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Name of the Scholar: **Md Iqbal Ahmed Talukdar.**

Name of the Supervisor: **Prof. Athar Adil Hashmi (Supervisor)**
Dr. Md. Khursheed Akram (Co-Supervisor)

Name of the Department/ Centre: **Chemistry**

Topic of Research: **Synthesis, Characterization and Applications of
Polymer Metal Complexes.**

FINDING

Polymer were synthesized using vegetables oil by incorporating metal ions in presence of catalyst. The vegetables oil used for synthesizing polymers were rapeseed oil (RSO), castor oil (COL) and rice bran oil (RBO). The metal ions used for the synthesis of polymers were Zinc; Zn (II), Copper; Cu (II), Cobalt; Co (II), Nickel; Ni (II), and Ba (II). The synthesized metal coordinating polymers were further investigated for the potential biological activities like antibacterial and antioxidant. The metal incorporating polymers have shown potential biological activities compared to the virgin materials, vegetables oil. The enhanced biological activities are due to the modification and metal ions incorporation. The synthesized polymers were (A). Copper and Zinc containing RSO based polymer RSCu and RSZn. (B). Copper and Zinc containing COL based polymers CPC and CPZ. (C). Cobalt and Nickel containing RBO based polymer RBC and RBN (D). Zinc, Copper, Cobalt, and Barium containing COL based polymers COLZn, COLCu, COLCo, and COLBa.