

	Old CBSGS Pattern	Pre-NEP CBCS Pattern
Sem I		
Paper Code & Paper	Paper Code: 73035, 94649	Paper Code: 94735
Name	Subject Name: Algebra-I	Subject Name: Algebra-I
Paper Code &	Paper Code: 73057, 94672	Paper Code: 94736
Paper Name	Subject Name: Analysis-I	Subject Name: Analysis-I

Paper Code &	Paper Code: 73088, 94706	Paper Code: 94739
Paper		
Name	Subject Name: Discrete Mathematics	Subject Name: Discrete Mathematics
Paper Code &	Paper Code: 73079, 94699	Paper Code: 94737
Paper Name	Subject Name: Complex Analysis-I	Subject Name: Complex Analysis
Paper Code &	Paper Code: 73014, 94623	Paper Code: 94739
Paper Name	Subject Name: Set Theory and Logic (Soft skills)	Subject Name: Discrete Mathematics

SEMESTER-II M.Sc (Mathematics)

Sem II	Old CBSGS Pattern	Pre-NEP CBCS Pattern
Paper Code &	Paper Code: 67223	Paper Code: 92223
Paper Name	Subject Name: Algebra-II	Subject Name: Algebra-II
Paper Code &	Paper Code: 67247	Paper Code: 92224
Paper Name	Subject Name: Topology	Subject Name: Topology
Paper Code &	Paper Code: 67273	Paper Code: 94737
Paper Name	Subject Name: Complex Analysis-II	Subject Name: Complex Analysis (SEMESTER-I)
Sem II	Old CBSGS Pattern	Pre-NEP CBCS Pattern
Paper Code &	Paper Code: 67300	Paper Code: 94738
Paper Name	Subject Name: Differential Equations	Subject Name: Ordinary Differential Equations (SEMESTER-I)

Paper Code &	Paper Code: 67303, 92203	Paper Code: 92227
Paper Name	Subject Name: Elementary probability theory	Subject Name: Probability Theory

SEMESTER-III M.Sc (Mathematics)

Sem III	Old CBSGS Pattern	Pre-NEP CBCS Pattern
1. Paper Code & Paper	Paper Code: 26601, 74701	Paper Code: 90938
Name	Subject Name: Algebra-III	Subject Name: Algebra-III
2. Paper Code &	Paper Code: 26629	Paper Code: 94829
Paper Name	Subject Name: Analysis-II	Subject Name: Analysis-II
3. Paper Code &	Paper Code: 26657	Paper Code: 90940
Paper Name	Subject Name: Differential Geometry	Subject Name: Differential Geometry
4. Paper Code &	Paper Code: 26781, 94982	Paper Code: 90941
Paper Name	Subject Name: Numerical Analysis-I (Optional Course)	Subject Name: Numerical Analysis (Elective Course)
5. Paper Code &	Paper Code: 26787, 74896	Paper Code: 90943
Paper Name	Subject Name: Graph Theory-I (Optional Course)	Subject Name: Graph Theory (Elective Course)
Sem III	Old CBSGS Pattern	Pre-NEP CBCS Pattern
6. Paper Code &	Paper Code: 26712	Paper Code: 90942
Paper Name	Subject Name: Algebraic Topology-I (Optional Course)	Subject Name: Algebraic Topology (Elective Course)

7. Paper Code & Paper Name	Paper Code: 26788	Paper Code: 90944
	Subject Name: Commutative Algebra (Optional Course)	Subject Name: Commutative Algebra (Elective Course)
8. Paper Code & Paper Name	Paper Code: 26786	Paper Code: 92946
	Subject Name: Operations Research (Optional Course)	Subject Name: Linear and non-linear programming
9. Paper Code &	Paper Code: Not available	Paper Code: 94737
Paper Name	Subject Name: Advanced Complex Analysis (Optional Course)	Subject Name: Complex Analysis (Elective Course)
10. Paper Code &	Paper Code: Not available	Paper Code: 90948
Paper Name	Subject Name: Design Theory-I (Optional Course)	Subject Name: Design Theory (Elective Course)
11. Paper Code &	Paper Code: Not available	Paper Code: 90949
Paper Name	Subject Name: Coding Theory	Subject Name: Coding Theory

SEMESTER-IV M.Sc (Mathematics)

