

The First IPM Isfahan Workshop on General Topology

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$C(X)$ REVISITED

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ABSTRACT. Our objective in this short course is the investigation of the structure of the ring $C(X)$ of all real-valued continuous functions on a topological space X . Major emphasis will be placed on the study of ideals of $C(X)$, especially prime (maximal) ideals, z -ideals and convex ideals. For study of the relations between algebraic properties of $C(X)$ and topological properties of X , ideals play an important role. In such procedures, those kinds of ideal are effective which are both algebraic and topological objects. In this case, ideals work as bridges for getting links between X and $C(X)$. We characterize topological properties of some ideals and using them, we reveal relations between properties of X and $C(X)$. Several open problem will be also given in this short course.

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