

1161-54-6

Sudip Kumar Acharyya and **Rakesh Bharati*** (bharti.rakesh292@gmail.com), Vill. and P.O.- Tentulberia, P.S- Gaighata, Dist- North 24 Parganas, Bongaon, W.B 743245, and **A. Deb Ray**. *On the Intermediate rings of functionally countable subalgebra of $C(X)$.*

Let X be a Hausdorff zero-dimensional topological space. Suppose $C_c(X)$ is the ring of all continuous real valued functions on X which has countable range and $C_c^*(X)$ is the subring of $C_c(X)$ consisting of all bounded functions lying in $C_c(X)$. If $A_c(X)$ is an intermediate ring meaning that it is a ring lying between $C_c^*(X)$ and $C_c(X)$ then it is proved that the set of all maximal ideals of $A_c(X)$ with the well known hull-kernel topology is $\beta_0 X$, the Banaschewski compactification (the largest zero-dimensional compactification of a zero-dimensional Hausdorff space) of X . By defining the m_c -topology on $C_c(X)$ which is a countable analogue of the well known m -topology on $C(X)$, it is further proved that X is a P -space if and only if each ideal in $C_c(X)$ is closed in m_c -topology. There are quite a few open questions related to these rings versus the topological structure of X . (Received June 27, 2020)