SU/BOS/Science & Technology / 9919   Date : 5 /09/2018

The Principal,
All Affiliated Colleges/Institutions
Shivaji University, Kolhapur.

Subject: Regarding minor changes in the syllabi, M.Sc. (Maths) Part-I Sem-2 under the Faculty of Science & Technology.

Sir/Madam,

         With reference to the subject mentioned above, I am directed to inform you that The university authorities have accepted and granted approval to the minor changes in the syllabi, of Paper at **Genral Topology** M.Sc.(Maths) Part-I Sem-2 under the Faculty of Science & Technology.(The concern change is enclosed here with.)

         You are therefore, requested to bring this to the notice of all students and teachers concerned.

         Thanking you,

                                                              Yours faithfully,

                                                              Dy. Registrar
                                                        (Board of Studies Section)

Copy to :-

1	The Dean, Faculty of Arts & Fine Arts	8	Appointment Section
2	The Chairman, Respective Ad-hoc Board	9	Centre for Distance Education
3	B.A. Exam	10	Computer Centre
4	Eligibility Section	11	Affiliation Section (U.G.)
5	O.E. I Section	12	Affiliation Section (P.G.)
6	O.E. II Section	13	P.G.Admission Section
7	O.E. III Section	14	P.G.Seminar Section

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Title of Course: General Topology

Course Outcomes: Course Outcomes: Upon successful completion of this course, the student will be able to:

1. demonstrate the concepts of closed sets, limit points, product topology, basis, and continuous functions.
2. create new topological spaces by using subspaces and product topologies.
3. make use of continuous functions and homeomorphisms to understand structure of topological spaces.
4. prove the standard results regarding compact and connected topological spaces,
5. characterize separable and countable spaces.
6. prove the Urysohn lemma and Tychonoff theorem.
7. think critically and apply the knowledge of topological spaces in the study of analysis, geometry and algebraic topology.

Unit I: Topological Spaces, Basis for a Topology, The Order Topology, The Product Topology on , The Subspace Topology, Closed Sets and Limit Points, Continuous Functions. **15 Lectures**

Unit II: The Product Topology, The Metric Topology, Connected Spaces, Connected Subspaces of the Real Line, Components and Local Connectedness. **15 Lectures**

Unit III: Compact Spaces, Compact Subspaces of the Real Line, Limit Point Compactness, Local Compactness, The Countability Axioms. **15 Lectures**

Unit IV:, The Separation Axioms, Normal Spaces, The Urysohn Lemma, The Urysohn Metrization Theorem (Only statement and its importance), The Tietze Extension Theorem (Only statement and its importance), The Tychonoff Theorem. **15 Lectures**

Unit V: Examples, seminars, group discussions on above four units. **15 Lectures**

Recommended Book:

1. J. R. Munkers, Topology, Second Edition, Pearson Education (Singapore), 2000.

Reference Books:

1. W. J. Pervin, Foundations of General Topology, Academic Press, New York, 1964.
2. J. L. Kelley, General Topology, Springer-Verlag, New York, 1955.
3. S. Willard, General Topology, Addison-Wesley Publishing Company, 1970.
4. K. D. Joshi, Introduction to General Topology, New Age International, 1983.
5. G. F. Simmons, Introduction to Topology and Modern Analysis, McGraw Hill Book Company, New Delhi, 1963.