Rayat Shikshan Sanstha's

KARMAVEER BHAURAO PATIL COLLEGE, VASHI (Autonomous)

Department of Mathematics

Board of Studies Meeting

Date: 20th February, 2019

Mr. B.S. Chiprikar, (**Chairman, BOS**), extended welcome to all the members of BOS.

Reading of Agenda:

- Motion from Mr. B.S. Chiprikar: To approve the agenda for 20th February,2019.

Vote: All in favor.
Resolved: **Motion carried**.

Agenda for the meeting on 20th February,2019approved without modification.

Business:

- **Agenda 1: Presentation of Minutes of the previous BoS meeting.**

The minutes of the meeting was approved and signed by all the members.

F.Y.B.Com.

Mathematical and Statistical Techniques

The syllabus was accepted unanimously.

S.Y.B.Sc.

Paper I

Motion No.	Sem.	Unit No.	Suggestions	By
2	III		**Calculus III**	
		1	Rename the paper as Multivariable Calculus.	Dr. Jyotshana Prajapat
	IV		**Calculus IV**	
		1	Rename the paper as Integral Calculus Instead of listing the properties just mention Additivity of Riemann Integral, Algebra of Riemann Integrable functions, like sum, product and modulus. Rewrite the statement as: Riemann Integrability of monotone and continuous functions.	Dr. Jyotshana Prajapat Dr. Hariharan Ananthnarayan Dr. Ajit Kumar.
		2	Rewrite: Fundamental theorem of Integral Calculus. Remove the continuity of $F(x)$.	Dr. Ajit Kumar.
		3	Specifically write beta and gama functions instead of using symbols. Remove the word without proof.	Dr. Ajit Kumar.

Paper II

Motion No.	Sem.	Module No.	Suggestions	By
			Algebra III	
2	III	1	Remove matrix units. Add Row Echelon form before elementary matrices. Frame the sentence as Elementary and invertible matrices. Shift the linear transformation part after the elementary matrices. Remove the part, the general solution of the system is a particular solution and the solution of the associated homogeneous system. Rewrite the statement as: The dimension of solution space of homogeneous systems. Rewrite the statement as: solution set of as non-homogeneous systems in terms of rank.	Dr. Ajit Kumar Dr. Hariharan Ananthnarayan & Dr. Jyotshana Prajapat
		2	Rewrite: determinant as an n-linear skew-symmetric / alternating function. Remove the domain and co-domain. Remove determinants as row and column vectors and the word via permutations. Instead of basic results on determinants, rewrite it as properties of determinants. Remove the existence and uniqueness of existence and uniqueness of system $AX = B$. Rewrite: Determinants and invertibility instead of specifying the properties and place it after the basic results $A.Adj(A) = \det(A)I_n$. In practical: 1. Add inverse of a matrix using Gauss Jordan method. 2. Rewrite point 1 as application of rank nullity theorem. 3. in point 5 add example: row space and null space.	Dr. Hariharan Ananthnarayan Dr. Jyotshana Prajapat Dr. Hariharan Ananthnarayan Dr. Hariharan Ananthnarayan & Dr. Ajit Kumar

		3	Add QR factorization after Gram-Schmidt orthogonalisation process. Instead of serge lang use Friedberg as a reference book. Remove the 4th, 5th, 6th , 7th and 8th additional reference book. Add Axler to Msc reference books. Add David Lay to the list of additional reference books.	Dr. Hariharan Ananthnarayan
	IV		**Algebra IV**	
		1	Rename the paper as Group Theory Dr. Hariharan Ananthnarayan suggested he reorder the syllabus.	Dr. Jyotshana Prajapat.
		2		
		3	Use Fraleigh as a reference book. Add Bisht and Sahaim, Algebra, Narosa Remove the references individually from each unit. Shift Artin and Gallian and combinatorial techniques to additional Reference books.	Dr. Ajit Kumar. Dr. Hariharan Ananthnarayan

S.Y.B.Sc.

Paper III

Motion No.	Sem.	Module No.	Suggestions	By
2	III		**Discrete Mathematics**	
		1	Mention the reference books in each unit.	Dr. Hariharan Ananthnarayan
			Ordinary Differential Equations	
	IV	1	Remove the word without proof and don't specifically mention the properties. Add G. F. Simmons and Steven Krantz in the list of reference books. Add Dennis Ziln, A first course in Differential equations and its applications in the list of reference books.	Dr. Jyotshana Prajapat. Dr. Ajit Kumar
		3	Remove the statements specifically mentioned from the syllabus. Introduce System of non-homogeneous equations with constant coefficients.	Dr. Jyotshana Prajapat

Scheme of Examination:

Dr. Jyotshana Prajapat suggested we make the Question paper pattern same as before as per universitypattern. Remove Open book test and add Group Project(Max. 10 Students).

Dr. Jyotshana Prajapat suggested shifting rings and fields from semester II to semester III and bring the part related to groups to semester III.

M.Sc.

Paper I

Motion No.	Sem.	Module No.	Suggestions	By
2	III	1	Rewrite the statement as: Examples such as group of affine transformations and dihedral groups as semi direct product.	Dr. Hariharan Anathanarayan
		2	Remove the statement of the theorems. Rewrite as: Irreducible representations of finite groups and Schur's Lemma.	All members
		3	Remove the references from individual units and have it at the end of the unit. Instead of writing generation of modules, rewrite it as generating sets of modules. Remove Dimension of a free module over a P.I.D. Add: Abelian groups as $\mathbb{Z}$-modules after definition of modules.	All members Dr. Hariharan Ananhnarayan.
		4	Remove the Rank of an R-module, the word sub-module and rewrite torsion $Tor(M)$ as torsion elements as a module. Shift Annihilator ideals to unit II after immediately introducing the submodules. Add: sub-module of a free module over a P.I.D.	Dr. Hariharan Ananhnarayan.

Paper II

Dr. Jyotshana Prajapat suggested we have Analysis II as paper II instead of paper III and make Fourier Analysis and calculus on manifolds. as optional course in semester IV. Have PDE as paper III in semester IV.

Dr. Jyotshana Prajapat offered to revise the syllabus of PDE, Analysis II and find applications for functional analysis unit IV.

Dr. Ajit Kumar suggested we introduce Functional analysis is semester IV.

Dr. Hariharan Ananthnarayan suggested we add Elementary number theory as an elective course.

Dr. Ajit Kumar suggested we add Cryptography as an elective in semester IV.

Functional Analysis:

Dr. Jyotshna Prajapat suggested we begin with Hilbert Spaces. She also suggested we rewrite the content of Baire Space as Baire Category theorem and applications. She also suggested that we remove all the reference book from in between the units.

Dr.Ajit Kumar suggested we introduce Optimisation techniques as a paper III in semester III. And in that put unit II from Zak.

Dr. Ajit Kumar suggested we add integer programming in unit I and he suggested instead of Queuing theory we have dynamic programming. He also suggested we add Leuenberger , Linear and non-linear programming as a reference book for operations research. Rewrite the content of unit IV as Open mapping theorem, Closed graph theorem, uniform boundedness principle and their applications.

20/2/2019.

20/2/2019

20/02/19