**Curriculum Plan: B. Sc. (Hons) Mathematics II, Semester IV,**

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| **Ms. Neelam Bareja**  Department of Mathematics  Kalindi College, University of Delhi, Delhi- 110008  Mobile: +91-9899377666  **E- mail**: bareja.neelam@redifmail.com | |  | **Marks Distribution** | **Theory** | 75 Marks | |
| **Practical** | 50 Marks | |
| **Internal Assessment** | 25 Marks | |
|  | **Classes Assigned** | 5 lectures per week | |
| **Reference** | **[1]** | **Stephen H. Friedberg, Arnold J. Insel, Lawrence E. Spence, *Linear Algebra* (4th Edition), Prentice-Hall of India Pvt. Ltd., New Delhi, 2003.** | | | | |
|  | **[2]** | **Joseph A. Gallian, *Contemporary Abstract Algebra* (8th Edition), Narosa Publishing House, New Delhi, 2013.** | | | | |
|  | **Week** | **Topics** | | | |  |
|  | **Beginning/1st week**  3rd Jan. - 8th Jan. | Definition And Examples Of Rings, | | | |
| **2nd week**  10th Jan. - 15th Jan. | Properties Of Rings, Subrings, Integral Domains And Fields, | | | |
| **3rd week**  17th Jan. – 22nd Jan. | Characteristic Of A Ring. Ideals, Ideal Generated By A Subset Of A Ring, | | | |
| **4th week**  24th Jan. - 29th Jan. | Factor Rings, Operations On Ideals, Prime And Maximal Ideals. | | | |
| **5th week**  31st Jan.- 5th Feb. | Ring Homomorphisms, Properties Of Ring Homomorphisms, Isomorphism Theorems I, II And III, Field Of Quotients | | | |
| **6th week**  7th Feb. – 12th Feb. | Vector Spaces, Subspaces | | | |
| **7th week**  14thFeb. **–** 19th Feb**.** | Algebra Of Subspaces, Linear Combination Of Vectors | | | |
| **8th week**  21st Feb. – 26th Feb. | Linear Span, Linear Independence, Basis And Dimension, Dimension Of Subspaces | | | |
| **9th week**  28th Feb. – 5th Mar. | Linear Transformations, Null Space, Range, Rank And Nullity Of A Linear Transformation | | | |
| **10th week and 3 Days**  7th Mar.– 16th Mar. | Matrix Representation Of A Linear Transformation | | | |
| **11th week**  21st Mar. – 26th Mar. | Algebra Of Linear Transformations | | | |
| **12th week**  28th Mar. – 2nd Apr. | Isomorphisms, Isomorphism Theorems | | | |
| **13th week**  4th Apr. – 9th Apr. | Invertibility And Isomorphisms | | | |
| **14th week**  11th Apr. – 16th Apr. | Change Of Coordinate Matrix | | | |
| **15th week and 3 Days**  18th Apr. – 27th Apr. | Revision Of Entire Syllabus | | | |  |
| **Dispersal of classes, preparation leave and practical examination begin April 28, 2022.** | | | | | | |