



# Ramakrishna Mission Vidyamandira

(A Residential Autonomous UG / PG College)

P.O. Belur Math :: Howrah 711202

West Bengal :: India

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Website : www.vidyamandira.ac.in

## Department of Mathematics

BOS/MTMA/Notice No.

Dated 17 June 2014

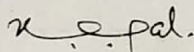
A meeting of the Board of Studies in Mathematics will be held on 19th June 2014, Thursday at 2 pm at the Teachers' Colloquium Room of our college to discuss the following agenda:

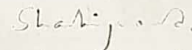
- (a) Confirmation of proceedings of the last meeting
- (b) Consideration of revision of course-structure for M. Sc. (Mathematics)
- (c) Finalization of syllabi for Probability Theory, Mechanics, PDE, Commutative Algebra and Algebraic Topology for M. Sc. (Mathematics)
- (d) Consideration of revision of course-structure for B. Sc. (Mathematics (Hons.))
- (e) Miscellaneous

All members and invitees are earnestly requested to attend the meeting.

With regards,

Yours sincerely,

  
(Kartick Chandra Pal)  
Head of the Department

  
(Swami Shastrajnananda)  
Principal

1. Swami Krishnanathananda
2. Prof. Sudip Kumar Acharya
3. Prof. Manabendranath Mukherjee
4. Prof. Amartya Kumar Dutta
5. Prof. Prasanta Kumar Choudhury
6. Prof. Swapan Kumar Chakraborty
7. Prof. Uttiya Das
8. Prof. Subhankar Roy
9. Prof. Swapan Kumar Ghosh
10. Swami Ekachittananda
11. Prof. Kalipada Das (Invitee)
12. Prof. Mohan Lal Ghosh (Invitee)
13. Prof. Probal Choudhury (Invitee)
14. Prof. Rabiul Islam (Invitee)
15. Prof. Kingshuk Biswas (Invitee)
16. Sri Joydip Saha (Invitee)
17. Sri Susanta Mandal

### Members Present

- 1) Prabal
- 2) P. K. Choudhury
- 3) M. S. Pal
- 4) Ekachittananda
- 5) Md. Robind Islam
- 6) Joydip Saha
- 7) UPB
- 8) Sudip Kumar Acharya
- 9) Prabal Choudhury
- 10) Shree
- 11) Swapan Kumar Ghosh

## Proceedings of the Meeting of the Board of Studies (Mathematics)

Date: 19<sup>th</sup> June 2014

Time: 2 pm

Venue: Teachers Colloquium Room

- 1) Proceedings of the last meeting dated 28/12/2013, was read by the Head of the Department, Dr. Kartick Chandra Pal and were confirmed by all.
- 2) Nothing specific came out of the discussions on proceedings.
- 3) Swami Ekachittananda stated that in view of departure of Dr. Prasanta Malik, it was necessary to introduce an elective paper in sem III for MSc students.
- 4) An elective paper on Probability Theory and Statistics has been introduced in MSc sem III (Students demand that it would be helpful for the preparation for NET). So, a syllabus has been designed and Prof. Prabal Choudhury of ISI, Kolkata (along with an associate) has agreed to offer a course this year.

- 5) As per the suggestions received from Prof. Amartya Kumar Dutta (ISI, absent in the meeting), it has been proposed that students are allowed to opt for three electives out of five viz. Commutative Algebra; Topology and Geometry; Probability Theory and Statistics, OR, Algebraic Number theory. Prof. Mohan Lal Ghosh and Prof. Prasanta Kumar Choudhury remarked that the students will benefit from the introduction of Probability and statistics course for their NET exam.
- 6) Syllabus for algebraic number theory (elective course for M.Sc. 2<sup>nd</sup> year) framed by Prof. B. Sury (ISI Bangalore) was placed by Swami Ekachittananda. After some modification suggested by Prof. S. K. Acharya and Prof. M.N. Mukherjee, the syllabus was accepted unanimously. Therefore, finalization of syllabus for Algebraic Number Theory (elective) for M.Sc. Mathematics was resolved.
- 7) A revision of course structure for M.Sc. Mathematics was proposed and after a brief discussion it has been accepted unanimously. It has been allowed to run for one year (experimentally). Therefore the revision of course structure for M. Sc. Mathematics was resolved.
- 8) Resolved that the following new courses to be introduced for the M. Sc mathematics curriculum from the academic session 2014-2015.

