CONTENTS

1. **Introduction**
   - 1.1 Role of multinormal distribution  2
   - 1.2 Literature Survey  8
   - 1.3 Outline of Research Work  20

2. **Truncated two piece normal distribution**
   - 2.1 Introduction  25
   - 2.2 The density function  28
   - 2.3 Estimation of Parameters  30
   - 2.4 Mean deviation from mean  32
   - 2.5 Recurrence relation  33
   - 2.6 Singly TTPN distributions  34

3. **Truncated two piece lognormal distribution**
   - 3.1 Introduction  38
   - 3.2 The density function  39
   - 3.3 Estimation of parameters  40
   - 3.4 Mean deviation from mean  43
   - 3.5 Recurrence relation  44
   - 3.6 Singly TTPLN distributions  44
4. Two piece bivariate normal distribution
   4.1 Introduction 49
   4.2 The density function 51
   4.3 Estimation of Parameters 53
   4.4 Asymptotic normality of m.l.e. 59

5. Two piece bivariate lognormal distribution
   5.1 Introduction 62
   5.2 The density function 63
   5.3 Elementary properties 65
   5.4 Estimation of parameters 69

6. Truncated two piece bivariate normal distribution
   6.1 Introduction 78
   6.2 The density function 79
   6.3 Estimation of Parameters 81
   6.4 Singly truncated two piece bivariate normal distributions 95

7. Truncated two piece bivariate lognormal distribution
   7.1 Introduction 105
   7.2 The density function 106
   7.3 Estimation of Parameters 109
   7.4 Singly truncated two piece bivariate normal distributions 114
8. Two piece multinormal distribution
   8.1 Introduction
   8.2 The density function
   8.3 Estimation of Parameters
   8.4 The density function of truncated TPMN distribution
   8.5 Estimation of Parameters of truncated TPMN distribution

9. Two piece multivariate lognormal distribution
   9.1 Introduction
   9.2 The density function
   9.3 Estimation of Parameters
   9.4 The density function of truncated TPMLN distribution
   9.5 Estimation of Parameters of truncated TPMLN distribution

10. Conclusion and direction of future work
    10.1 Conclusion
    10.2 Direction of future work

REFERENCES