

Ramakrishna Mission Vidyamandira

Belur Math-Howrah

SWAMI VIVEKANANDA RESEARCH CENTRE

Programme Name : Ph.D. Mathematics Programme

Programme Code : PDMTM

Total Credit : 16

Syllabus for Course Work

Ph.D. Mathematics PROGRAMME

1 Semester Course Work

Mapping of Employability etc

Sl No	Name of the Course	Semester	Course Code	Activities with direct bearing on Employability/ Entrepreneurship/ Skill development
1	Commutative Algebra I	1	PDMTMP1 New Course Vide BoS dated : 05.12.2015	<p>Skill development : Analytical and reasoning skills are developed by group discussion or free participation of students related to nontrivial problems in class. Also, they develop skills to identify and attack research problems.</p> <p>Employability : Class room discussions, problem solving sessions helps them to stress on the important areas, which in turn improves their skills for Teaching jobs at College and University Level.</p>

2	Topics from Algebraic Geometry	1	PDMTMP2 New Course Vide BoS dated : 05.12.2015	<p>Skill development : Analytical and reasoning skills are developed by group discussion or free participation of students related to nontrivial problems in class. Also, they develop skills to identify and attack research problems.</p> <p>Employability : Class room discussions, problem solving sessions helps them to stress on the important areas, which in turn improves their skills for Teaching jobs at College and University Level.</p>
3	Commutative Algebra II	1	PDMTMP3 New Course Vide BoS dated : 05.12.2015	<p>Skill development : Analytical and reasoning skills are developed by group discussion or free participation of students related to nontrivial problems in class. Also, they develop skills to identify and attack research problems.</p> <p>Employability : Class room discussions, problem solving sessions helps them to stress on the important areas, which in turn improves their skills for Teaching jobs at College and University Level.</p>
4	Research Methodology & Computer Applications & Research Ethics	1	PDMTMP4 New Course Vide BoS dated : 05.12.2015	<p>Skill development : Students develop skills to use various computer softwares required to support their research. Also, they learn Research ethics and how to present their research works at par with international standards.</p>

Course Code : PDMTMP1

Course Outcome : This course will make the research scholar introduced with one advanced course that will be read in such a way that the research issues and problems may be identified.

Paper Name : Commutative Algebra I
Total Marks : 50
Total Credits : 4
Syllabus : The textbook of Atiyah-Macdonald.

Course Code : PDMTMP2

Course Outcome : This course will make the research scholar introduced with one advanced course that will be read in such a way that the research issues and problems may be identified.

Paper Name : Topics from Algebraic Geometry
Total Marks : 50
Total Credits : 4
Syllabus : Topics from Affine Algebraic Geometry and Algebraic Curves.

Course Code : PDMTMP3

Course Outcome : This course will make the research scholar introduced with one advanced course that will be read in such a way that the research issues and problems may be identified.

Paper Name : Commutative Algebra II
Total Marks : 50
Total Credits : 4
Syllabus : The TIFR pamphlet on "Homological Methods in Commutative Algebra" and Topics from "Commutative Algebra" by H. Matsumura

Course Code : PDMTMP4

New course Vide BoS dated : 27.11.2017

Course Outcome : The course will introduce the researchers with the requisite methodology to do research in literature. It will further make them aware of

different publication rules and techniques that make a quality research paper. The training in this course will also make them learn to identify the research questions.

Paper Name	:	Research Methodology & Computer Applications & Research Ethics
Total Marks	:	50
Total Credits	:	4
Syllabus	:	Review of research papers published in the areas of Polynomial Rings, Affine Fibrations and Locally Nilpotent Derivations. Introduction to LATEX.