VII. CONCLUSION
Results of the current study demonstrate that, RF-EMR exposure for a period of one month induced significant lipid peroxidation and decreased antioxidant defence status in different brain regions (hippocampus, amygdala, prefrontal cortex and cerebellum) of rats. This change in the biochemical parameters affected both hippocampus and amygdala morphology as represented by cell death and decreased cell density in hippocampus CA3 region and BLA. Furthermore, it also decreased the dendritic arborization pattern in pyramidal neurons of CA3 and BLA. These cellular changes were behaviourally represented as increased anxiety-like behaviour, mild deficit in emotional learning and memory, a poor spatial navigation and object place configurations in rats. General locomotor behaviour was preserved in RF-EMR exposed rats. Thus we rejected the null hypothesis and proved our hypothesis that radiofrequency electromagnetic radiations (RF-EMR) from mobile phone (in active mode) disturbs the free radical metabolism in rat brain in vivo and thereby led to cellular and behavioural changes.
Scope for future work

- Neuropeptide Y (NPY) decreases in anxiety-related behaviours in various animal models of anxiety. Therefore evaluating the role of amygdalar Neuropeptide Y (NPY) system would give a valuable understanding about RF-EMR induced anxiety like behaviours in rats.

- Reports suggest that the cell death caused by RF-EMR in the hippocampus is probably due to increased intracellular calcium in these neurons. However the mechanism in amygdala neurons has not been investigated.

- Understanding whether RF-EMR exposure from mobile phone for a period one month under our experimental conditions leads to gliosis will give an insight into the possible mechanism of brain injury due to RF-EMR.

- How long the RF-EMR induced effects persist? Can these be reversed? These questions are genuine and have to be evaluated.

- Having confirmed with some biological effects (in the brain), the next stage could be strategies to prevent the neurotoxic effects caused by RF-EMR.

- Evaluating the neurotransmitters and neurotrophins levels involved in learning and memory under RF-EMR exposure would give much clearer understanding about the impact of RF-EMR on learning memory process.

- Evaluation of neurogenesis under RF-EMR exposure is inevitable because hippocampus is the place where new neurons are formed even in adulthood and late adulthood.

- It would be interesting to evaluate and understand the body’s innate preventive/restrain mechanisms against RF-EMR.