CONCLUSION

- The degradation in natural environmental conditions was observed in the March / April months. The natural antibiotic erythromycin is treated with UV 15W showed the maximum degradation after 8 hrs. and UV 30W showed the maximum degradation of erythromycin after 7 hrs. of exposure. The solar degradation showed maximum degradation after 108 hrs. of exposure.

- The UV exposure was more effective than the solar exposure. The optimum degradation was observed after 5 hrs. of 30 W UV exposure. The maximum solar degradation of ampicillin was noticed after 72 hrs. of exposure.

- The solar and UV degradations of ofloxacin antibiotic were studied. The UV degradation (15W and 30W) was optimum after 6 hrs. of the exposure and after this exposure degradation rate was stable.

- The solar degradation of ofloxacin was at lower rate in comparison to the UV exposure. All the concentration ranging from 50pp to 500ppm of the ofloxacin showed the higher degradation after 108 hrs. The author has recorded the highest solar degradation efficiency at 500ppm.

  From the above observations it is concluded that the degradation of ofloxacin antibiotic present in the soil, garbage etc.
can be possible in the pharmaceutical and nursing home wastes in the fields also.

- Antibiotics (erythromycin, ampicillin and ofloxacin) degrading bacterial isolates were obtained through enriched culture in laboratory conditions.

- These isolates showed degradation in the environment as well as in lab. Conditions.

- The bacterial culture exhibited the higher growth at specific duration and it was 5 to 6 days for the degradation of ERY, AMP and OFL antibiotics.

- The bacterial isolates obtained higher degradation at optimum concentrations of antibiotics, which was 300ppm for ERY, 400ppm for AMP and 300ppm for OFL.

- The observation of the degradation rate of antibiotics with the help of UV/Vis spectrophotometer by preparing calibration curve.

- The rate of biodegradation of antibiotics by isolates ERY6, ERY11, AMP6, AMP8, OFL8 and OFL9 were 36.7±0.02%, 50.71±0.12%, 12.97±0.11, 11.98±0.15, 33.77±0.04% and 31.47±0.06% respectively.

- In the short incubation period, the isolates showed the higher degradation rate at the optimizing temperature and pH at laboratory conditions including concentrations.
The optimized eco-friendly techniques can be further used at large scale in field condition in future.

The studies on the physical and biological degradation of antibiotics increased our knowledge for activities of antibiotics degrading microbes under different environmental conditions and increased the rate of biodegradation during the microbial studies.

The physical conditions also increased the rate of degradation of antibiotics.