New Course			
Programme name	Programme code	Name of the new course	Code of the new course
M. Sc Mathematics	MTM	Commutative Algebra	MTM-P15-CAL
M. Sc Mathematics	MTM	Topology and geometry	MTM-P15-TG
M. Sc Mathematics	MTM	Algebraic Number Theory	MTM-P15-ALNT
M. Sc Mathematics	MTM	Probability theory and statistics	MTM-P19-PS
M. Sc Mathematics	MTM	Partial Differential equation	MTM-P18

- 9) Prof. Swapan Kumar Ghosh explained the necessity for changing the course structure of B.Sc. Mathematics (Hons). He said that while preparing for IIT-JAM and similar competitive exam, it is necessary to be acquainted with Riemann Integration. It is thus necessary to introduce the Riemann Integration in Sem V instead of sem VI and postpone Number Theory to sem VI.
- 10) The proposal was accepted unanimously. The syllabus for analysis IIIA, analysis IIIB has been mentioned and accepted. Swami Ekachittananda mentioned that in view of the student's poor performance in Differential Geometry this year, it would be wise if we could introduce Topology as

a third alternative in paper VIII mod. 1. Prof. Manabendranath Mukherjee and Prof. Sudip Kumar Acharya had a different voice, but finally the proposal got accepted. Thus, the consideration of revision of course structure for B.Sc. Mathematics (Hons.) was resolved.

- 11) Resolved that the revision of the following courses, as listed below, to be implemented from the academic session 2014-2015.

Revision of courses					
Programme Name	Programme Code	Course Name	Course code	Revision done	% of revision
B. Sc Mathematics (H)	MTMA	Algebra III, Numerical Analysis , Analysis IIIA	MTMA-P5	Reimann integration added	20
B. Sc Mathematics (H)	MTMA	Analysis IIIB, Number Theory, Probability Theory, Complex Analysis	MTMA-P7	Number theory added	20

- 12) Miscellaneous: Swami Ekachittananda informed that Ph.D. Programme for Mathematics was being initiated in SVRC of RKM Vidyamandira. Apparently, three students were willing to join the programme under the supervision of Prof. Samik Roy (ISI, Kolkata), Prof. Rabiul Islam (St. Xaviers College) and Prof. Asit Baran Raha (RKM Vidyamandira).

Neel  
Head of the Department

Sunjoy  
Principal



# Ramakrishna Mission Vidyamandira

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A Residential Autonomous College affiliated to Calcutta University  
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## Department of Mathematics

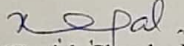
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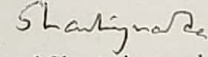
Dated 29 December 2014

A meeting of the Board of Studies in Mathematics will be held on 3rd January 2015, Saturday at 1 pm at the Teachers' Colloquium Room of our college to discuss the following agenda:

- Confirmation of proceedings of the last meeting.
- Finalization of syllabus for Algebraic Number Theory (Elective) for M. Sc. (Mathematics).
- Finalization of syllabus for Topology (Elective) for B. Sc. (Mathematics (Hons.)).
- Miscellaneous.

All members are earnestly requested to attend the meeting.

  
(Kartick Chandra Pal)  
Head of the Department

  
(Swami Shastrajananda)  
Principal

1. Swami Krishnanathananda
3. Prof. Manabendranath Mukherjee
5. Prof. Prasanta Kumar Choudhury
7. Prof. Uttiya Das
9. Prof. Swapan Kumar Ghosh
11. Sri Joydip Saha (Invitee)

2. Prof. Sudip Kumar Acharya
4. Prof. Amartya Kumar Dutta
6. Prof. Swapan Kumar Chakraborty
8. Prof. Subhankar Roy
10. Swami Ekachittananda
12. Sri Susanta Mandal

Members Present

- 1) K. Pal.
- 2) Sudip Kumar Acharya
- 3) M. N. Mukherjee → 03/01/15
- 4) S. K. Ghosh 3/1/15
- 5) S. Roy
- 6) Examitanda
- 7) Joydip Saha

Proceedings of the Meeting of the Board of Studies  
(Mathematics)

Date: 3<sup>rd</sup> January 2015

Time: 1 pm

Venue: Teachers Colloquium Room

- (1) Proceedings of the last meeting dated 19/06/2014, was read by Prof. Kartick Chandra Pal and confirmed.
- (2) Nothing specific came up of the discussions on proceedings.
- (3) Syllabus of Graph theory and Combinatorics was framed and presented by Dr. S. Roy which was accepted unanimously.
- (4) Resolved that the following new courses to be introduced for the M. Sc mathematics curriculum from the academic session 2015-2016.

New Course			
Programme name	Programme code	Name of the new course	Code of the new course
M. Sc Mathematics	MTM	Graph Theory and Combinatorics	MTM-P14

- (5) A syllabus for general topology for 3<sup>rd</sup> year B.Sc. (optional course of 20 marks) was placed by Prof. S.K. Ghosh and was accepted after a minor modification. Thus, finalization of syllabi for Topology (elective) for B.Sc. mathematics (H) was resolved.
- (6) Prof. Kartick Chandra Pal enquired if it was possible to increase the weightage of analytical Geometry II. Prof. Sudip Kumar Acharya and Prof. M.N. Mukherjee objected as they found that in such a case a thorough revision of the course structure would be necessary. Subsequently Prof. K. Pal suggested reducing the syllabus of the course. All members of the board agreed to the proposal.



