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UNIVERSITY OF MYSORE

Estd. 1916

Vishwavidyanilaya Karyasoudha
Crawford Hall, Mysuru- 570 005

No.AC.2(S)/31/18-19 Dated: 24.07.2018

NOTIFICATION

Sub: Minor **c**hanges in the syllabus of Statistics (PG) from the academic year 2018-19.

Ref: 1. Decision of Board of Studies in Statistics (CB) meeting held on 04.12.2017.
2. Decision of the Faculty of Science & Technology Meeting held on 21.04.2018.
3. Decision of the Academic Council meeting held on 19.06.2018.

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The Board of Studies in Statistics (CB) which met on 04.12.2017 has recommends to make minor changes in the existing syllabus of the paper **18825: Multivariate Analysis** of M.Sc. in Statistics from the academic year 2018-19.

The Faculty of Science and Technology and Academic council meetings held on 21.04.2018 and 19.06.2018 respectively have approved the above said proposal and the same is hereby notified.

The modified syllabus of M.Sc. Statistics course is annexed. The contents may be downloaded **from the University Website i.e., www.uni-mysore.ac.in**.

Draft approved by the Registrar

Sd/-
Deputy Registrar(Academic)

To:

1. The Registrar (Evaluation), University of Mysore, Mysore.
2. The Dean, Faculty of Science & Technology, DOS in Physics, Manasagangotri, Mysore.
3. The Chairperson, BOS in Statistics, DOS in Statistics, Manasagangotri, Mysore.
4. The Chairperson, Department of Studies in Statistics, Manasagangotri, Mysore.
5. The Director, College Development Council, Moulya Bhavan, Manasagangotri, Mysore.
6. The Principals of the Affiliated Colleges where UG Program is running in Science stream.
7. The Deputy/Assistant Registrar/Superintendent, AB and EB, UOM, Mysore.
8. The P.A. to the Vice-Chancellor/Registrar/Registrar (Evaluation), UOM, Mysore.
9. Office file.

PROPOSED SYLLABUS OF PAPER 18825: Multivariate Analysis where only Unit 3 has been modified

Hard Core / Compulsory Paper:

Paper XIV: Multivariate Analysis (4Credits – 3 hours of Theory teaching and 2 hours of Practical per week)

Unit 1: Random sampling : Multivariate normal distribution, maximum likelihood estimators of parameters, distribution of sample mean vector Wishart distribution (statement only) and its properties;

distribution of sample generalized variance. Null distributions of sample correlation coefficient, partial.

And multiple Correlation coefficients, distribution of sample regression coefficients. Application in testing and interval estimation.

Unit 2: Hotellings- T^2, Null distribution of Hotelling's T^2 statistic, Application in test on mean vectors for single and several multivariate normal populations.

Unit 3: Cluster analysis, Factor analysis, Multivariate analysis of variance of one and two way classified data.

Unit 4: Classification and discrimination procedures for discrimination into one of two multivariate normal populations. Sample discriminant function, tests associated ,with discriminant function, probabilities of misclassification and their estimation, classification into more than two mul1ivariate normal populations.

Unit 5: Principal components. Dimension reduction, canonical correlations and canonical variable - definition, use, estimation and computation.

Books for Reference:

Anderson, T.W. (1983): An. Introduction to Multivariate Statistical Analysis, Second Edition, Wiley.

Giri, N. C. (1977): Multivariate Statistical Inference, Academic Press.

Johnson and Wichern (1986) : Applied Multivariate Analysis, Wiley.

Kshirsagar,. A.M. (1972): .Multivariate Analysis, Marcel-Dekker. .

Morrison, D.F. (1976): Multivariate Statistical Methods, Second Edition, McGraw Hill.

Muirhead, R.J. (1982): Aspects of Multivariate Stalistica1 Theory, Wiley.

EXISTING SYLLABUS OF PAPER 18825: Multivariate Analysis

Hard Core / Compulsory Paper: Paper XIV: Multivariate Analysis (4Credits – 3 hours of Theory teaching and 2 hours of Practical per week)

Unit 1: Random sampling : limn multivariate normal distribution, maximum likelihood estimators of

parameters, distribution of sample mean vector Wishart distribution (statement only) and its properties;

distribution of sample generalized variance. Null distributions of sample correlation coefficient, partial.

And multiple Correlation coefficients, distribution of sample regression coefficients. Application in

testing and interval estimation.

Unit 2: Hotellings- T^2, Null distribution of Hotelling's T^2 statistic, Application in test on mean

vectors for single and several multivariate normal populations.

Unit 3: Multivariate linear regression model, estimation of parameters, testing linear hypothesis about

regression coefficients. Likelihood ratio test criterion. Multivariate analysis of variance of one and two

way classified data.

Unit 4: Classification and discrimination procedures for discrimination into one of two multivariate

normal populations. Sample discriminant function, tests associated ,with discriminant function,

probabilities of misclassification and their estimation, classification into more than two mul1ivariate

normal populations.

Unit 5: Principal components. Dimension reduction, canonical correlations and canonical variable -

definition, use, estimation and computation.

Books for Reference:

Anderson, T.W. (1983): An. Introduction to Multivariate Statistical Analysis, Second Edition, Wiley.

Giri, N. C. (1977): Multivariate Statistical Inference, Academic Press.

Johnson and Wichern (1986) : Applied Multivariate Analysis, Wiley.

Kshirsagar,. A.M. (1972): .Multivariate Analysis, Marcel-Dekker. .

Morrison, D.F. (1976): Multivariate Statistical Methods, Second Edition, McGraw Hill.

Muirhead, R.J. (1982): Aspects of Multivariate Stalistica1 Theory, Wiley.