Solapur University, Solapur.
Semester Pattern Syllabus
M. Com. Part-I (Semester – II)
ADVANCED STATISTICS
Paper I
(Statistical Models For Business Decisions –II)

(w. e. f. June 2014)

Unit-1: Transportation Problem (T.P.) : (15)

Definition of T.P. mathematical formulation, methods of finding IBFS, Testing IBFS for the Optimality, Unbalanced T.P. Relation between Assignment problem and Transportation problem.

Unit-2: Project Scheduling by CPM/PERT. (15)

C P M - Definitions of (i) Event (ii) Activity (iii) Critical Path (iv) Critical Activity (v) Network. Construction of Network, Calculations of ES, LS, EF, LF and project duration. PERT : Definitions of (i) Pessimistic (ii) Most likely (iii) Optimistic time estimates. Calculations of expected time duration and s.d. of it.

Unit-3: Replacement: (15)

Introduction of replacement problem, types of replacement problems, replacement policy for items whose maintenance cost increases with time when money value is fixed and money value changes with constant rate, worked examples, replacement of items that fail completely.

Unit-4: Inventory Management: (15)

Meaning of Inventory, different costs in Inventory, different types of models, why inventory is maintened? Deterministic Elementary Inventory models. Concept of Economic Ordering Quantity (EOQ), Determination of EOQ by trial and error method, Graphical method. EOQ model without shortages with uniform demand, different rates of demand in different cycles.

Reference Books :

1 S.D. Sharma : Text Book of Linear Programming Problem

2 S.D.Sharma : Operations Research

3 R.K. Gupta : Text Book of Linear Programming

4 Kantiswarup, Gupta Man-Mohan : Operations Research

5 Goel And Mithal : Operations Research

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Semester Pattern Syllabus
M. Com. Part-I (Semester – II)
ADVANCED STATISTICS
Paper II
(Sampling Techniques)

(w. e. f. June 2014)

Unit-1 : Introduction to sampling : (15)

Concept of population, sample, sampling error, advantages of sampling and principal steps in sampling, Methods of Sampling.

Unit-2: Simple Random Sampling (SRS): (15)

S.R.S. with and without replacement, Methods of drawing a sample, properties of the estimates (estimation of population mean and population variance).

Unit-3 :Stratified sampling : (15)

Description of stratified sampling method, unbiased estimator for population mean and population total, standard error of estimates, problem of allocation; Proportional allocation, optimum allocation.

Unit-4 :Systematic Sampling : (15)

Situations where systematic sampling is appropriate, Technique of Drawing , Sample using systematic sampling, estimation of Population mean and population total, standard error of these estimates.

Reference Books:

1) Gupta and Kapoor : Applied Statistics

2) Goon, Gupta & Dasgupta : Fundamentals of Statistics (Vol. I & II)

3) Cochran W : Sampling Techniques

4) Des Raj : Sampling theory

5) Daroga & Singg : Sampling Techniques

6) Sukhatme & Sukhatme : Theory of sampling.

Solapur University, Solapur

Nature of Question Paper For Semester Pattern

•Faculty of Commerce (B.Com., M.Com.)

Model Question Paper
(w.e.f. June 2010)

Time: - 2 hrs.   **Total Marks-50**

Q. 1   **Multiple choice questions**
             (four alternatives should be given)   **10**
             1 ---
                 (a)   **(b)**   **(c)**   **(d)**
             2
             3
             4
             5
             6
             7
             8
             9
             10

Q. 2   **Answer the following**
             (Short note/Short problem/Short answer)
             (A)   **05**

             (B)   **05**

Q. 3   **Answer the following**
             (Short note/Short answer/Short problem)
             (A)   **05**

             (B)   **05**

Q. 4   **Answer any one (Long answer/Problem)**   **10**
             i)
             ii)

Q. 5   **Answer any one (Long answer/Problem)**   **10**
             i)
             ii)