**Department of Mathematics**

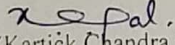
BOS/MTMA/Notice No.


Dated 3 June 2015

A meeting of the Board of Studies in Mathematics will be held on 11th June 2015, Thursday at 11.30 am at Saradananda Conference Room inside our college main building to discuss the following agenda:

- (a) Confirmation of proceedings of the last meeting.
- (b) Consideration of revision of (i) course-structure and (ii) detailed syllabi of different subjects for M. Sc. (Mathematics).
- (c) Miscellaneous.

All members and invitees are earnestly requested to attend the meeting.

  
(Kartick Chandra Pal)  
Head of the Department

  
(Swami Shastrananda)  
Principal

1. Swami Ekachittananda (Vice Principal)
- ✓ 3. Prof. Manabendranath Mukherjee
5. Prof. Prasanta Kumar Choudhury
- ✓ 7. Prof. Shashi Mohan Srivastava (Invitee)
- ✓ 9. Sri Joydip Saha (Invitee)
11. Prof. Swapan Kumar Ghosh
13. Prof. Soumitra Kayal
- ✓ 2. Prof. Sudip Kumar Acharya
4. Prof. Amartya Kumar Dutta
- ✓ 6. Prof. Manas Kumar Ghosh
- ✓ 8. Prof. Asit Baran Raha (Invitee)
10. Prof. Subhankar Roy
12. Prof. Bappa Das
14. Sri Susanta Mandal



## Members' Present

- 1) K. Pal
- 2) Sudip Kumar Acharya
- 3) ~~Mr. Acharya~~
- 4) Shashi M. Srivastava
- 5) Asit Das
- 6) Swapan Kumar Ghosh
- 7) Joydip Saha
- 8) Bakpa Das
- 9) Manas Kumar Ghosh
- 10) Soumitra Koyal

### Proceedings of the Meeting of the Board of Studies (Mathematics)

Date: 11<sup>th</sup> June 2015

Time: 11:30 am

Venue: Saradananda Conference Room

1. Proceedings of the last meeting dated 19/06/2014, was read by Prof. Kartick Chandra Pal and confirmed.
2. Nothing specific came up of the discussions on proceedings.
3. Consideration of revision of (i) course structure and (ii) detailed syllabi of different courses for M.Sc. (Mathematics): Swami Ekachittananda proposed the necessity of syllabus modification of algebra and analysis in M.Sc. (Mathematics).
4. Syllabus of Real Analysis-I (parts of UG Real Analysis for recapitulation) was framed by Swami Ekachittananda and placed in the meeting. It was accepted after a minor modification.
5. Syllabus of Complex Analysis was reduced slightly by Prof. S.M. Srivastava(ISI).
6. The full course structure of M.Sc. was designed and accepted (Viva Voce for Sem-III and Sem-IV were abolished and were replaced by Linear Algebra 1, Linear Algebra 2 and Real Analysis 1 and Real Analysis 2).
7. Resolved that the following new courses to be introduced for the M. Sc mathematics curriculum from the academic session 2015-2016.

Programme name	Programme code	Name of the new course	Code of the new course
M. Sc Mathematics	MTM	Linear Algebra 1	MTM-P2
M. Sc Mathematics	MTM	Real Analysis 1	MTM-P3
M. Sc Mathematics	MTM	Linear Algebra 2	MTM-P7
M. Sc Mathematics	MTM	Real Analysis 2	MTM-P8

8. Resolved that the revision of the following course, as listed below, is to be implemented from the academic session 2015-2016.

Programme Name	Programme Code	Course Name	Course code	Revision done	% of revision
M. Sc Mathematics	MTM	Complex Analysis	MTM-P9	Analytic Continuation and the concept of infinite product are removed	20

K. Pal  
Head of the Department

S. M. Srivastava  
Principal



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## Department of Mathematics

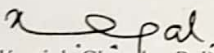
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Dated 28 November 2015

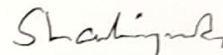
A meeting of the Board of Studies in Mathematics will be held on 5<sup>th</sup> December 2015. Saturday at 2 pm at Teachers' Colloquium inside our college main building to discuss the following agenda:

- Confirmation of proceedings of the last meeting.
- Consideration of revision of (i) course-structure and (ii) detailed syllabi of different subjects for M. Sc. (Mathematics).
- Miscellaneous.

All members are earnestly requested to attend the meeting.

