

# **I. K. Gujral Punjab Technical University**

## **Department of Mathematical Sciences**

### **Minutes of the meeting of Board of Studies (BOS) of Mathematics held on July 11, 2017**

The meeting of Board of studies of Mathematics was held on 11/07/2017. The following members were present in the meeting

1. Prof. Vinay Kanwar
2. Prof. D. S. Pathania
3. Dr. S. K. Srivastava
4. Dr. Ashish Aarora
5. Dr. Arvind Sharma
6. Dr. Honey Sharma
7. Dr. Harpreet Kaur
8. Dr. Vikramjeet Singh
9. Dr. Gurjinder Singh
10. Dr. Rajesh Narula (Special Invitee)
11. Dr. Megha Goyal (Special Invitee)

The following recommendations were given by the Board:

**Agenda 1.** The board recommended the reshuffling of subjects of various semesters as follows:

#### **Semester-I:**

- (i) Fundamentals of Computer and C programming (MMS-105) is recommended to be replaced by Mathematical Methods (MMS-402). Hence the subject Mathematical Methods now may be given new code of MMS-105.
- (ii) Fundamentals of Computer and C Programming Lab (MMS-106) is recommended to be replaced with Mathematical Software Lab and may be assigned the code MMS-106.

#### **Semester-II:**

- (i) Tensors and Differential Geometry (MMS-204) is recommended to be replaced by Partial Differential Equations (MMS-403). Hence the subject Partial Differential Equations now may be given new code of MMS-204.

#### **Semester-III:**

- (i) Operations Research (MMS-302) is recommended to be replaced with Number Theory and Cryptography (MMS-508). The Operations Research is recommended to be incorporated in the list of Elective-I. Subject code of Operations Research may be assigned as MMS-503 and subject code of Number theory and cryptography may be given as MMS-302.

#### **Semester-IV:**

(i) Discrete Mathematics (MMS-401) is recommended to be replaced by Mechanics-II. Hence the subject Mechanics-II now may be given new code of MMS-401.

(ii) Mathematical Methods (MMS-402) is recommended to be replaced by Mathematical Statistics-II. Hence the subject Mathematical Statistics-II now may be given new code of MMS-402.

(iii) Partial Differential equations (MMS-403) is recommended to be replaced by Tensors and Differential Geometry (MMS-204). Hence the subject Tensors and Differential Geometry (MMS-204) now may be given new code of MMS-402.

### **Elective Subjects:**

The list of Electives was reviewed by the Board and following changes/incorporations were suggested

#### **Elective-I**

**MMS-501 Wavelet Theory**

**MMS-502 Coding Theory**

**MMS-503 Operations Research**

**MMS-504 Advanced Linear Algebra**

#### **Elective-II**

**MMS-505 Advanced Complex Analysis**

**MMS-506 Advanced Operations Research**

**MMS-507 Advanced Fluid Mechanics**

**MMS-508 Advanced Solid Mechanics**

#### **Elective-III**

**MMS-509 Theory of Linear Operators**

**MMS-510 Advanced Numerical Methods**

**MMS-511 Topological Vector Spaces**

**MMS-512 Fractional Calculus**

### **Revision of Instructions for paper setters and candidates:**

The following changes were recommended by the Board for examination of M.Sc. (Mathematics)

(i) The entire question paper should be distributed into three sections viz. Section-A, Section-B, Section-C

(ii) Section-A should contain eight questions of two marks each. This section should cover the entire syllabus. All questions in this section should be compulsory.

(ii) Section-B and Section-C should contain three questions each carrying 16 (sixteen) marks.

(iii) Student should be asked to attempt at least two questions from Section-B and Section-C each.

(iv) The awards for internal and external examination should be in 20:80 ratio.

**Revision of course contents:**

It was recommended by the Board that for revision of course contents external experts of different Universities may be requested.

(i) The following is the list of courses and the corresponding experts as recommended by the Board:

S. No	Course Code	Course Title	Expert	University
1.	MMS-101	Algebra-I	Prof. D. K. Khurana	Panjab University
2.	MMS-201	Algebra-II	Prof. D. K. Khurana	Panjab University
3.	MMS-102	Real Analysis-I	Dr. Vikas Bist	Panjab University
4.	MMS-202	Real Analysis-II	Prof. T. D. Narang	Panjab University
5.	MMS-103	Complex Analysis	Prof. S.S. Dhaliwal	SLIET, Longowal
6.	MMS-104	Ordinary Differential Equations and Special Functions	Dr. S.K. Srivastav	BCET, Gurudaspur
7.	MMS-106	Software Lab	Dr. Honey Sharma, Dr. Arvind Sharma, Dr. Gurjinder Singh	Main Campus and affiliated colleges
8.	MMS-205	Numerical Analysis	Prof. Vinay Kanwar	Panjab University
9.	MMS-206	Numerical Analysis Lab	Prof. Vinay Kanwar	Panjab University
10.	MMS-203	Mechanics-I	Prof. S. K. Tomar	Panjab University
11.	MMS-401	Mechanics-II	Prof. S. K. Tomar	Panjab University
12.	MMS-301	Topology	Dr. N. S. Noorie	Punjabi University
13.	MMS-302	Number Theory and Cryptography	Prof. A. K. Agarwal	Panjab University

14.	MMS-303	Mathematical Statistics-I	Prof. Narinder Kumar	Panjab University
15.	MMS-402	Mathematical Statistics-II	Prof. Narinder Kumar	Panjab University
16.	MMS-403	Tensors And Differential Geometry	Prof. R. K. Nagaich	Punjabi University

It was also recommended by the Board that the course contents of the subjects of Electives shall be discussed in detail in the next meeting. It was also recommended that the changes in Semester-I should be implemented with immediate effect in anticipation of the approval of Academic Council as the changes are quite necessary and the semester is scheduled to begin from August 1, 2017. The course contents of Number Theory and Cryptography (MMS-302) and Functional Analysis (MMS-304) should be reviewed immediately and necessary changes must be incorporated with immediate effect.

### **Agenda 2.**

After discussion the board recommended the following changes in credit of various subjects

(i) In Semesters-III, for the subject Elective-I (MMS-XXX), one tutorial period is recommended to be added. Now, the subject Elective-I is recommended to be of 5 credits.

(ii) In Semesters-IV, for the subject Elective-III (MMS-ZZZ), one tutorial period is recommended to be added. Now, the subject Elective-III is recommended to be of 5 credits.

(iii) It was also recommended that the course codes henceforward be changed. MMS in all course codes may be replaced with MSM to avoid any further confusion.

The meeting ended with the vote of thanks.

Prof. Vinay Kanwar

Prof. D. S. Pathania

Dr. S. K. Srivastva

Dr. Ashish Arora

Dr. Honey Sharma

Dr. Arvind Sharma

Dr. Harpreet Kaur

Dr. Vikramjeet Singh

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