



### List of Programme(s)

**Department: Mathematics**

#### ***List of Programmes having Components of Project***

Sr. No.	Programme Code	Programme Name	Academic Year
01.		M.Sc. (Mathematics)	2021-22

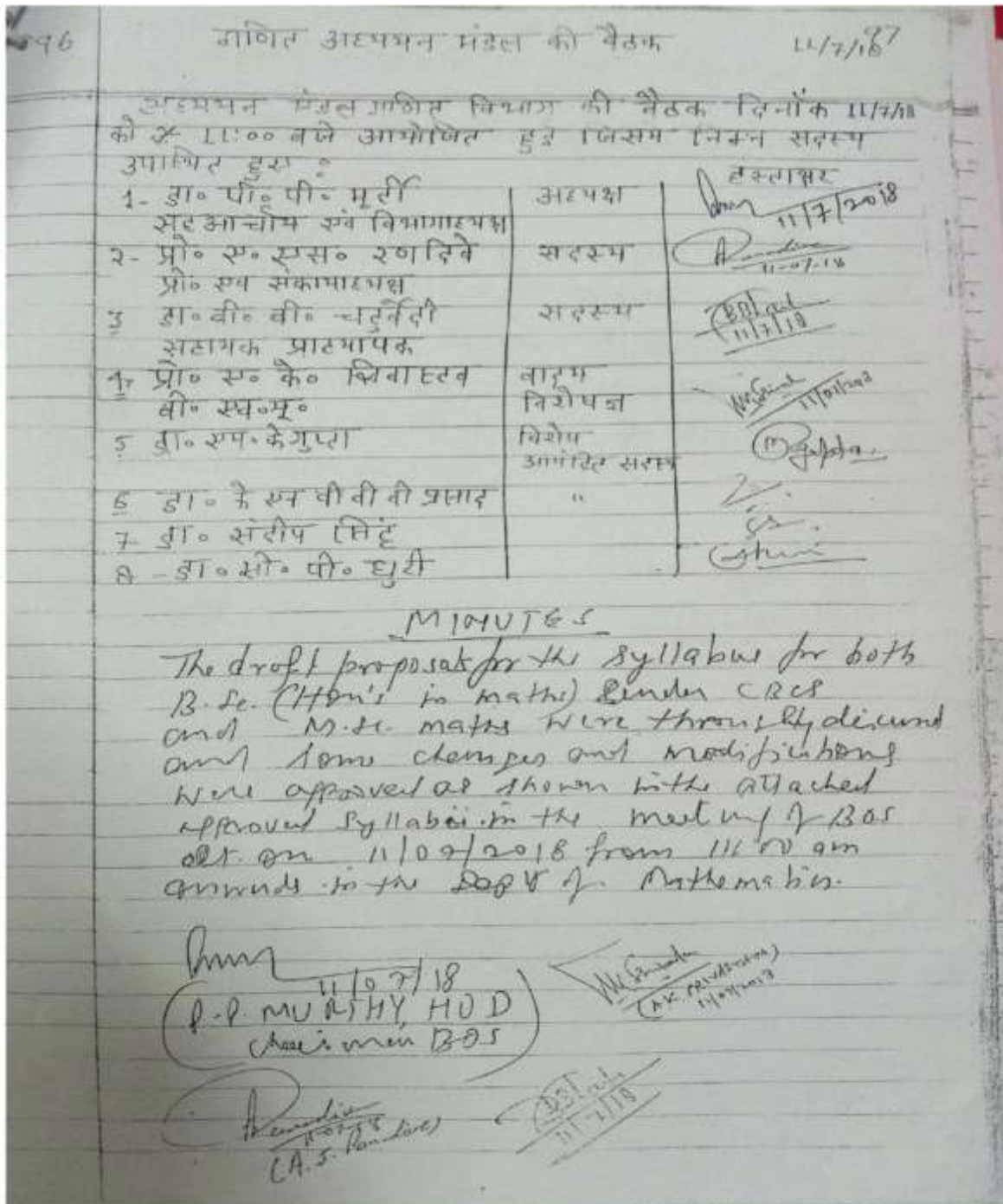


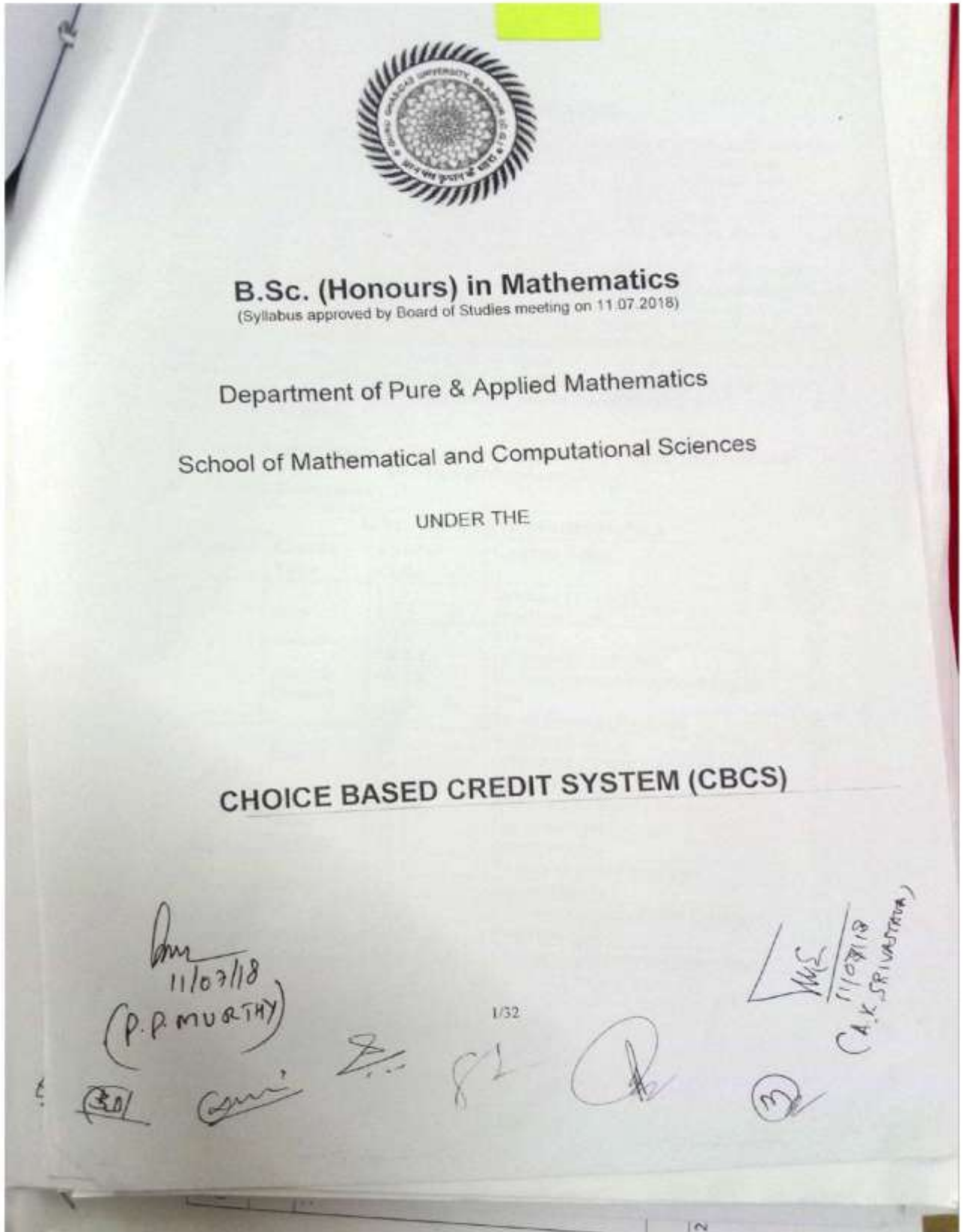
Minutes of Meetings (MoM) of Board of Studies (BoS)

School : **SoS of Computational and Mathematical Science**

Department : **Mathematics**

Date and Time: **July 11, 2018, 11.00 a.m.**







### SCHEME OF EXAMINATION

All papers of B.Sc.(Honors'in Mathematics) **First, Second, Third and Fourth Semesters** are compulsory. In **Fifth and Sixth Semesters TWO PAPERS(02)** are **core papers** and each student has to choose three papers from the list of given **optional papers**. An examinee has to attempt total five (05) questions out of eight(08) i.e. one compulsory and four optional. Question No. 1 is compulsory and will consist of short answered type ten(10) questions spread all over the syllabus carrying 20 marks (2 marks of each question). Rest of all questions will carry 10 marks each.