  
(Kartick Chandra Pal)  
Head of the Department



  
(Swami Shastrajnananda)  
Principal

- |  |                              |
|--|------------------------------|
| 1. Swami Ekachittananda (Vice Principal) | 2. Prof. Sudip Kumar Acharya |
| 3. Prof. Manabendranath Mukherjee        | 4. Prof. Amartya Kumar Dutta |
| 5. Prof. Prasanta Kumar Choudhury        | 6. Prof. Manas Kumar Ghosh   |
| 7. Sri Joydip Saha (Invitee)             | 8. Prof. Subhankar Roy       |
| 9. Prof. Swapan Kumar Ghosh              | 10. Prof. Bappa Das          |
| 11. Prof. Soumitra Kayal                 | 12. Sri Susanta Mandal       |

Members Present

1. Nepal
2. Sudhij Kumar Acharya 5/12/15
3. Ekam
4. Manohar 5/12/15
5. Shresth 5/12/15
6. Arbutta 5/12/15
7. Bappa Das 5/12/15
8. Seafan Kumar Ghosh

Proceedings of the Meeting of the Board of Studies (Mathematics)

Date: 5<sup>th</sup> December 2015, Time: 2 pm, Venue: Teachers Colloquium room

- (1) Proceedings of the last meeting dated 11/06/2015, was read by Prof. Kartick Chandra Pal and confirmed.
- (2) Nothing specific came up of the discussions on proceedings.
- (3) Sw. Ekachittananda reported that the current first year students have applied for a reshuffle in the course-structure. They wish to introduce complex analysis in semester II. A revised course structure designed for the purpose was placed in the BOS and was accepted unanimously.
- (4) Syllabus for new elective paper on algebraic topology framed by Prof. Joydeep Saha, was placed and was accepted after a slight modification.
- (5) Syllabus for a proposed elective paper on Mechanics of Continua, designed by Prof. Bappa Das and Prof. Amit Kumar Biswas, was introduced and accepted after a slight modification.
- (6) It was resolved to replace the elective course on Number Theory by another elective course on Analytical Number Theory. Dr. S. K. Ghosh framed and presented the syllabus of Analytical Number theory which was accepted unanimously.
- (7) Resolved that the following new courses, for M. Sc Mathematics are to be implemented from next semester January -April 2016.

Programme name	Programme code	Name of the new course	Code of the new course
M. Sc Mathematics	MTM	Mechanics of Continua	MTM-P19-MCON
M. Sc Mathematics	MTM	Analytical Number theory	MTM-P15-AnNT

- (8) Resolved that the following new courses, for Ph.D in Mathematics are to be implemented from next semester July 2016.

Programme name	Programme code	Name of the new course	Code of the new course
Ph.D in Mathematics	PDMTM	Commutative Algebra I	PDMTMP1
Ph.D in Mathematics	PDMTM	Topics from Algebraic Geometry	PDMTMP2
Ph.D in Mathematics	PDMTM	Commutative Algebra II	PDMTMP3
Ph.D in Mathematics	PDMTM	Research Methodology & Computer Applications	PDMTMP4

The meeting ended with a vote of thanks to the chair.

Nepal  
Head of the Department

[Signature]  
Principal

## Department of Mathematics

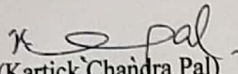
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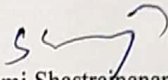
Dated 29 November 2016

A meeting of the Board of Studies in Mathematics will be held on 17th December 2016, Saturday at 11 am at Saradananda Conference Hall inside our College Main Building to discuss the following agenda:

- (a) Confirmation of proceedings of the last meeting.
- (b) Consideration of revision of (i) course-structure and (ii) detailed syllabi of different subjects for B. Sc. (Mathematics (Hons.)) and M. Sc. (Mathematics).
- (c) Miscellaneous.

All the members are earnestly requested to attend the meeting.

  
(Kartick Chandra Pal)  
Head of the Department

  
(Swami Shastramananda)  
Principal

1. Swami Ekachittananda (Vice Principal)
2. Prof. Sudip Kumar Acharya
3. Prof. Manabendranath Mukherjee
4. Prof. Amartya Kumar Dutta
5. Prof. Prasanta Kumar Choudhury
6. Prof. Manas Kumar Ghosh
7. Prof. Asit Baran Raha (Invitee)
8. Sri Joydip Saha (Invitee)
9. Prof. Subhankar Roy
10. Prof. Swapan Kumar Ghosh
11. Prof. Bappa Das
12. Prof. Soumitra Kayal
13. Sri Susanta Mandal

### Members Present

1. K. Pal.
2. Shikha
3. ~~Manoj Kumar~~ 17/12/16
4. Jyoti Kumar Acharya 17/12/16
5. Shroya G. 17/12/16
6. Soumitra Koyal 17/12/2016
7. P. K. Chandhuri
8. Manas Kumar Ghosh 17/12/16
9. Swapan Kumar Ghosh 17/12/16
10. Joydip Saha.
11. Exachitananda

