

PART A-Plan

Micro-Project Proposal

Title:-Effect of radiofrequency radiation on reproductive health.

Introduction

The radio frequency radiation (RFR) is a component of electromagnetic energy covering the frequency range of 3 KHz-300 GHz. Cellular phones were introduced during the 1990s, and today there are more than millions of cell phone users in the country. The explosive expansion of cell phone system has greatly enhanced the level and magnitude of RFR exposure. There is potential exposure in the surrounding areas of the fixed broadcast facilities situated in residential areas, schools, etc. With the increased use of cell phones, the levels of radiations and exposure of the population have consequently amplified drastically.

RFR is of short term and repeated nature at a comparatively high intensity when emitted from cell phones, whereas RFR of cell phone base stations is of long duration but with a very low intensity. The biological effects of low-frequency (<100 Hz) radiations are well recognized and reported to cause adverse effect on health via either thermal or non-thermal effect. Thermal effects occur due to holding cell phones near to the body, whereas non-thermal effects are from both cell phones and cell phone base station.

RFRs have adequate energy to create thermal effect in living cells and tissues. RFR may be absorbed at the molecular level producing an alteration of dielectric properties of molecules. Molecular dielectric properties are responsible for the magnitude of heat. Therefore, electromagnetic field (EMF) can generate heat. A thermal response can be altering many biochemical and physiological pathways in living organisms. It has been reported that a specific absorption rate (SAR) of more than 4 W/kg may enhance temperature around 1°C, under moderate condition, and the SAR of RFR is a time-dependent factor.

1 Aim of the Micro-Project

Micro-Project aims At

1. To Study about the Radiofrequency radiation .
2. To Study the Actual Effects of Radiofrequencies on health.
3. To Study how to maintain Radiofrequencies in our environment.

2 Intended Course Outcomes

1. Develop Public awareness about environment.
2. Select alternative energy resources for Engineering Practices.
3. Conserve Ecosystem and Biodiversity.
4. Apply techniques to reduce Environmental Pollution.
5. Manage social issues and Environmental Ethics as lifelong learning.

3 Proposed Methodology

High frequency radiation exists in free space around us from an increasing number of sources and cover a wide range of the electromagnetic spectrum. By for the most important and rapidly expanding source is the mobile phone base stations. Fortunately, the radiated power densities around these base stations are below the standard limits set by the different world organizations.

It is important to take care in the design of new base stations to meet the guidelines set for the antennas and their mounting so that the minimum required distance can be observed for the public access. New trends in the design of such antennas such as the smart antenna concept, can be applied in order to further reduce the radiation power levels.

4 Action plan

Sr.No	Details of activity	Planned starts date	Planned finish date	Name of responsible Team members
1	Formation of project group	28/12/2018	04/01/2019	Kumar Pandule
2	Allocation of project title by subject teacher	04/01/2019	11/01/2019	
3	Conduct the information search about the project for requirement analysis of the project	11/01/2019	18/01/2019	Dnyaneshwar Kadam
4	Actual projector assembling work	18/01/2019	01/02/2019	
5	Testing calibration and prototype development	08/02/2019	15/02/2019	Rahul Thorat
6	Report preparation	22/02/2019	01/03/2019	
7	Submission of project	08/03/2019	15/03/2019	

5 Resource Required

Sr.No	Instruments	Specifications	Quantity
1	Desktop PC	I5, Windows 10 OS	-
2	Softwares	Overleaf online Software	-
3	Reference	keynote5dawoud.pdf	-

6 Name of team members

Sr. No	Name of team member	Roll no.	Enrollment no.
1	Kumar Pandule	18CO256	1810510016
2	Dnyaneshwar Kadam	18CO260	1810510020
3	Rahul Thorat	18CO262	1810510018