Sem IV	Old CBSGS Pattern	Pre-NEP CBCS Pattern
1 Paper Code & Paper	Paper Code: 92331	Paper Code: 92940
Name	Subject Name: Field Theory	Subject Name: Algebra-IV
2 Paper Code & Paper	Paper Code: 92367	Paper Code: 92941
Name	Subject Name: Fourier Analysis	Subject Name: Fourier Analysis
3 Paper Code &	Paper Code: 92426	Paper Code: 90939
Paper Name	Subject Name: Functional Analysis	Subject Name: Functional Analysis (SEMESTER-III COURSE)
4 Paper Code &	Paper Code: 92537	Paper Code: 90941 (SEMESTER-III COURSE)
Paper Name	Subject Name: Numerical Analysis II (Optional Course)	Subject Name: Numerical Analysis
5 Paper Code &	Paper Code: 92539, 74896	Paper Code: 90943
Paper Name	Subject Name: Graph Theory II (Optional Course)	Subject Name: Graph Theory (Elective Course)

Sem IV	Old CBSGS Pattern	Pre-NEP CBCS Pattern
6 Paper Code &	Paper Code: 92540	Paper Code: 90950
Paper Name	Subject Name: Integral Transform (Optional Course)	Subject Name: Integral transforms (SEMESTER-III COURSE)
	Subject Name: Not applicable	
7. Paper Code & Paper Name	Paper Code: 92541	Paper Code: 92946
	Subject Name: Nonlinear optimization (Optional Course)	Subject Name: Linear and non-linear programming
8. Paper Code &	Paper Code: 92542	Paper Code: 90948
Paper Name	Subject Name: Design theory-II (Optional Course)	Subject Name: Design Theory (SEMESTER-III COURSE)
9. Paper Code & Paper Name	Paper Code: 92543	Paper Code: 92227
	Subject Name: Advanced probability theory (Optional Course)	Subject Name: Probability Theory (SEMESTER-II COURSE)
10. Paper Code & Paper Name	Paper Code: 92497	Paper Code: 92942
	Subject Name: Differential topology (Optional Course)	Subject Name: Calculus of Manifolds (SEMESTER-IV COURSE)
Sem IV	Old CBSGS Pattern	Pre-NEP CBCS Pattern

11. Paper Code & Paper Name	Paper Code: 92519	Paper Code: 90942 (SEMESTER-III COURSE)
	Subject Name: Algebraic topology-II (Optional Course)	Subject Name: Algebraic Topology
12. Paper Code & Paper Name	Paper Code: 92534	Paper Code: 90946
	Subject Name: Algebraic number theory (Optional Course)	Subject Name: Algebraic number theory (SEMESTER-III COURSE)

Name of the Programme: M.Sc. (Mathematics)

Sem I	Old (Choice Based) System	Pre-NEP CBCS Pattern
Sem I		
Paper Code &	Paper Code: 94625	Paper Code: 94735
Paper Name	Subject Name: Algebra-I	Subject Name: Algebra-I
Paper Code &	Paper Code: 94651	Paper Code: 94736
Paper Name	Subject Name: Analysis-I	Subject Name: Analysis-I
Paper Code & Paper	Paper Code: 94703	Paper Code: 94739
Name	Subject Name: Discrete Mathematics	Subject Name: Discrete Mathematics
Paper Code &	Paper Code: 94677	Paper Code: 94737
Paper Name	Subject Name: Complex Analysis	Subject Name: Complex Analysis

Sem I	Old (Choice Based) System	Pre-NEP CBCS Pattern
Paper Code & Paper	Paper Code: 94601	Paper Code: 94739
Name	Subject Name: Set theory and logic	Subject Name: Discrete Mathematics

Sem II	Old (Choice Based) System	Pre-NEP CBCS Pattern
Paper Code &	Paper Code: 92122, 92208	Paper Code: 92223
Paper Name	Subject Name: Algebra-II	Subject Name: Algebra-II
Paper Code &	Paper Code: 92148, 92212	Paper Code: 92224
Paper Name	Subject Name: Topology	Subject Name: Topology
Paper Code & Paper	Paper Code: 92200, 92218	Paper Code: 94738
Name	Subject Name: Differential Equations	Subject Name: Ordinary Differential Equations (SEMESTER-I)
Paper Code &	Paper Code: 92204	Paper Code: 92227

Paper Name	Subject Name: Probability Theory	Subject Name: Probability Theory
Paper Code & Paper	Paper Code: 92174	Paper Code: 92225
Name	Subject Name: Analysis-II	Subject Name: Analysis-II

SEMESTER-III M.Sc (Mathematics)