### Proceedings of the Meeting of the Board of Studies (Mathematics)

Date: 17<sup>th</sup> December 2016

Time: 11 am

Venue: Saradananda Conference hall

- (1) Proceedings of the last meeting dated 05/12/2015, was read by Prof. Kartick Chandra Pal and confirmed.
- (2) Nothing specific came up of the discussions on proceedings.
- (3) In paper VIII of BSc Honours syllabus two optional topics: (i) Measure theory and (ii) Graph theory were introduced with the proposed syllabus. The syllabus of Measure theory was placed by Dr. S. K. Ghosh and the syllabus of graph theory was placed by Dr. S. Roy. The proposed syllabi were accepted by the board with a very few modifications.
- (4) Prof. P. K. Chowdhuri wanted to introduce Matlab in place of C in M.Sc practical syllabus. He introduced Numerical Analysis practical by Matlab and it was accepted unanimously.
- (5) In the paper mathematical methods in M. Sc a sub topic Application of Fourier transform for solving integral equations within the topic Fourier transform and a fresh marks distribution were arranged throughout the paper. Prof. Chowdhuri wished to introduce Calculus of Variation.
- (6) In M. Sc 1<sup>st</sup> year syllabus the 50 marks of viva-voce may be substituted by Statistics/Numerical Analysis/Continuum Mechanics.
- (7) When a student is directed to answer all questions to secure a maximum of 50 marks, the total marks in the question paper should be a maximum of 60.
- (8) Resolved that the following revisions for the following courses implemented from the next semester January-April 2017.

Programme Name	Programme Code	Course Name	Course code	Revision done	% of revision
M. Sc Mathematics	MTM	Numerical Analysis	MTM-P17	MATLAB is introduced in place of C as a programming language	40
M.Sc Mathematics	MTM	Mathematical Methods	MTM-P13	Application of Fourier transform for solving integral equations is added	40

- (9) Resolved that the following new courses, to be implemented from the semester January-April 2017.

Programme Name	Programme Code	Course Name	Course code
B.Sc Mathematics (H)	MTMA	Measure theory	MTMA-P8 Mes
B.Sc Mathematics (H)	MTMA	Graph Theory	MTMA-P8 Gra

The meeting comes to an end with a vote of thanks to the chair.

K. Pal  
Head of the Department

Sunny  
Principal



# Ramakrishna Mission Vidyamandira

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## Department of Mathematics

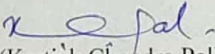
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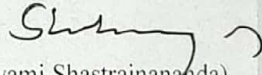
Dated 3 May 2017

A meeting of the Board of Studies in Mathematics will be held on 13th May 2017, Saturday at 12 noon at Saradananda Conference Hall inside our College Main Building to discuss the following agenda:

- Confirmation of proceedings of the last meeting.
- Reporting on the performances of the outgoing UG and PG students in various competitive exams.
- Consideration of revision of (i) course-structure and (ii) detailed syllabi of different subjects for B. Sc. (Mathematics (Hons.)) and M. Sc. (Mathematics).
- Miscellaneous.

All the members are earnestly requested to attend the meeting.

  
(Kartick Chandra Pal)  
Head of the Department

  
(Swami Shastrajnanda)  
Principal

- Swami Ekachittananda (Vice Principal)
- Prof Manabendranath Mukherjee
- Prof Manas Kumar Ghosh (Alumnus)
- Prof Subhas Chandra Mondal (Invitee)
- Prof Swapan Kumar Ghosh
- Prof Soumitra Kayal
- Prof Arnabjyoti Dasgupta
- Prof Sudip Kumar Acharya
- Prof Amartya Kumar Dutta
- Prof Prasanta Kumar Choudhury (Invitee)
- Prof Subhankar Roy
- Prof Bappa Das
- Prof Saugata Mitra
- Sri Susanta Mandal (Industry)

## Members Present

- 1 K. S. Pal. 13.5.2017
- 2 ~~Mr. Anand~~ 12/05/2017
- 3 P. K. Chaudhuri 13/5/2017
- 4 Sridip Kumar Ashuon 13/5/17
- 5 A. R. D. 13/5/17
- 6 Prachinanda 13/5/17
- 7 S. Lalal
- 8 Shrip R. 13/5/17
- 9 Swapan Kumar Ghosh 13/5/17
- 10 Bappa Das 13/5/17
- 11 Soumitra Koyal
- 12 Saugata ~~Patra~~ 13/5/17
- 13 ~~Prasanna~~ 13/5/17
- 14
- 15.

