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Name of the Scholar: **Dr. Samreen Fatima**

Name of the Supervisor: **Prof. Tasneem Fatma**

Name of the Department: **Biosciences**

Topic of Research: **Studies on *Nostoc muscorum* in relation to paracetamol- an emerging aquatic pollutant**

Finding

Effect of paracetamol toxicity was observed in 2 ranges of paracetamol dose. Higher range paracetamol exerted higher toxic effect. In lower range of paracetamol, the organism grown up to 6^{th} day after that the growth decreased. Paracetamol stress reduced the photosynthetic pigments and total protein content of *N. muscorum.* Toxic effect of paracetamol in *N. muscorum* by inducing oxidative stress indicating lipid peroxidation and generation of reactive oxygen and enhanced the antioxidants like SOD, CAT, APX, GST, GR and proline with increased concentration of paracetamol. Qualitative and quantitative results showed the toxic effect of drug by observing in microscopy. Addition of selenium in stressed cells decreased the oxidative stress and revealed role of selenium in mitigation of free radicals. Also it enhanced the level of antioxidant that suggested selenium helped the cell to counteract paracetamol toxicity. Our study provides an insight towards the

aquatic toxicity of paracetamol and its mitigation by selenium. These results suggest that paracetamol is toxic to non-target organisms by generating the reactive oxygen species.