Sem III	Old (Choice Based) System	Pre-NEP CBCS Pattern
1. Paper Code & Paper	Paper Code: 94801, 74701	Paper Code: 90938
Name	Subject Name: Algebra-III	Subject Name: Algebra-III
2. Paper Code &	Paper Code: 74730	Paper Code: 90939
Paper Name	Subject Name: Functional Analysis	Subject Name: Functional Analysis
3. Paper Code &	Paper Code: 74764	Paper Code: 90940
Paper Name	Subject Name: Differential Geometry	Subject Name: Differential Geometry
4. Paper Code &	Paper Code: 74895, 94677, 94982	Paper Code: 90941
Paper Name	Subject Name: Numerical Analysis (Elective Course)	Subject Name: Numerical Analysis (Elective Course)
5. Paper Code &	Paper Code: 94984, 74896	Paper Code: 90943
Paper Name	Subject Name: Graph Theory (Elective Course)	Subject Name: Graph Theory (Elective Course)
6. Paper Code &	Paper Code: 74833, 94928	Paper Code: 90942
Paper Name	Subject Name: Algebraic Topology (Elective Course)	Subject Name: Algebraic Topology (Elective Course)

Sem III	Old (Choice Based) System	Pre-NEP CBCS Pattern
7. Paper Code & Paper Name	Paper Code: 74897, 94985	Paper Code: 90944
	Subject Name: Commutative Algebra (Elective Course)	Subject Name: Commutative Algebra (Elective Course)
8. Paper Code & Paper Name	Paper Code: 74900	Paper Code: 92226
	Subject Name: Partial Differential Equations (Elective Course)	Subject Name: Partial Differential Equations (SEMESTER-II)
9. Paper Code & Paper Name	Paper Code: 74903	Paper Code: 90950
	Subject Name: Integral transforms (Elective Course)	Subject Name: Integral transforms (Elective Course)
10. Paper Code &	Paper Code: 74898	Paper Code: 94737
Paper Name	Subject Name: Advanced Complex Analysis (Elective Course)	Subject Name: Complex Analysis (Elective Course)
11. Paper Code &	Paper Code: 74899	Paper Code: 90946
Paper Name	Subject Name: Algebraic Number Theory (Elective Course)	Subject Name: Algebraic Number Theory (Elective Course)
12. Paper Code &	Paper Code: 74901	Paper Code: 90948
Paper Name	Subject Name: Design Theory (Elective Course)	Subject Name: Design Theory (Elective Course)

Sem III	Old (Choice Based) System	Pre-NEP CBCS Pattern
13. Paper Code & Paper Name	Paper Code: Not available	Paper Code: 90949
	Subject Name: Coding Theory	Subject Name: Coding Theory (Elective Course)
14. Paper Code & Paper Name	Paper Code: NOT AVAILABLE	Paper Code: 92944
	Subject Name: Statistical Methods (Skill Course)	Subject Name: Statistical Methods (Skill Based Course)
15. Paper Code & Paper	Paper Code: NOT AVAILABLE	Paper Code: 92945
Name	Subject Name: Computer Science (Skill Course)	Subject Name: Computer Science (Skill Based Course)
16. Paper Code &	Paper Code: NOT AVAILABLE	Paper Code: 92943
Paper Name	Subject Name: Business Statistics (Skill Course)	Subject Name: Business Statistics (Skill Based Course)

SEMESTER-IV (M.Sc Mathematics)

NOTE: Syllabus revision 2013-14 (Exam pattern 60-40) is mapped with Pre NEP CBCS syllabus revision 2020 2021/22 (Exam pattern 60:40). Syllabus revision CBSGS 2017-18 (Exam pattern 100:00) is mapped with Pre-NEP CBCS syllabus revision 2020-21/22 (Exam pattern 60:40), so appropriate conversion of marks from 60 to 100 needs to be done in this case.

Sem IV	Old (Choice Based) System	Pre-NEP CBCS Pattern
1 Paper	Paper Code: 92628, 92869	Paper Code: 92940
Code & Paper Name	Subject Name: Field Theory	Subject Name: Algebra-IV
2 Paper Code &	Paper Code: 92669, 92870	Paper Code: 92941
Paper Name	Subject Name: Fourier Analysis	Subject Name: Fourier Analysis
3 Paper Code &	Paper Code: 92871	Paper Code: 92942
Paper Name	Subject Name: Calculus on Manifolds	Subject Name: Calculus on Manifolds
4 Paper Code &	Paper Code: 26786 and 94983	Paper Code: 92946
Paper Name	Subject Name: Linear Programming and Optimization (OC-I and OC-II)	Subject Name: Linear and non- linear programming

This is also to place on record that the semester IV students have five courses in all, the fifth one being project (a four credit course). The marks of the project are submitted by the Department.

Date: 14February, 2025

Prof. Bhausaheb Shankar Desale Chairman Board of Studies in Mathematics University of Mumbai, Mumbai 400098