## Proceedings of the Meeting of the Board of Studies (Mathematics)

Date: 13<sup>th</sup> May 2017

Time: 12 noon

Venue: Saradananda Conference Hall

1. Proceedings of the last meeting dated 17/12/2016, was read by Prof. Kartick Chandra Pal and confirmed.
2. Nothing specific came up of the discussions on proceedings.
3. First Sw. Ekachittananda read out the summary of the performances of our students in various competitive examinations. The BoS congratulated the successful candidates.
4. The newly framed syllabus of Numerical Analysis of M.Sc Mathematics was discussed by the members of the Board. Prof. P. K. Chaudhuri expressed concern on the volume of the syllabus as he felt that the completion of practical classes (by using C- Language) in time is not possible. He suggested the introduction of MATLAB in the specific course. However Prof. A. J. Dasgupta was in favour of the benefit of C- Language. Accordingly it was decided that some of the problems can be completed by C-Language and the remaining ones by using MATLAB.
5. Prof. A. J. Dasgupta and Prof. Saugata Mitra suggested the breakup of MSc syllabus of Numerical Analysis in Sem-II as follows: 30 marks to be allotted for numerical theory and 20 marks for numerical practical while in Sem-III, 20 marks to be allotted for numerical theory and 30 marks for numerical practical. They also submitted the breakup of syllabus (Dr. S. Mitra formed the syllabus of Numerical analysis theory for sem II and sem III and Dr. A. J. Dasgupta formed the syllabus of Numerical analysis practical for sem II and sem III )for the purpose and these were accepted by the Board. The new break up will be applicable for all the MSc students from the academic session 2017-2019.
6. The syllabus of Classical Mechanics for MSc Mathematics as formed by Prof. Saugata Mitra was placed before the board and accepted unanimously.
7. The new course structure of MSc Mathematics was placed before the board and accepted unanimously.
8. The board felt that the topic "Fourier Series" in Sem II of M. Sc Mathematics in Real Analysis II as suggested by Sw. Ekachittananda required elaboration.

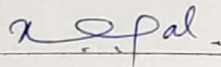


9. The members felt that Post graduate students can be encouraged to choose their project topics in Sem III for getting sufficient time instead of the prevailing system of selection in the 4<sup>th</sup> semester.

10. The board suggested that the syllabi of other elective papers have to be framed.

11. Resolved that the following courses for M. Sc Mathematics to be implemented from the academic session 2017-2018.

Programme name	Programme code	Name of the new course	Code of the new course
M. Sc Mathematics	MTM	Numerical Analysis-I	MTM-P10
M. Sc Mathematics	MTM	Numerical Analysis-II	MTM-P14
M. Sc Mathematics	MTM	Classical Mechanics	MTM-P11



Head of the Department



Principal



# Ramakrishna Mission Vidyamandira

**P.O. BelurMath, Dist. Howrah - 711202, West Bengal**  
 A Residential Autonomous College affiliated to Calcutta University  
 College with Potential for Excellence \* Re-accredited by NAAC with 'A'  
 Phone No. (033) 2654-9181 / 9632; E-mail: vidyamandira@gmail.com  
 Website : www.vidyamandira.ac.in

## Department of Mathematics

Notice No. BOS/MTMA/ 321a

Dated 17 November 2017

A meeting of the Board of Studies in Mathematics will be held on 27<sup>th</sup> November 2017, Monday at 2 pm at Saradananda Conference Hall inside our College Main Building to discuss the following agenda:

- (a) Confirmation of proceedings of the last meeting.
- (b) Consideration of revision of (i) course-structure and (ii) detailed syllabi of different subjects for B. Sc. (Mathematics (Hons.)) and M. Sc. (Mathematics).
- (c) Miscellaneous.

All the members are earnestly requested to attend the meeting.

*Kepal* 17.11.2017  
 (Kartick Chandra Pal)  
 Head of the Department

*SL*  
 (Swami Shastrinanda)  
 Principal.

- |  |  |
|--|--|
| 1. Swami Ekachittananda (Vice Principal) | 2. Prof Sudip Kumar Acharya                |
| 3. Prof Manabendranath Mukherjee         | 4. Prof Amartya Kumar Dutta                |
| 5. Prof Manas Kumar Ghosh (Alumnus)      | 6. Prof Prasanta Kumar Choudhury (Invitee) |
| 7. Prof Subhankar Roy                    | 8. Prof Swapan Kumar Ghosh                 |
| 9. Prof Bappa Das                        | 10. Prof Soumitra Kayal                    |
| 11. Prof Saugata Mitra                   | 12. Prof Arnabjyoti Dasgupta               |
| 13. Sri Susanta Mandal (Industry)        |  |

### Members Present

1. Anurag Chandra
2. Kartik Chandra Pal
3. Ananya K. Dutta
4. Sudip Kumar Acharya
5. Anurag Chandra
6. Swapan Kumar Ghosh
7. Bappa Das
8. Jyotiraj Koyal
9. Saugata Chandra

Proceedings of the Meeting of the Board of Studies  
(Mathematics)

Date: 27<sup>th</sup> November 2017

Time: 2 pm

Venue: Saradananda Conference Hall

1. Proceedings of the last meeting dated 13/05/2017, was read by Prof. Kartick Chandra Pal and confirmed.
2. Nothing specific came up of the discussions on proceedings.
3. BOS suggested that 10 marks for M. Sc. may be taken as a continuous assessment or Mid Sem. In case of Viva-Voce the teacher must conduct the exam in presence of another member (need not be an external from another institute). It will be implemented from the session 2018-2020. The decision was taken unanimously.
4. Elective papers of 'Mathematical Statistics' and 'Cryptography' may be introduced in MSc Mathematics.
5. Sw. EK gave the detailed syllabus of Fourier Analysis within Real Analysis II for M. Sc. course.
6. Dr. Saugata Mitra placed the syllabus of Differential Manifolds, Advanced Functional Analysis and Advanced Numerical Analysis as elective papers for, M. Sc Mathematics, on behalf of Dr. Arnab Jyoti Das Gupta, who framed the syllabus and it was accepted by the board.
7. BOS suggested that, offering the course of Differential Manifolds only for those students who have good base in Real Analysis, Linear Algebra and General Topology.
8. Dr. Saugata Mitra framed and introduced the syllabus for Non-Relativistic Quantum Mechanics and it was accepted by BOS. Previous elective Paper "Elements of Quantum Mechanics" is now replaced by "Non-Relativistic quantum Mechanics". BOS suggested offering the course only for those students who have good base in Classical Mechanics and Functional Analysis.
9. Prof. Amartya Kumar Dutta suggested that the syllabus of RKM-VERI and RKMV should be merged for Abstract Algebra II and Linear Algebra II of M. Sc. should be revised. It was resolved that after consulting with respective teachers, Abstract Algebra II and Linear Algebra II should be brought in accordance with the syllabus of RKM-VERI.
10. Dr. Swapan Kr. Ghosh presented a revised syllabus of Algebra III for B. Sc. (H) in Sem V by introducing Group Action and it was unanimously accepted.
11. Members of the board suggested that the books - Groups and Symmetry by Armstrong and Algebra by Artin should be included as reference books for the Undergraduate algebra courses.

12. Br. Amit presented a syllabus of Harmonic analysis which was accepted unanimously.

13. Resolved that the following courses for M. Sc Mathematics to be implemented from the academic session 2017-2018.

Programme name	Programme code	Name of the new course	Code of the new course
M. Sc Mathematics	MTM	Non-relativistic quantum mechanics	MTM-P19-NQM
M. Sc Mathematics	MTM	Differential Manifolds	MTM-P15-DM
M. Sc Mathematics	MTM	Harmonic Analysis	MTM-P19-Har
M. Sc Mathematics	MTM	Advanced Functional Analysis	MTM-P19-AdFA
M. Sc Mathematics	MTM	Advanced Numerical Analysis	MTM-P19-AdNA

14. Resolved that the following revisions for the following courses implemented from the academic session 2017-2018.

Programme Name	Programme Code	Course Name	Course code	Revision done	% of revision
B. Sc Mathematics (H)	MTMA	Algebra III, Multivariable Calculus, Analysis IIIA	MTMA-P5	Group Action added	10
M. Sc Mathematics	MTM	Real Analysis 2	MTM-P8	Convergence results and half range Fourier series is introduced	20

15. Resolved that the following revisions for the course, Ph.D in Mathematics implemented from the July 2018.

Programme Name	Programme Code	Course Name	Course code	Revision done	% of revision
Ph.D in Mathematics	PDMTM	Research Methodology & Computer Applications & Research Ethics	PDMTMP4	Research Ethics added	30

A. S. Pal

Head of the Department

S. Singh

Principal



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## Department of Mathematics

BOS/MTMA/Notice No. BOS/MTMA/293a

Dated 4 October 2018

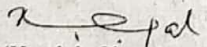
A meeting of the Board of Studies in Mathematics (UG & PG) will be held on **10<sup>th</sup> October 2018, Wednesday at 1 pm** at Saradananda Conference Hall inside our College Main Building to discuss the following agenda :


- (a) Confirmation of proceedings of the last meeting.
- (b) Consideration of minor revision of (i) course-structure and (ii) detailed syllabi of different subjects for B.Sc. (Mathematics (Hons.)) and M.Sc. (Mathematics).
- (c) Introduction of CBCS course-structure for B.Sc. (Mathematics (Hons.)) students from next academic session.
- (c) Miscellaneous.

All members are earnestly requested to attend the meeting.

