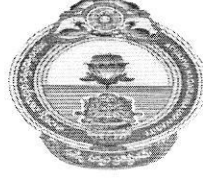


**REGISTRAR**



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Website::http://www.anu.ac.in

No.ANU/Acad./U.G/CBCS/III B.Sc/ Statistics / SEM-VI/Syllabus/2017 Date: 18-10-2017.

**PROCEEDINGS OF THE VICE-CHANCELLOR**

Sub:- ANU – Academic –UG courses –CBCS – III –B.Sc-Statistics  
VI Semester Syllabus - Approval - Orders – Issued.

Ref:- 1. Minutes of the meeting of the Board of Studies (UG) in Statistics  
held on 14-06-2017.

2. Vice-Chancellor's orders dated 22-06-2017.

**ORDER:-**

\* \* \* \* \*

The Vice-Chancellor, after having considered the minutes 1<sup>st</sup> cited, has approved the III B.Sc-Statistics VI semester syllabus (Theory & Practical) under CBCS pattern for the academic year 2017-18 prepared by the Board of Studies (UG) in Statistics . The titles of the Papers are mentioned below:

**Semester –VI –For Mathematics Combination**

1. Paper –VII: Applied Statistics
2. Paper-VIII: Operations Research

**Semester –VI –For Non Mathematics Combination**

1. Paper-VII: Sampling Techniques
2. Paper-VIII: Design of Experiments and Official Statistics

**(BY ORDER)**

  
**JOINT REGISTRAR  
Academic**

To

The Chairman and all members, Board of Studies (UG) in Statistics ANU.

All the Principals of the Affiliated Colleges under ANU area.

Copy to:

The Dean, Physical Science, ANU.

The Dean, CDC, ANU.

The Coordinator, UG (Exams), ANU

The Addl. Controller of Examinations, ANU.

The In-Charge, ANU website.

The P.A. to Vice-Chancellor/ Registrar/Rector, ANU.

25/9/2017 o/c  
with Math & combination

BA/BSC III YEAR : STATISTICS SYLLABUS

(With Mathematics Combination)

Semester - VI CBCS.

Paper - VII Applied Statistics

Unit-I

Analysis of times series: Components of times series: meaning and examples, trend by least squares (straight line and parabola) methods and moving average methods. Seasonal indices by simple averages, ratio to moving average, ratio to trend and link relative methods.

Unit-II

Index numbers: Meaning, problems involved in the construction of index numbers, simple and weighted index numbers. Criteria of good index numbers. Fixed base and chain base index numbers. Cost of living index numbers, wholesale price index numbers, Base shifting, splicing and deflation of index numbers.

Unit-III

Official Statistics: Functions and organization of CSO and NSSO. Agricultural, area, yield of statistics, national income and its computation.

Unit-IV

Vital statistics: Meaning, Definition, uses, sources of vital statistics, various Death rates- CDR, ASDR, STDR and Birth rates - CBR, ASFR, TFR.

Unit-V

Reproduction Rates: Measurement of population growth, crude rate of natural increase, Pearle's vital index, Gross Reproduction Rate[GRR], Net Reproduction Rates[NRR], Life tables, construction uses of life tables and abridged life Tables.

**Text Books:**

1. Fundamentals of applied statistics : VK Kapoor and SC Gupta.
2. BA/BSc III year paper - III Statistics - applied statistics - Telugu academy by prof.K.Srinivasa Rao, Dr D.Giri, Dr A.Anand, Dr V.Papaiah Sastry.

**Reference Books:**

1. Indian Official statistics - MR Saluja.
2. Anuvarthita Sankyaka Sastram - Telugu Academy.

**Practicals - Semester - VI**

Conduct any 6 (Ms-exel is compulsory)

1. Measurement of Linear Trend
2. Measurement of Seasonal Indices-Link Relatives method
3. Reversal tests.
4. Cost of living Index Numbers.
5. Mortality, Fertility & Re-production rates.
6. Life tables.
7. MS-Excel Practical.

*Handwritten signatures and notes:*  
V. N. V. S. Rao  
K. N. S. Rao  
S. S. Rao  
A. Mohan Rao

BA/BSC III YEAR : STATISTICS SYLLABUS  
(With Mathematics Combination)  
Semester-VI CBCS.

Paper - VIII Operations Research

Unit-I

Introduction to OR: Meaning and scope of O.R, Definition of O.R, LPP (Linear Programming Problem). Formulation of LPP, graphical solution of LPP- Problems

Unit-II

LPP: Def. of LPP , IBFS, Basic and Non-basic variable, Slack variable, Surplus variable and Artificial variable .Simplex method, Big M, two phase simplex methods and problems

Unit - III

Transportation problem : Its definition, feasible solution by North-West corner rule, matrix minima VAM methods. Optimal solution through MODI & stepping stone method for balanced and unbalanced transportation problem.

Unit-IV

Assignment problem: Meaning of assignment problem, unbalanced assignment problem, travelling salesman problem, Hungarian method for optimal solution.

Unit - V

Sequencing problem: Optimal sequencing of N Jobs on 2 and 3 machines without passing.

**Text Books:**

- 1.Kanti swaroop, P.K.Guptha and Man Mohan: Operation Research. Sultan Chand.
2. BA/BSc III Year paper - IV Statistics - quality, reliability and operations Research - Telugu Academy by Dr T.C.Ravichandra Kumar, Dr R.V.S.Prasad, Dr D.Giri, Dr G.S.Devasena.
- 3.Operation Reach – S.D.Sharma.

**List of reference books**

- 1.S.K Sinha: Reliability and life testing. Wiley Eastern.
- 2.Operations researchHh - Models and methods by Chandrasekar Salimath, Bhupendar Parashar.
- 3.Operation Research – Taha

*A. Mohan Rao*  
*Succeeded*