In addition to this in the final semester (i.e. Fourth Semester of M.Sc. in Mathematics) a student can choose **two optional papers** and one **project dissertation (selection based on the criteria fixed by Department Head)** under the supervision/guidance of any of the faculty members in the relevant areas of Mathematics closely to the subjects taught at M.Sc. level. Supervisor and topic of the dissertation for student is being allotted at the level of Department in consultation with HOD by a team of faculty members. The dissertation evaluation of 100 marks is evaluated by a committee **consisting of HOD, supervisor and external subject expert**. Each paper (except project dissertation) is of 100 marks and its distribution is as under:

Internal Assessment: **40** (30 marks of internal examination + 05 marks of assignment + 05 maximum marks on attendance)

End Semester Examination: **60**

B.Sc. (Hon's) in Mathematics				
Semester	Course Type	Course Code	Course Name	Credit/Hours
I	Core	C1.1	Calculus (Theory)	04
		C 1.1	Practical (Lab)	02
		C 1.2	Algebra	06
	Generic Elective	GE 1.1	Differential Calculus	06
		GE 1.2	Object Oriented Programming in C++	06
		GE 1.3	Finite Element Methods	06
II	Core	C2.1	Real Analysis	06
		C 2.2	Differential Equations (Theory)	04
		C 2.2	Practical (Lab)	02
	Generic Elective	GE 2.1	Algebra and Matrix Theory	06
		GE 2.2	Mathematical Finance	06
		GE 2.3	Econometrics	06
	Core	C3.1	Theory of Real Functions	06
		C3.2	Group Theory I	06
		C3.3	PDE and System of ODE (Theory)	04
		C3.3	Practical (Lab)	02
		GE 3.1	Ordinary Differential Equations	06



III	Generic Elective	GE 3.2	and Vector Calculus Cryptography and Network Security	06
		GE 3.3	Information Security	06
	SEC	SEC 1.1	Logic and Sets	06
		SEC 1.2	Computer Graphics	06
IV	Core	C4.1	Numerical Methods (Theory)	04
		C4.1	Practical (Lab)	02
		C4.2	Riemann Integration and series of Functions	06
		C4.3	Ring Theory and Linier Algebra I	06
	Generic Elective	GE4.1	Partial Differential Equations, Laplace Transform and Fourier Series	06
		GE 4.2	Applications of Algebra	06
		GE 4.3	Combinatorial Mathematics	06
	SEC	SEC 2.1	Graph Theory	06
		SEC 2.2	Operating System: Linux	06
	V	Core	C 5.1	Multivariate Calculus
C 5.2			Group Theory II	06
DSE (Any One)		DSE 1.1	Portfolio Optimization	06
		DSE 1.2	Number Theory	06
		DSE 1.3	Analytical Geometry	06
DSE (Any One)		DSE 2.1	Industrial Mathematics	06
		DSE 2.2	Boolean Algebra and Automata Theory	06
		DSE 2.3	Probability and Statistics	06
VI	Core	C 6.1	Metric Space and Complex Analysis	06
		C 6.2	Ring Theory and Linear Algebra II	06
	DSE (Any One)	DSE 3.1	Theory of Equations	06
		DSE 3.2	Bio-Mathematics	06
		DSE 3.3	Linear Programming	06
	DSE (Any One)	DSE 4.1	Mathematical Modeling	06
		DSE 4.2	Mechanics	06
		DSE 4.3	Differential Geometry	06

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**M.Sc. in Mathematics**

(Syllabus approved by Board of Studies meeting on 29.06.2017)

Department of Pure & Applied Mathematics

School of Mathematical and Computational Sciences

UNDER THE

**CHOICE BASED CREDIT SYSTEM**

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### SCHEME OF EXAMINATION

All papers of M.Sc. First and Second Semesters are compulsory. In M.Sc. Third and Fourth Semester Two papers are core papers and each student has to choose three among the given list of optional papers (Including Project). A candidate has to attempt five questions. Question No. 1 is compulsory which will consist of short answered type ten questions spread all over the syllabus carrying 20 marks (2 marks each). Rest all questions will carry 10 marks each.