With regards,

Yours sincerely,

  
(Kartick Chandra Pal)  
Head of the Department

  
(Swami Shastraajnanda)  
Principal

1. Prof. Debasis Sarkar (Expert nominated by Hon'ble VC, University of Calcutta)
2. Prof. Sukumar Das Adhikari (External Expert nominated by the Academic Council)
3. Prof. Amartya Kumar Dutta (External Expert nominated by the Academic Council)
4. Sri Ramanendu Chatterjee (Expert from Industry)
5. Prof. Subhabrata Das (Alumnus)
6. Prof. Kartick Chandra Pal (Chairman)
7. Prof. Subhankar Roy
8. Prof. Swapan Kumar Ghosh
9. Prof. Bappa Das
10. Prof. Soumitra Kayal
11. Prof. Saugata Mitra
12. Prof. Arnabjyoti Dasgupta
13. Swami Ekachittananda
14. Prof. Sudip Kumar Acharya (Invitee)
15. Prof. Manabendranath Mukherjee (Invitee)
16. Prof. Prasanta Kumar Choudhury (Invitee)

## Members Present

1. Anandram
2. Kapal
3. Sangata Dutta
4. Shyams
5. Ananta
6. A. Dutta
7. ~~A. Dutta~~
8. Adhikari
9. Subhakar Das
10. Soumitra Kayal
11. Sushil
12. P. K. Chandhuri
13. Bappa Das
14. Br. Shreebans
15. Br. Anil
16. Akhona
17. S.

## Proceedings of the Meeting of the Board of Studies (Mathematics)

Date: 10<sup>th</sup> October 2018

Time: 1 pm

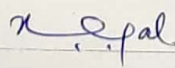
Venue: Teachers Colloquium Room

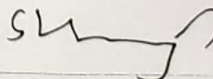
1. Proceedings of the last meeting dated 27/11/2017, was read by Prof. Kartick Chandra Pal and confirmed.
2. Nothing specific came up of the discussions on proceedings.
3. Prof. A. K. Dutta (ISI Kolkata) suggested that Discrete Mathematics be included as a compulsory part in the B.Sc. curriculum, especially elementary number theory and elementary combinatorics. Dr. Arindam Banerjee (VERI) seconded the proposal.
4. Prof. A. K. Dutta suggested including a course on Abstract Algebra in the second year of B.Sc. curriculum. Further, he suggested completing the entire Abstract Algebra undergraduate syllabus by the 2<sup>nd</sup> year.
5. Sw.EK suggested a revision of Paper 3 and Paper 4 of B.Sc(H) students by interchanging part of Linear algebra II (paper 3) with Analysis-II (paper 4).
6. Asst. Prof. B. Das proposed a revision in the numerical analysis syllabus for the MSc 3<sup>rd</sup> Sem. His proposal was to merge together the topics on "Linear Difference Equation" and "Numerical Solution of PDE".
7. Prof. D. Sarkar (CU) advised to remove the topics on Integration by the Trapezoidal and Simpson's 1/3<sup>rd</sup> rule.
8. Asst. Prof. B. Das also suggested including the Crank-Nicolson scheme in the topic on Numerical Solution of PDE.
9. Asst. Prof. Shubhabrata Das (Presidency University), suggested to reduce the number of lectures for the Metric Space course.
10. Assoc. Prof. Swapan Kr. Ghosh suggested removal of the topics Binary relation, equivalence classes, Semi-direct product, Euclidean domain, primary and radical ideals, Nilpotent Group from the Abstract Algebra – I course of PG curriculum.
11. Prof. A. K. Dutta further suggested to make set theoretic topology compulsory for the pure mathematics students and to reduce metric topology for them. He also suggested introducing quotient topology along with the set theoretic topology.
12. Prof. D. Sarkar further suggested including Measure theory and Reimann Stieltjes integral as a Departmental Specific Elective course.



13. Prof. A. K. Dutta suggested to remove the following reference books from the list of references for the M.Sc. course :
- i. Algebra by Hungerford,
  - ii. Algebra by Lang,
  - iii. Algebra by Jacobson.
14. Prof. A. K. Dutta suggested to include the following books as reference :
- i. University Algebra by Gopalakrishnan,
  - ii. Abstract Algebra by Dummit and Foote
15. All the members agreed on the project evaluation procedure –
- a. For reading course: Written Examination + Assignment + Presentation.
  - b. For research project: Written report + presentation.
16. Resolved that the following revisions for the following courses implemented from the academic session 2018-2019.

Program me Name	Program me Code	Course Name	Course code	Revision done	% of revision
B. Sc Mathematics (H)	MTMA	Linear Algebra II A, Analysis IIA, Analytical Geometry II and Mechanics I	MTMA-P3	Sequence, series of functions are added in place of inner product space of linear algebra II	20
B. Sc Mathematics (H)	MTMA	Analysis II B, Linear Algebra II B, Differential Equations II, and Applications of Calculus	MTMA-P4	Sequence, series of functions are removed and inner product space of linear algebra II was added.	20
M. Sc Mathematics	MTM	Abstract Algebra I	MTM-P1	Binary relation, equivalence classes, Semi-direct product, Euclidean domain, primary and radical ideals, Nilpotent group removed	30
M. Sc. Mathematics	MTM	Numerical Analysis II	MTM-P14	Linear Difference equations removed	35

  
Head of the Department

  
Principal