Acknowledgements

I wish to express my sincere gratitude and indebtedness to my revered supervisor Dr. M.P. Dobhal (Associate Professor), Department of Chemistry, University of Rajasthan, Jaipur, for his scholarly guidance, meticulous advice constructive criticism, perpetual and enthused encouragement in every step due to which this manuscript put in order in the present form. Without his imperative suggestions and unstinted support and keen interest, it would have not been possible for me to make this task so smooth and interesting. My respect and admiration are immeasurable for his kind cooperation and I owe a lifetime debt to him for his contribution in completion of my thesis.

My grateful acknowledge to Dr. R.P. Tyagi, Dr. Y.C. Joshi, Dr. M.C. Sharma and Dr. Pradeep Parasher for their valuable suggestion, expert guidance, evolutionary ideas, constant encouragement and providing me support in complete my research work successfully.

I extend cordial thanks to Head, Department of Chemistry, University of Rajasthan, Jaipur for providing necessary departmental facilities to carry out the research work.

I express my gratitude to Dr. B.S. Joshi, Dr. M.K Pathak and Dr. Ashok K. Yadav who were a constant inspiration during the work.

I would like to thank all my colleagues in the department Dr. Rashmi Unny, Dr. Ashutosh Sharma, Dr. Suresh Kumar Verma, Dr. Rajesh Kumar Nunia, Dr. Rajendra Kumar Saini, Dr. Neetu Kumari, Dr. Usha Baloda, Dr. Anil K. Sharma, Dr. Amit Singh Choudhary, Dr. Pradeep Yadav, Dr. Sunita Rao, Mr. Madhusudan Indoria, Dr. Pallavi Sharma, Mrs. Nisha
Agarwal, Dr. Kuldeep Sharma, Mr Man Singh Meena for their adorable support and pampering throughout the long course of the dissertation.

I express my sincere appreciation to my fellow colleagues Mr. Maheep Kumar, Mrs. Kavita, Mrs. Deepika Pareek, Mrs. Rinku Agarwal, Mrs. Sobhita Singh, Mr. Tekchand Chand Sharma, Mr. Sandeep Singh, Mr. Sharwan Kumar, Mrs. Anita Gupta, Mrs. Neetu Koolwal, Ms. Sunita Ghiya, Ms. Sikha Gupta, Mrs. Monika Gupta, Mr. Mukesh Jangid, Mr. Pankaj Kumar and Mr. Gopi Ram Sharma for their stimulation, discussion, valuable co-operation and support to complete the work.

I also thank to Dr. Dharamvir, Dr. Saji Thomas, Dr. Sujoy Biswas, Dr. Hawaldar Maurya and Dr. Vijay Shankar Gupta all from Jubilant Life Sciences Ltd. for permit me to complete my work.

I sincerely thank to all my lab colleague Dr. Ajet saxena, Dr. Ankit Kaneria, Dr. Susmita Pandey, Mrs. Meenakshi, Mr. Dharam Raj Verma, Mr. Ratandeep Srivastwa, Mr. Abhishek Kumar and Mr. Deepank Sharma who had been acting as continuous supports in day to day work.

With great pleasure I express my sincere thanks to Mr. Govind Vyas, Director, Chemind and Biosolutions Pvt. Ltd., Jaipur who helped me in carrying out the antimicrobial evaluation of the newly synthesized compounds.

From the core of my heart, I offer my gratitude to my dear beloved father Mr. K.N. Vishwakarma and mother Mrs. C. Devi who always has inspiration for me and standing with an open heart to hear me and support me at all odd times. I extend my humble gratitude to my father-in-law Mr. M.L. Sharma and mother-in-law late Satyawanti Devi who care and for
their moral support and patience. Without their co-operation, it would have been certainly harder to finish this work.

This thesis could not have been in this accomplished from if my loving wife Mrs. Sunita Vishwakarma would not have been supported and encouraged me. She help me every step to carrying out my entire work.

Words are not enough to express my deep sense of gratitude to my loving friends Mr Girish Bhatt and Mr Mahavir Chamoli, who continuously supporting me in each and every steps of the thesis work.

I would be committing injustice if I do not thank Mr. Rakesh K. Sharma M/s Universal Computer, Jaipur whose editing suggestion contributed to the final copy. He provide decisive and energetic support during the last stage, clearing the path towards thesis completion in solution oriented way.

In the end, I am thankful to entire staff, Department of Chemistry, University of Rajasthan, Jaipur for their co-operation. Last but not least, it is impossible to name everyone to whom I would like to communicate thanks and believe that those not named will accept my implied thanks.

(Dinesh Kumar Vishwakarma)