



DEPARTMENT OF MATHEMATICS & STATISTICS
HIMACHAL PRADESH UNIVERSITY
Summerhill Shimla-171 005.

Dated: 10.09.2018

**PROCEEDINGS OF THE MEETING OF THE BOARD OF STUDIES IN PG IN
THE SUBJECT OF MATHEMATICS HELD AT 12.30 PM ON 10.09.2018 IN
THE CHAMBER OF THE CHAIRMAN DEPARTMENT OF MATHEMATICS**

A meeting of the Board of Studies (PG) in the subject of Mathematics was held on 10th of September, 2018, at 12.30 PM in the Department of Mathematics & Statistics, H.P. University, Shimla-5. The following members attended the meeting:

1. Professor Rajesh Sharma: Chairman & Convener.
2. Professor R.C. Mittal, I.I.T. Roorkee, External Member, BOS (PG)
3. Professor R.P. Sharma, Department of Mathematics & Statistics, Member.
4. Professor (Mrs.) Veena Sharma, Department of Mathematics & Statistics, Member.
5. Professor Joginder Singh Dhiman, Department of Mathematics & Statistics, Member.
6. Professor Khem Chand, Department of Mathematics & Statistics, Member.
7. Professor P.L. Sharma, Department of Mathematics & Statistics, Member.
8. Professor Jyoti Prakash, Department of Mathematics & Statistics, Member.
9. Prof. Hari Mohan, ICDEOL, Member.
10. Prof. Pradeep Kumar, ICDEOL, Member.
11. Dr. (Mrs.) Madhu Dadhwal, Department of Mathematics & Statistics, Member.
12. Dr. Susheel Kumar, HPU Regional Centre, Dharamshala, Member.

In this meeting, the revision of the syllabi of M.Sc. (Mathematics) and M.Phil./Pre-Ph.D. (Mathematics) courses were discussed in detail in view of the suggestions of the members/teachers. After detailed deliberations, the following points were resolved unanimously:

1. The course contents of the syllabi of M.Sc. (Mathematics) spread over four semesters (I-IV) for revision were discussed. The revision of course contents of the papers namely; **Real Analysis-I (M-101)**, **Real Analysis-II (M-201)**, **Advanced Algebra-I (M-102)** and **Advanced Algebra-II (M-202)** were discussed and revision of these courses were approved for the consideration of the Faculty of Physical Sciences (as per **Annexure "A"**). The revised syllabi shall be effective w.e.f. the Academic Session 2019-2020 i.e. July, 2019, onwards.
2. It was decided that a new course namely; **Linear Algebra and Matrix Analysis** be introduced as optional course in fourth semester of M.Sc. (Mathematics) alongwith with **Complex Analysis-II (M-401)**. This means that the students shall have to opt one course out of the following two courses:
 - a) Complex Analysis (M-401).
 - b) Linear Algebra and Matrix Analysis (M-406).The course contents of this new course; **Linear Algebra and Matrix Analysis** were discussed and approved for the consideration of the Faculty of Physical Sciences (as per **Annexure "A"**). This course shall be effective in the syllabi of M.Sc. (Mathematics) w.e.f. the Academic Session 2019-2020 i.e. July, 2019, onwards.

3. The examination scheme as well as the course contents of the syllabi of M.Phil. (Mathematics) to be introduced w.e.f. the Academic Session 2018-2019 i.e. October, 2018 onwards were discussed. It was unanimously decided to introduce one compulsory paper namely; **Research Methodology for Mathematical Sciences** in addition to two existing optional courses and is approved for consideration of the Faculty of Physical Sciences (as per **Annexure "B"**).

The complete list of various courses of M.Phil. (Mathematics) 1st Semester will be as under:

a) Compulsory Course: "Research Methodology for Mathematical Sciences".
All the students of M.Phil. and Pre-Ph.D. course have to opt this course as a compulsory course.

b) Optional Courses:
Course No. I: Hydrodynamic and Hydromagnetic Stability-I.
Course No. II: Hydrodynamic and Hydromagnetic Stability-II.
Course No. III: Fluid Flow Instability, MHD, Plasmas and Geophysical Fluid Dynamics.
Course No. IV: Groups, Rings and Modules.
Course No. V: Advanced Matrix Analysis.
Course No. VI: Boundary Layer Theory.
Course No. VII: Cryptography.
Course No. VIII: Algebraic Number Theory.

The students have to choose any two optional papers from the listed above courses (Course No. I -Course No. VIII) in addition to the compulsory course in the first semester of M.Phil. (Mathematics) degree.
Total Eight questions shall be set in the written examination of each paper (each of 14 marks) and the students shall be required to attempt any five questions in three hours allotted time (**Annexure "B"**).

4. The course contents of Course No. V (Matrix Analysis) of the existing M.Phil. degree syllabi were also discussed for revision and renamed with new course contents as "Advanced Matrix Analysis" and approved for the consideration of the Faculty of Physical Sciences (as per **Annexure "B"**). The above revised syllabus shall also be effective w.e.f. the Academic Session 2018-2019 i.e. October, 2018 onwards.

5. Further, it was decided to revise the distribution of marks scheme for written theory examination paper of each course and Internal Assessment of M.Phil. as per following:

A. Theory Paper	:	70 marks (3 hours duration)
B Internal Assessment	:	30 marks (20 marks for written IA exam and 10 marks for attendance and general aptitude)

6. In view of the above revision, now the M.Phil. (Mathematics) degree will be of 400 marks, in total with the following distribution of marks:

Written theory Papers (Three)(3 x100)	:	300 marks
Dissertation (2nd Semester)	:	75 marks
Viva- Voce examination	:	<u>25 marks</u>
		400 marks

The Dissertation shall be evaluated by the external examiner and he/she shall conduct the viva-voce examination after the submission of evaluation report to the university.

7. The Board of Studies (PG) also approved that the above syllabi (**Annexure-B**) of M. Phil. (Mathematics) First Semester shall be applicable to the students enrolled for the Ph.D. course work without having passed the M.Phil. degree, as per Himachal Pradesh University rules and recommended the same for the consideration of the Faculty of Physical Sciences. It was further resolved that the Ph.D. course work will run concurrently with the M.Phil. 1st semester.

The meeting ended with thanks to the Chair.

(Prof. R. P. Sharma)

(Prof. (Mrs.) Veena Sharma)

(Prof. Joginder Singh Dhiman)

(Prof. Khem Chand)

(Prof. P. L. Sharma)

(Prof. Jyoti Prakash)

(Prof. Hari Mohan)

(Prof. Pradeep Kumar)

(Dr. (Mrs.) Madhu Dadhwal)

(Dr. Susheel Kumar)

(Prof. R.C. Mittal)

External Member, (BOS-PG)
Department of Mathematics
IIT Roorkee,

(Dr. Rajesh Sharma)

Professor & Chairman,

Department of Mathematics & Statistics

Dean, Faculty of Physical Sciences: