

Contents

Abbreviations	
Introduction	1-8
Aims & objectives	9-10
Review of literature	11-45
– Ancient Review	
– Classification of diabetes mellitus	
– Metabolism in diabetes mellitus	
– Dyslipoproteinemia in diabetes mellitus	
• Biochemical basis for association of dyslipoproteinemia with diabetes mellitus	
• What are free radical do	
• Where do free radicals are come from	
• The biochemistry of free radical generation	
• Classification of free radicals	
• What are antioxidant	
• Oxidative stress and complications of diabetes mellitus	
• History of indigenous herbs in India	
Materials & Methods	46-68
• Chemicals	
• Preparation of plant extracts	
• Animals	
• Patients	
• Preparation of cholesterol rich high fat diet	
• Alloxan model of hyperglycemia	
• Triton model of hyperlipemia	
• HFD model of hyperlipemia	
• Estimation of fasting blood glucose	
• Separation of serum lipoproteins	
• Flow diagram for precipitation of lipoproteins	
• Isolation of apolipoproteins	
• Preparation of tissue homogenate	
• Extraction of lipids	
• Estimation of protein	
• Estimation of total cholesterol	
• Estimation of phospholipid	

- Estimation of triglyceride
- Estimation of HDL cholesterol
- Estimation of lipoprotein lipase
- Estimation of triglyceride lipase
- Estimation of free fatty acid
- Estimation of lipid peroxide
- Estimation of super oxide dismutase
- Estimation of catalase
- System used in the evaluation of antioxidant activities *in vitro*
- Xn-XnOD system
- Xn-XnOD-NBT system
- NBT-PMS-NADPH system
- hypoxn-xnOD-Fe²⁺ system
- Fe²⁺-sodium ascorbate- H₂O₂ system
- Statistical analysis

Results	69-110
Discussion	111-145
Summary	146-152
Bibliography	153-186
Publications	i-ii