**Curriculum Plan: B. Sc. (Hons) Mathematics (Semester VII)- Fundamentals of Topology (2025-26). ODD SEM**

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| **DR. ABHISHEK KR. SINGH**  Assistant Professor  Department of Mathematics  Kalindi College  University of Delhi  Delhi- 110008  Mobile: +91-8375834510  **Email**: abhishek@kalindi.du.ac.in | | C:\Users\Abhishek\Pictures\2014-05-28 002\photo.jpg | **Marks Distribution** | **Theory** - |
| **Internal Assessment-** |
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| **Classes Assigned** | **Lectures: 3 per week** |
|  | **References** | **Shirali, Satish & Vasudeva, H. L. (2009). Metric Spaces. Springer. Indian Reprint 2019.**  **Munkers James R. (2000). Topology (2ND ed). Prentice Hall Of India Pvt. Ltd.** | | |
|  | **Week** | **Topics** | | |
|  | **1st week** | PROPERTIES OF METRIC SPACES. SPACES OF SEQUENCES OF NUMBERS. | | |
| **2nd week** | CONVERGENCE AND COMPACTNESS, COMPLETION OF A METRIC SPACES. | | |
| **3rd week** | LACAL BASE AND BASE. FIRST AND SECOND AXIOM OF COUNTABILITY. | | |
| **4th week** | SEPARABLE AND LINDELOF SPACES. | | |
| **5th week** | NOWHERE DENSE SUBSETS. CATEGORY I AND II SETS. | | |
| **6th week** | BAIRE CATEGORY THEOREM. | | |
| **7th week** | EXTENSION THEOREMS. | | |
| **8th week** | TIETZE’S THEOREM | | |
| **9th week** | LOCAL CONNECTEDNESS. ARCWISE CONNECTEDNESS. | | |
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|  | **10th week**. | TOTALLY BOUNDED SETS. | | |
| **11th week** | TOPOLOGY. BASIS AND SUBBASIS FOR TOPOLOGY. | | |
|  | **12th week** | PRODUCT AND SUBSPACE TOPOLOGY. | | |
| **13th week** | CLOSED SETS. HOUSEDORFF SPACES. | | |
| **14th week** | CONTINUOUS FUNCTIONS. HOMEOMORPHISM. PRODUCT TOPOLOGY. | | |
| **15th week** | CONNECTEDNESS AND COMPACTNESS. | | |
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