RAJAGIRI SCHOOL OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

CERTIFICATE COURSE ON TOPOLOGICAL DATA ANALYSIS DEPARTMENT OF MATHEMATICS

ABOUT THE DEPARTMENT

The Department of Mathematics was made an independent Department on 22nd June 2020 in order to promote research activities and interdisciplinary projects. The Center for Topology and Applications (CETA) established under the Department is supported by the National Board of Higher Mathematics, Department of Atomic Energy and Department of Science and Technology, Govt. of India. Several programs are conducted by the department in association with CETA

ABOUT THE COURSE

This course provides various testing methods, covers important topics of data analysis and helps to gain better knowledge in statistical analysis.

ELIGIBILITY

Any undergraduate or post graduate students, faculty, research scholars and working professionals with basic knowledge in higher secondary level Mathematics.

SYLLABUS

Module 1
 Introduction to Topology: Topological spaces, metric space topology, Maps: homeomorphisms, homotopy equivalence, isotopy, Manifolds.

Module 2
 Complexes on data Simplicial complexes, Delaunay complexes, Chech and Rip complexes, Witness complexes, Vietoris-Rips complexes , Graph induced complexes.

Module 3
 Homology Chains, boundaries, cycles, homology groups, betti numbers, Induced maps among homology groups, Relative homology groups, Local homology groups, Cohomology groups

Module 4
 Topological Persistence Filtrations, Persistent homology, Persistence algorithm, Persistence diagram, Variations on persistence algorithm, Stability of persistence diagrams. Data Analysis using AYASDI.

FEE STRUCTURE

Rs. 2500/- (Send the payment receipt to: *rsetcc_dma@rajagiritech.edu.in*)

REGISTER NOW

To register go to :https://tinyurl.com/yjavuavb

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