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

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| **Ms. Neelam Bareja**Department of MathematicsKalindi College, University of Delhi, Delhi- 110008Mobile: +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.** |