

***Study of Heat Shock Proteins and Cytokines in  
Diagnosis and Pathogenesis of Pulmonary and  
Extra Pulmonary Tuberculosis***

*Thesis*  
*Submitted for the Degree of*  
**Doctor of Philosophy**  
*In*  
*Clinical Biochemistry*

*By*  
**Ms. Seema D. Shekhawat**  
*(M.Sc, Biochemistry)*

***April 2016***

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### CERTIFICATE

This is to certify that the thesis entitled “**Study of Heat Shock Proteins and Cytokines in Diagnosis and Pathogenesis of Pulmonary and Extra Pulmonary Tuberculosis**” submitted by **Ms. Seema D. Shekhawat** to Datta Meghe Institute of Medical Sciences (Deemed University) for the award of the degree of Doctor of Philosophy in Clinical Biochemistry under the faculty of Medicine is a bonafide record of the research work carried out by him under our supervision and guidance. The content of the thesis, in full or parts have not been submitted to any other Institute or University for the award of any other degree or diploma.

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## DECLARATION

This is to declare that the thesis of the research work entitled “**Study of Heat Shock Proteins and Cytokines in Diagnosis and Pathogenesis of Pulmonary and Extra Pulmonary Tuberculosis**”, submitted by me to Datta Meghe Institute of Medical Sciences (Deemed University) for the award of the degree of Doctor of Philosophy in Clinical Biochemistry under the faculty of Medicine is a bonafide record of the research work carried out by me during the period Jan 2011 to April 2016 at Biochemistry Research Laboratory, Central India Institute of Medical Sciences, Nagpur under the supervision and guidance of **Dr. Rajpal Singh Kashyap**, Director Research, Biochemistry Research Laboratory, CIIMS and **Dr. Hatim F. Daginawala**, Senior Scientist, Research Laboratory, CIIMS, Nagpur. The contents of this thesis, in full or in parts, have not been submitted to any other Institute or University for the award of any degree or diploma.

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