

**LETTER OF RECOMMENDATION**

It gives me a lot of pleasure to recommend Denesh Kumar who is intending to pursue masters in your university. I have known him for more than three years of his undergraduate studies where I taught him courses on 'Applied Electromagnetics', 'Microprocessor and microcontroller' and also 'Antenna System and Design'.

Through my observation, Denesh is a very sincere and diligent student with sufficient motivation been consistent in his studies. He is a very attentive student in class receptive to new ideas and took active participation in classroom activities. Denesh has also done Microcontroller Lab course under my guidance. During this session he has proved his ability to correlate theoretical classes with practical lab sessions and when he came across some challenges in design and coding he figured out the root cause and solved the same. He performed exemplarily well in his lab and has never been late with his submissions of assignments and record works.

I have mentored Denesh for his final year project titled "Microstrip antenna design for energy harvesting". The project aimed to achieve circular polarization in a single feed patch antenna using genetic algorithm. Despite this being complex process, his understanding of subject and his determination enabled him to complete the project. He does not hesitate to seek clarification, which help him in clear understanding of the logic and concept. Every time I give him a task, Denesh completes it within stipulated period of time. He has never given an opportunity to rebuke him for anything. At the initial stage of the project Denesh faced challenges with coding but on the progress he upgraded him with good knowledge of GA coding and has contributed immensely to the success of project.

He proved his managing skills understanding the strength of his group members and allocated task accordingly. He also possesses a strong presentation skill. A good example of this is I asked him to present me on few video materials about antenna I gave him for project. He presented it extremely well with a clear understanding of the concepts and with fluent communication skills. Denesh also contain good writing skills which I have examined from his literature survey, report writing and drafting paper for conference. He and his team has successfully presented and published a paper "Microstrip patch antenna miniaturization using improvised genetic algorithm" and his second paper for Energy harvesting is be published. I hope that comes out well. Apart from studies, he has participated in social service activities and he has also attended the SEVA program conducted by our university in Amritapuri Kerala.

Overall, Denesh has amazed me with his determination for continuous improvement in his overall stature. He keeps himself updated on the latest developments and goes through various technical literature which was evident from his project discussions. He has great moral values and good attitude to respect teachers. I would rate him in the top 10% of students in class. I strongly recommend him for graduate studies at your esteemed institution.