Supervisor and topic of the dissertation for student will be allotted at the level of Department. The dissertation evaluation of 100 marks evaluated by a committee consisting of HOD, supervisor and external subject expert. Each paper (except project dissertation) is of 100 marks and its distribution is as under:

Internal Assessment : 40

End Semester Examination : 60

#### M.Sc. in Mathematics

Semester	Course code	Core Course	Credit Hours
I	MSC 1.1	Algebra - I	04
	MSC 1.2	Real Analysis	04
	MSC 1.3	Topology-I	04
	MSC 1.4	Differential Geometry - I	04
	MSC 1.5	Discrete Mathematical Structures	04
II	MSC 2.1	Algebra - II	04
	MSC 2.2	Complex Analysis	04
	MSC 2.3	Topology-II	04
	MSC 2.4	Differential Geometry - II	04
	MSC 2.5	Graph Theory	04
III (Core Group)	MSC 3.1	Functional Analysis	04
	MSC 3.2	Theory of Differential Equations -I	04
	MSO 3.1	Fuzzy Sets, Fuzzy Logic and their Applications -I	04
	MSO 3.2	Integral Equations	04

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III (Optional Group ANY  THREE)	MSO 3.3	Operations Research- I	04
	MSO 3.4	Differential Geometry of Manifolds	04
	MSO 3.5	Difference Equations -I	04
	MSO 3.6	Information Theory and its Applications	04
	MSO 3.7	Object Oriented Programming with C++	04
	MSO 3.8	Number Theory and Cryptography	04
IV (Core Group)	MSC 4.1	Advanced Functional Analysis	04
	MSC 4.2	Theory of Differential Equations -II	04
IV (Optional Group ANY THREE)	MSO 4.1	Fuzzy Sets, Fuzzy Logic and their Applications-II	04
	MSO 4.2	Finsler Geometry	04
	MSO 4.3	Operations Research- II	04
	MSO 4.4	Complex Manifolds	04
	MSO 4.5	Difference Equation -II	04
	MSO 4.6	Financial Mathematics and its Applications	04
	MSO 4.7	Project	04

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### List of students undertaking Field Projects/Projects / Internships

Sr. No.	Programme Name	Name of the Student	Link of Certificate
01.	MSc (Mathematics)	Jitendra Kumar	<a href="#">0312023104816_Project dissertation of the students of Post Graduate programme (M.Sc. Maths.) for session 2021-22.pdf (ggu.ac.in)</a>
02.	MSc (Mathematics)	Mamata Kaushik	<a href="#">0312023104816_Project dissertation of the students of Post Graduate programme (M.Sc. Maths.) for session 2021-22.pdf (ggu.ac.in)</a>
03.	MSc (Mathematics)	Sunima Patel	<a href="#">0312023104816_Project dissertation of the students of Post Graduate programme (M.Sc. Maths.) for session 2021-22.pdf (ggu.ac.in)</a>
04.	MSc (Mathematics)	Vandana Kumari	<a href="#">0312023104816_Project dissertation of the students of Post Graduate programme (M.Sc. Maths.) for session 2021-22.pdf (ggu.ac.in)</a>
05.	MSc (Mathematics)	Shashank Nirmalkar	<a href="#">0312023104816_Project dissertation of the students of Post Graduate programme (M.Sc. Maths.) for session 2021-22.pdf (ggu.ac.in)</a>
06.	MSc (Mathematics)	Satish Gupta	<a href="#">0312023104816_Project dissertation of the students of Post Graduate programme (M.Sc. Maths.) for session 2021-22.pdf (ggu.ac.in)</a>
07.	MSc (Mathematics)	Anjali Saw	<a href="#">0312023104816_Project dissertation of the students of Post Graduate programme (M.Sc. Maths.) for session 2021-22.pdf (ggu.ac.in)</a>
08.	MSc (Mathematics)	Nutan Sahu	<a href="#">0312023104816_Project dissertation of the students of Post Graduate programme (M.Sc. Maths.) for session 2021-22.pdf (ggu.ac.in)</a>
09.	MSc (Mathematics)	Aabha Patel	<a href="#">0312023104816_Project dissertation of the students of Post Graduate programme (M.Sc. Maths.) for session 2021-22.pdf (ggu.ac.in)</a>
10.	MSc (Mathematics)	Pankaj Yadav	<a href="#">0312023104816_Project dissertation of the students of Post Graduate programme (M.Sc. Maths.) for session 2021-22.pdf (ggu.ac.in)</a>
11.	MSc (Mathematics)	Sourav Deep	<a href="#">0312023104816_Project dissertation of the students of Post Graduate programme (M.Sc. Maths.) for session 2021-22.pdf (ggu.ac.in)</a>
12.	MSc (Mathematics)	Nitu Sahu	<a href="#">0312023104816_Project dissertation of the students of Post Graduate programme (M.Sc. Maths.) for session 2021-22.pdf (ggu.ac.in)</a>
13.	MSc (Mathematics)	Smitaprajna Sahu	<a href="#">0312023104816_Project dissertation of the students of Post Graduate programme (M.Sc. Maths.) for session 2021-22.pdf (ggu.ac.in)</a>